

Top incomes under finance-driven capitalism, 1990–2010: power resources and regulatory orders

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Abstract

This article examines the impact of financialization on the income shares of the top 1% from 1990 to 2010, through a panel analysis of 14 OECD countries. Drawing together literatures stressing the dependence of income inequality on the structural bargaining power of capital relative to labour, and of the dependence of accumulation on underlying institutionalized modes of state regulation, it shows that financialization has significantly enhanced top income shares net of underlying controls. Whilst the income shares of the top 1% appear responsive to variables typical of wider studies of personal income inequality, we emphasize distinctive mechanisms of top income growth linked to the rising dominance of financial instruments and actors, facilitated by a historically specific regulatory order. These conditions were key to the emergence of a state of 'asymmetric bargaining' which disproportionately enhanced the fortunes of the wealthy. Results thus emphasize the importance of class-biased power resources and underlying regulatory structures, as determinants both of income concentration and of the distribution of economic rewards beyond growth capacity alone.

Key words: inequality, financialization, bargaining, social structures, regulation

JEL classification: O15 Income Distribution, N2 Financial Markets and Institutions, P48 Political Economy

1. Introduction

Financialization has taken its place as a macro-stressor of income equality on a par with globalization, technological change and economic development. Kuznet's predictions of a secular return to equality following a disruptive phase of dualist economic growth have not come to pass (Alderson and Nielsen, 2002; Piketty, 2014), whilst globalization has merely hastened a loosening of domestic constraints on firm activity, exposing labour to international wage

competition and the threat of firm relocation (Choi, 2001; Harrison, 2005; O' Farrell, 2010). Amid profound shifts in the global economic order since the 1980s, it is clear that a limited few have benefitted substantially, whilst many have seen their fortunes worsen—a situation brought into sharp relief by the socialization of private debt in the post-crisis years, and the damaging impact of austerity on low-income groups. Whilst some have stressed the dependence of inequality on capital-augmenting technological growth and labour substitution (Zuleta, 2012), others have pointed to institutional factors such as the strength of labour movements, leftist political power and state welfare intensities (Beckfield, 2006, 2009; Daudey and Garcia-Lenalosa, 2007). Backed by a strong and growing empirical knowledge base, the rise of finance has also been identified as a stressor of both personal income inequality, and of the division of national income between capital and labour (Kus, 2012; Volscho and Kelly, 2012; Lin and Tomaskovic-Devey, 2013; Stockhammer, 2013).

The landscape of inequality research has changed drastically on foot of the public exposure generated by Piketty's *Capital in the Twenty-First Century* (2014), wherein he outlines a model of income inequality which positions wealth accumulation as an inherent, rather than aberrant feature of capitalist history. Piketty links this accumulation to a fundamental divergence, where slow growth relative to higher capital returns reduces the volume of investment needed to increase personal wealth stocks. Whilst this ratio has remained skewed towards capital returns throughout much of human history, it also appears likely to return to such a state if capital taxation remains lax, and post-crisis growth remains slow. In some instances the recurrent rise in top incomes has been sharp. In the USA, the share of income accruing to the top 1% of earners began to climb in the 1980s following a post-war slump, today bringing it to levels not seen since the close of the First World War (Volscho and Kelly, 2012, p. 679). The implications of Piketty's framework for analyses of top incomes are profound. As the ratio of capital gains to growth, and ratio of capital to labour income both appear responsive to specific policy epochs, the social embeddedness and historical contingency of inequality is strongly asserted. Furthermore, as Piketty links the imbalance of capital–labour income and recent executive pay growth to the loosened bargaining constraints of top earners, it is useful to question what precisely has underpinned this inequality at the meso-level. This article argues that useful answers may be sought by focusing more clearly on asymmetries in power resources and the bargaining power of capital relative to labour, allied to a unique regulatory order which has underpinned top income growth since the 1980s. In doing so, it suggests that the historical specificity of these factors, and the mechanisms underpinning wealth accumulation since the 1990s, are usefully captured by the concept of financialization.

Financialization has been conceptualized in a variety of ways, such as the diversification of firms into financial activities away from core 'real economy' pursuits (Krippner, 2011), the growing use of securitization and tradable financial instruments as distributors of risk (Movitz and Allvin, 2014), a realignment of corporate strategies in favour of profiteering and cost saving (Thompson, 2003, 2013) and the use of credit to shore up consumption under real wage stagnation (Guttman, 2008; Stockhammer, 2012; Kus, 2013a; ILO, 2013; Tomaskovic-Devey and Lin, 2013; van der Zwan, 2014). In terms of class structure, the era of financialization has been characterized by the rise of what Foster and Holleman (2010) term a 'financial power elite', deriving their wealth from financial profits, real estate and executive compensation. Allied to such works on the general dynamics of finance-driven capitalism, a growing body of research has brought renewed attention to the structural powerlessness of labour relative to capital, and the institutionalization of liberal regulatory order since the

1980s, factors strongly linked to greater accumulation at the top of the income distribution (Diwan, 2001; Guscina, 2006; Kristal, 2010). The growing powerlessness of labour since the birth of the era of financialization in the 1980s has been closely linked to the weakening of the labour movement under the combined pressures of service sector growth, labour market deregulation and the loosening of capital restraints as an engine of post-Fordist economic growth (Jessop, 2001, 2013; Blanchard and Giavazzi, 2003, Jayadev, 2007; Tabb, 2010). It thus appears that the fortunes of the ‘winners’ of finance-driven capitalism have clear social, political and policy underpinnings.

Evidence for financialization’s specific impact on inequality continues to grow. Whilst financialization is shown to exert a strong depressive effect on wage shares (Stockhammer, 2013), Atkinson *et al.* (2010) are emphatic on the role of politics in determining top income movement. This model of politically, rather than market determined income distribution accords with rent theory accounts of the financial sector’s increasing share of national income. Consequently, researchers in this vein note how market equilibria are politically structured, and that income advantage above market rates is often secured through political manipulation of regulatory structures (Tomaskovic-Devey and Lin, 2011, p. 541). Beyond macro-level accounts of top income growth linked to growth and capital return rates, these accounts lend strong credence to a power resources explanation of top income capture.

The rise of top income shares is of immediate practical concern. Whilst Stockhammer has demonstrated the slowdown effect of financialization on accumulation and investment (2004), Piketty’s illustration of the long-run dynamics of capital relative to national income suggests that without political intervention to effect greater redistribution, inequality may undermine the very basis of democratic legitimacy (2014). Tomaskovic-Devey *et al.* (2014) estimate that financialization has had an overall negative impact on non-financial sector output, where the resulting falloff in employment was borne by core labour, and where senior corporate officers netted gains from compensation packages linked to capital income. If the net effect of financialization is merely to induce greater economic exposure to middle and low-income earners through debt incumbency and macroeconomic instability, an understanding of the factors driving this disproportionate capture of reward by top earners is therefore urgently needed.

This article examines the impact of financialization on top incomes, based on existing research into the dynamics and drivers of income inequality. It draws on literatures identifying the asymmetric balance of bargaining power between capital and labour as a key determinant of the distribution of economic reward, and on research into the embeddedness of economic growth within ‘social structures of accumulation’ comprising historically specific regulatory orders, modes of economic governance and orientations to redistribution and social protection. With the exception of Dunhaput (2015) who focuses on a different set of financialization and corporate governance related predictors, and Volscho and Kelly’s (2012) and Hicks’ (2014) studies of US top incomes, this study is among the first to examine in a panel context, the impact of financialization and financial regulation on the 1%. Using panel models of 14 Organisation for Economic Co-operation and Development (OECD) countries from 1990 to 2010, it argues that financialization influences top incomes through two principal domains: (a) by altering the balance of bargaining power between capital and labour, and (b) through state regulatory controls and redistributive mechanisms. Interpreting these results within a regulation framework thus confronts certain limitations in Piketty’s treatment of class relations and power asymmetries in his account of top income growth, whilst pointing

towards specific policy domains through which institutional change may effect greater equality of outcome, beyond taxation alone.

2. Financialization and income inequality

Why focus on top incomes specifically? Studies of inequality to date have largely taken the personal income distribution as their key outcome, and this has indeed fostered the construction of a useful body of theory which relates overall inequality to stressors such as globalization, skill-biased wage premiums and collective bargaining capacity. Whilst others have begun to open up the class politics of inequality by taking a closer look at the share of GDP accruing to labour and capital (Kristal, 2010; Stockhammer, 2013; Flaherty and Ó Riain, 2015), they tend to obscure the internal composition of the ‘capital’ grouping somewhat, by relying on aggregate summaries of capital derived from national accounts. Isolating top earners from the personal distribution is thus particularly warranted in light of their interdependence with other components of the income distribution, where outcomes for one group may affect the other (Atkinson, 2007). This is not merely a ‘functional’ relationship where the personal distribution responds mechanically to increases in upper fractiles, and the financialization literature discussed below underscores the uniqueness of mechanisms of top income enhancement, as distinct from those which drive inequality across the distribution as a whole. In the context of financialization, we thus find that substantial monetary gains tend to centre on resource-endowed individuals at the top of the distribution. Conversely, research on the impact of financial managerialism on working conditions reinforces this notion of interdependence between income groupings, by suggesting that the remaining ‘resource-poor’ have suffered with greater debt burdens, and poorer working conditions (Tomaskovic-Devey and Lin, 2011).

The income composition of the 1% is also distinct from that of the wider income distribution, with greater shares of rentier and entrepreneurial income (Alvaredo *et al.*, 2013). The diversity of their income streams aside from earned income alone thus points to their coherence as a distinct ‘class’, a dimension often neglected in analytical work which has tended to focus on the 1% as merely another indicator of income inequality, rather than a distinct social group. There is a growing realization however that top earners form not only a particular statistical fractile, but a distinct social group with unique mechanisms of reproduction (Roine and Waldenstrom, 2010, p. 300). Using individual and firm-level data for the USA, Kim *et al.* (2015) have shown how high pay diffused among CEOs through status competition, facilitated by social networks and peer group influence. This important individual mechanism operated within a wider context of structural change such as the growing use of stock options for compensation and the reduction of top marginal tax rates, both of which feature strongly in the financialization literature considered below. The ‘functional interdependence’ of this fractile grouping relative to the wider income distribution, and the mechanisms identified by Kim *et al.* (2015) suggest that financialization may play a particular role in top income accumulation, in a manner qualitatively and quantitatively different from that of other ranges of the personal income distribution.

The political urgency of unpacking the drivers of this group is evident even within social democracies with historically high levels of resilience to inequality such as Finland, which have seen substantial increases in their personal income inequality (Gini), driven strongly by rising top income shares (Jantti *et al.*, 2010). There is also an important empirical issue concerning

the omission of the 1% from studies of the personal income distribution. Given the substantial variance of the income shares of the 1% which account for up to 30% of the total income distribution, studies which exclude this (i.e. through underestimations of this groups associated with survey data) may offer a misleading account of the drivers of income inequality (Alvaredo *et al.*, 2013). The following section thus reviews the current state of knowledge surrounding the domains of financialization-related income redistribution. It attempts to draw out mechanisms of association by linking various aspects of the general narrative of financialization to the concentration of top incomes, whilst identifying relevant indicators.

2.1 Financialization and worker's collective bargaining power

Close connections have been established between the rise of finance-driven capitalism and the falling share of GDP accruing to workers as pay (Stockhammer, 2009, 2012, 2013). This imbalance in the 'factor' distribution of income between capital and labour, which has risen consistently across capitalist democracies since the 1980s (Kristal, 2010), has allegedly created a disjuncture between economic performance and the spread of its financial rewards, which have disproportionately accrued to high earners (Atkinson, 2009). The pace of this disjuncture has been especially strong in the financial sector, where top compensation has surged relative to other sectors (Kus, 2012). Specific connections between financialization and top income movement may thus initially be established in two ways. A more direct route suggests that profiteering in core financial sector activities disproportionately benefitted top earners by delinking pay from performance-related indicators, and through the provision of market-based compensation packages linked to stock options (Thompson, 2013). A more abstract driver of top income growth may be identified in the growing literature on the relative bargaining power of capital and labour, and its role in income redistribution. Although typically treated separately, in reality these are two sides of the same coin, insofar as both are implicated not only in greater capture towards the top of the personal income curve, but in the consolidation of structural conditions reflecting a real shift in the capacity of institutions and actors to effect greater equality of outcome. Whilst the former is well represented in the financialization literature, the latter requires some contextualization in order to provide a clearer conceptual link to top income movement.

The period from the late 1970s to 2008 saw substantial growth in capital's share of GDP across the OECD, with a corresponding fall in labour's (Bentolia and Saint-Paul, 2003; Harrison, 2005; Ellis and Smith, 2007; Decreuse and Maarek, 2008; Kristal, 2010). As globalization and structural adjustment in the post-war era opened new markets for consumer goods, it also introduced wage competition as industrializing regions became attractive destinations for corporations seeking to cut their labour costs (Harrison, 2005). The 1970s–1980 also saw an increasing penetration of labour-saving technology into the labour process, public spending retrenchment, extensive labour market deregulation, and capital account liberalization under successive neoliberal governments. The result was a weakening of traditional labour protections, and the consolidation of policy regimes which would later underpin the growth of financial sectors within many capitalist democracies (Rueda and Pontusson, 2000; Jayadev, 2007). Under the influence of such stressors, capacities for collective solidarity were weakened as deindustrialization across the developed North eroded traditional bulwarks of unionism.

In tandem with this shift in capital's fortunes, how has financialization particularly enabled the wealthiest to increase their income share on foot of labour's growing structural powerlessness? The hypothesized intermediary role of relative bargaining power is readily

assimilable to the financialization literature. Boyer was among the first to explore the distributional consequences of financialization, providing a theoretical link between the rise of financial markets and shareholder power, and the dynamics of income distribution in the post-Fordist era (Boyer, 2000). Accordingly, he identifies a ‘reactive wage labour nexus’ under finance-led growth, as a replacement for the comparatively stable social compacts of Fordism (Boyer, 2000, p. 117). This dual weakening of labour’s capacity to extract its stable factor share, coupled with a shift in bargaining power from labour to firm is consistent with Thompson’s model of financialized corporate strategies ‘disconnected’ from human capital concerns (Thompson, 2003, 2013). Under this ‘shareholder value’ regime, financial incomes such as dividends, interest payouts, and capital gains have risen whilst financial globalization has eroded workers share of economic rewards (Stockhammer, 2013).

Accordingly, CEO pay is now 262 times that of the average worker, with stock options comprising a sizeable proportion of compensation packages (Kus, 2012, p. 485). The corresponding rise in the financial sector’s share of profits, coupled with strong growth in rentier incomes linked to ownership of financial assets, thus suggests a profound upward transfer effect related to the rise of the financial sector (Epstein and Power, 2003; Volscho and Kelly, 2012). Conversely for labour, as real wages remained stagnant during periods of finance-driven growth, falling wage shares stifled consumption demand, leading to the emergence in many developed countries of a debt-driven growth model where easy access to credit fuelled domestic demand (Stockhammer, 2012). Capitalizing on the same process which fuelled indebtedness, high earners leveraged greater returns by buying into securities, which together generated rising instability in the financial system, whilst decreasing the resilience of low-middle income earners to macroeconomic shocks (Guttman, 2008).

Empirical evidence linking financialization and inequality is substantial, and econometric analyses have already demonstrated the potential for higher capital shares of GDP to increase functional income inequality. When labour endowments are weak, higher capital shares appear to drive personal income inequality higher, and when labour’s bargaining capacity is stronger (i.e. when labour’s share of GDP increases), its effect on top quintile income is negative (Daudey and Garcia-Penalosa, 2007, p. 18). Similarly, Stockhammer (2013) found strong evidence linking financialization-related variables to an erosion of worker’s share of GDP, results mirrored in Kus’ (2012) analysis of its impact on post-tax Gini coefficients. On the basis of these observed connections between the factor and functional income distributions, it appears that the relative power resources of capital and labour may be central to understanding the rising capture of income by top earners. Furthermore, by omitting the mediating role of bargaining power (driven by strong financial sector performance since the 1990s), and its consequent erosion of worker’s wage bargaining capacity, an important mechanism in the facilitation of top income capture may have been overlooked.

2.2 Financialization as a social structure of accumulation

There is little doubt that the capital–labour dynamic associated with the era of neoliberal financialization represents a distinct break from other historical epochs of capitalism (Kotz, 2003; Jessop, 2013). Locating the growth of top incomes within the realm of struggle between capital and labour over economic rewards in the labour market represents but one aspect of the politics of income distribution however. States and trans-national polities have equally underpinned this bargaining asymmetry through the policy measures and distributive mechanisms associated with deregulation and financial globalization. In this sense, regulation

theory offers a useful framework for thinking through both the systemic underpinnings of inequality as captured by the concept of relative bargaining power, as well as the unique institutional and policy frameworks associated with the era of financialization. The assumption of the centrality of regulation forms the basis of the ‘social structures of accumulation’ school (SSA) which emphasizes the role of states in capital accumulation through their maintenance of institutions of law and private property, systems of financial exchange and governance, and labour markets (McDonough *et al.*, 2010). The evolution of the various historical SSA’s is typically treated sequentially. Following the demise of Atlantic Fordism with its emphasis on a demand-sustaining compromise between capital and labour, SSA theorists identified a successor in the form of a finance-based regime of accumulation, predicated on a disembedding of capital from regulatory constraints and a commodification of the social wage through cheap credit (Tabb, 2010).

Regulation thus provides a useful theoretical backdrop to the analysis of top income movement, as it deals with financialization not only as a specific regulatory order, but as a logic of capitalism inherently disposed towards rising inequality (van der Zwan, 2014, p. 106). While deregulation was instituted partly to address post oil-crisis stagflation, it instead ushered a shift from commercial to investment banking, and from loans to securities, disproportionately benefitting wealthy investors (Guttman and Plihon, 2008). These shifts were underpinned by policy measures including the US Monetary Control Act of 1980, later Financial Services Modernization Act of 1999 (Lin and Tomaskovic-Devey, 2013) and the European Second Banking Directive of 1989 (Guttman, 2008).

The structures of this regime of finance-driven accumulation are well-articulated within the financialization literature. The concept’s insistence on real change in institutional structure is borne out by the disastrous impact of successive finance-driven crisis since the early 2000s, and recognition of the pervasive hand of the state in sustaining financial markets through taxation policy and regulation (van der Zwan, 2014). These new institutional and regulatory orders played a key role in facilitating top income capture, and the surge in capital gains and rentier income noted amongst industrialized countries throughout the 1990s was predicated on a number of regulatory shifts such as capital account openness, which increased capital mobility relative to labour since the 1990s, disproportionately raising capital returns (Epstein and Power, 2003; Jayadev, 2007). Growth in profits attributable to financial intermediation and interest income in the OECD was driven by anti-inflationary monetary policies which raised real interest rates leading to greater capital gains, and deregulation of the financial sector which enabled domestic innovation in financial instruments as well as the incorporation of overseas markets for financial products (Epstein and Power, 2003, pp. 234–235).

While many countries have seen cuts or stagnation in their capital gains and top income taxation rates (GINI, 2011, p. 93), reliance on regressive redistribution measures such as indirect consumption tax often does little to alter the balance of income around the median (Bermandi and Rueda, 2007). Piketty provides a compelling link between regulatory regimes and the politics of wage bargaining, suggesting that taxation played a key role in determining the capacity of top earners to leverage greater incomes. His analysis shows that top incomes correlate weakly with productivity, responding instead to lower marginal tax rates which encouraged executives to bid for higher compensation without the threat of losing their increases to the state (Piketty, 2014, pp. 508–512). Furthermore, there is worrying evidence that the redistributive capacity of some welfare states (the percentage reduction in Gini

from market to net income) is falling even amongst social democracies such as Denmark which has dropped from 50% in 1995, to 46% in 2010 (Solt, 2009). These observations suggest that top earners have not only managed to capitalize on the opportunities offered by deregulation, but to sidestep the absorption of their income by the redistributive mechanisms of the state.

Analyses have also shown how the impact of policy measures associated with financialization on top incomes was specifically channelled through domestic institutional structures, through the capacity of the wealthy to affect policy. Volscho and Kelly (2012) found strong evidence for the impact of institutional factors on the pre-tax income share of the top 1% in the USA since the late 1940s. Their analysis noted an asymmetry in the power resources of categorical income groups, where top income growth was affected first through the capacity of organized labour to influence the market distribution of income, and second through the capacity of states to redistribute through taxation policy and social transfers. It is therefore difficult to attribute the growth of top incomes throughout this time to market forces alone given the clear political history of the loosening of institutional constraints on financial innovation. Drawing on a regulationist-informed view of financialization thus provides us not only with a mechanism for linking regulatory politics to the material accumulation of specific interest groups, but with a ready source of indicators such as the spread of the tax burden between capital and labour, the capacity of the state to redistribute market income and the scope of financial sector regulation.

3. Data and method

The following analysis uses fixed effects (within) ordinary least squares (OLS) regression models which control for cross-unit heterogeneity, on a strongly balanced panel of 14 OECD countries from 1990 to 2010. This specification is appropriate in the presence of between-group inequalities, and when subject-specific confounding cannot be ruled out (Rabe-Hesketh and Skrondal, 2012). Our analysis incorporates countries and variables which are likely to display cross-sectional and temporal dependence, given the close economic inter-relationships likely to exist between countries and regional polities under trade and financial globalization (Christophers, 2012). Similarly, controls such as trade openness and economic growth are likely to be correlated amongst units with close trading dependencies, who may experience common patterns of exposure to economic shocks (i.e. the recent financial crisis). To account for these issues, we use Driscoll–Kraay standard errors which are robust to heteroskedasticity, autocorrelation and cross-sectional dependence (Hoechle, 2007, p. 285).

Mindful of issues related to non-stationarity, Appendix A reports panel unit root diagnostics, and an additional set of tables comparing coefficients with models estimated in first differences is available as an online supplement. Given the robustness of the FE estimator with comparatively small values of t (Woolridge, 2013, p. 472), and potential issues in a minority of specifications with missing values, the FE estimator is preferred. As a final robustness check, and to account both for temporal lags in the effect of independent variables on top incomes and the potential presence of endogenous predictors, we also include a full dynamic specification using the Arellano-Bond Generalized Method of Moments (GMM). These models include a lagged dependent variable, and all predictors are lagged by a period of one year. Across each of the three domains detailed below, variables are selected for inclusion in the GMM specification based on their substantive and statistical significance across previous models. Results in the dynamic specification are largely consistent with the fixed effects estimator.

The dependent variable is the share of income accruing to the top 1%, sourced from the World Top Incomes Database (WTID) (Alveredo *et al.*, 2014). These data offer the advantage of using tax records to estimate top income shares, mitigating issues of underestimation often associated with national surveys.¹ As the individual country series adopt a common methodology, combining tax data-derived estimates of income with control totals for population and income, their cross country comparability is considerably enhanced (Atkinson and Sogaard, 2013, p. 3). The various top incomes series also follow comparable ‘gross income’ concepts which are incomes prior to allowable deductions such as interest, depreciation, pension and charitable contributions. They typically include income items such as salaries, wages, self-employment income, business and farm income, dividends, rents and interest; fractiles are then estimated against a control total often derived from adjusted national accounts totals of personal income. Capital gains are treated according to country tax code definitions. In some jurisdictions, realized capital gains are assessed under a separate system of returns, whilst in countries such as Australia and the UK, certain gains are considered under regular income tax.

The exclusion of realized capital gains is generally preferred, as realizations of capital income are not typical ‘flow’ items but instead form a volatile component of income, with strong periodic variations dependent on stock prices. The USA offers a good illustration of this, as ‘. . . capital gains are typically very lumpy (they are realized once every few years), so that ranking tax returns by income level including capital gains leads to artificially overestimate very top income levels’ (Piketty and Saez, 2007, p. 195). Furthermore, including realized capital gains risks erroneously assigning individuals to top fractiles who only occupy their position at the time of their asset sale (Roine and Waldenstrom, 2010, p. 314). Most calculations include ‘rentier’ items such as dividends, interest, farm income and rents under their gross income definition however, with final income concepts typically comprising labour, capital (interest and dividends) and business income, less realized capital gains. The inclusion of these capital items thus allows us to align the dependent variable with the narrative of financialization-related mechanisms of inequality growth. These measurement issues are discussed in detail in the country chapters in Atkinson and Piketty (2007, 2010), and Appendix B summarizes measurement procedures for those countries discussed in these volumes. Finally, the reliability of pooling and the suitability of this series for modelling is further affirmed by the observation that this income series closely tracks other measures of personal income inequality such as the Gini/Atkinson coefficients and income percentile ratios. These observations suggest that factors often found to influence the bottom and mid-range of the income distribution may have similar effects at the top (Leigh, 2007), albeit through qualitatively different mechanisms as detailed above.

Inclusion of cases is determined by the availability of complete series from the WTID offering an added benefit, as the tax-derived income series of developed nations are typically more reliable than those of developing nations (Leigh, 2007, p. 621). Countries included in the following analysis are Australia, Denmark, Finland, France, Ireland, Italy, Japan, New Zealand, Norway, Spain, Sweden, Switzerland, UK and the USA. Models are specified according to the two principal domains which we suggest mediate the impact of financialization on top incomes.

1 Finland’s top income estimates are derived from the Income Distribution Survey for post-2003 figures. Although the series relies on sample data, they are sourced from administrative registers of income, taxes and benefits. This is likely to avoid problems of access or ‘opting out’ which hinder conventional survey methodologies.

As detailed above, the substantive and conceptual scope of these domains includes the bargaining capacity of high earners relative to labour (power resources), and the embedding of financialization in regulatory structures (social structures of accumulation). As both domains are embedded in bodies of formal theory with supporting econometric works, they offer not only a source of explanatory narrative, but specific control variables as elaborated below.

3.1 Power resources and the capital–labour bargain

Operational definitions, sources and summary statistics for all variables are provided in Tables 1 and 2. The first set of models assesses the impact of financialization on top income shares, controlling both for institutional protections associated with mitigating inequality, and the extent of labour's power resources. These specifications draw in particular on the work of [Kus \(2012\)](#) who notes the positive impact of financialization on personal income inequality net of bargaining controls such as unionization, trade openness and government spending. These parameters also attempt to capture a particular asymmetry in power resources linked to bargaining capacity identified by [Piketty \(2014\)](#), which has underpinned the 'property space' of top earners incentives in financialized economies. Sectoral models of the impact of financialization on senior compensation have confirmed this growing asymmetry, by noting strong top income growth linked to financialization, coupled with a negative effect of unionization ([Lin and Tomaskovic-Devey 2013](#), p. 1308). Consistent with existing studies which have modelled the impact of financialization on the personal and factor distribution of income ([Kus, 2012](#); [Volscho and Kelly, 2012](#); [Stockhammer, 2013](#)), we include trade union density from Visser's ICTWSS database ([2013](#)), government consumption as a percentage of GDP from the Penn World Table and the KOF index of economic globalization compiled from data on trade flows, and trade restrictions ([Dreher, 2006](#)). This index combines economic integration measures of actual flows (i.e. foreign direct investment and income payments to foreign nationals), with measures of restrictions (i.e. import barriers and tariff rates). Eight measures are rescaled (0–100) to produce a composite index of economic globalization ([Dreher et al., 2008](#)). Whilst this measure captures a wide range of economic integration factors, we also include a direct measure of domestic trade openness from the Penn World Table, calculated as the percentage of combined imports and exports over GDP. To these are added unemployment, and female labour force participation rates drawn from the OECD Structural Analysis (STAN) statistics, as measures of cyclical economic downturn ([Volscho and Kelly, 2012](#)), and changing labour market composition, respectively. Economic growth performed weakly in all specifications and was therefore excluded, although all coefficients are robust to its inclusion. Furthermore, as these models deal largely with labour market-related variables, the effect of weak economic performance is likely to be registered through unemployment.

Drawing on literatures which theorize the channelling of financialization through the workplace through intensive, equity-oriented HR practices ([Thompson, 2003](#); [Cushen and Thompson, 2013](#)), we include a measure of the market capitalization of listed firms, in order to capture the effect of firm participation and diversification into financial activities. Given the suggested importance of credit in sustaining consumption under real wage stagnation, and the issue of rising productivity capture by capital highlighted by the [International Labour Organization \(2013\)](#), we include a measure of the volume of domestic credit issued by banks to the private sector as an indicator of the growing importance of credit.

In order to capture the importance of finance relative to other economic sectors, we include the gross operating surplus of Finance, Insurance and Real Estate as a percentage of total

Table 1. Variable definitions and sources

Variable	Operational definition	Source
Top 1% income share	Share of income accruing to top 1% of earners based on taxation data.	WTID (see Appendix B)
Government consumption	National accounts government consumption as % of Gross Domestic Product (sum of collective consumption of government including public good activities, health and education).	Penn World Table (Heston <i>et al.</i> , 2012)
Union density	Net union membership as % of wage and salary earners in employment.	Visser (2013)
Economic globalization	Weighted percentage index comprising FDI stocks, portfolio investment, trade and income payments to foreign nationals.	Dreher (2006)
Trade openness	Exports and imports as % share of current-price Gross Domestic Product.	Penn World Table (Heston <i>et al.</i> , 2012)
Unemployment	Number of unemployed persons as % total labour force (unemployed + those in paid or self-employment).	OECD Database
Female labour force participation	Females participating in labour force as % total female population.	OECD Database
Market capitalization of listed firms (% GDP)	Share price times number of shares outstanding of exchange-listed domestic companies, as % of GDP (Standard and Poor's data).	World Bank Databank
Private sector credit (% GDP)	Loans, securities, trade credits provided to private sector by financial corporations (monetary authorities and deposit banks), as % of GDP (IMF data).	World Bank Databank
Finance, Insurance and Real Estate Gross Operating Surplus (% all sectors)	Gross Operating Surplus on financial sector production activities as % of all sectors, from National Accounts data.	OECD STAN
Labour's share of Gross National Income	Compensation of employees + self-employed income (nominal compensation per employee * self-employed persons) as % of GDP.	AMECO
Financial globalization (log)	Log of external assets and liabilities (sum of portfolio investment including equity and debt securities, foreign direct investment, debt instruments, financial derivatives and reserves) as % of GDP.	Lane and Milesi-ferretti (2007)
Economic growth (real GDP % yearly change)	% Annual change in real GDP	Penn World Table (Heston <i>et al.</i> , 2012)
Capital taxation (% total tax burden)	Levies on capital transfers or assets as % total tax burden	AMECO

Continued

Table 1. *Continued*

Variable	Operational definition	Source
Indirect taxation (% total tax burden)	Taxes on goods and services as % total tax burden	AMECO
Net income inequality (Gini)	Standardized post-tax and transfer Gini income inequality, imputed from Luxembourg Income Study data	Solt (2009)
Extent of banking sector liberalization	6-point scale of presence/absence coded conditions: restrictions on opening of foreign banks, government permission of competition in domestic banking market, restrictions on branching, limits on bank activities (0 = fully repressed, 5 = fully liberalized).	Abiad <i>et al.</i> (2008)
Extent of banking sector supervision	7-point scale of presence–absence coded conditions: country adoption of Basle capital adequacy ratio, independence of supervisory agency, presence of onsite examinations and regulatory coverage of all financial institutions (0 = Not Regulated, 6 = Highly Regulated).	Abiad <i>et al.</i> (2008)
Financial reform index	Normalized sum of financial reform measures: credit controls, pro-competition measures, banking supervision, privatization, international capital flows and security markets (greater value = greater extent of reform).	Abiad <i>et al.</i> (2008)
Top 0.1% income share	Share of income accruing to top 0.1% of earners based on taxation data.	WTID (see Appendix B)

sectoral gross operating surplus taken from the OECD's Structural Analysis database. While this is a preferable measure of financialization since it captures the growing contribution of finance relative to other economic sectors (Krippner, 2011), its coverage ranges from 1990 to 2008. Finally, we include the share of Gross National Income accruing to workers as compensation (labour's share), as a core measure of the bargaining power of labour relative to capital. Studies have shown the negative impact of labour's share on personal income inequality (Gini), stressing the long-term importance of strong collective bargaining in sustaining greater rewards for labour, and a more equitable distribution of income (Daudey and Garcia-Penalosa, 2007; Stockhammer, 2013). These studies offer strong justification for including labour's share as an intermediary between the determination of an economy-wide income pool, and the politics of its personal distribution (Atkinson, 2009).

3.2 Financial regulation and redistribution

The second set of models examines the impact of financial regulation and redistributive capacity. These models address more pointedly the institutional structures underpinning asymmetric bargaining capacity, by testing the extent to which taxation and redistribute capacity

Table 2. Summary statistics

Variable	Mean	SD	Minimum	Maximum	Obs
Top 1% income share	8.88	2.74	4.37	18.33	280
Government consumption	6.80	1.10	4.08	9.46	280
Union density	37.46	23.31	7.6	83.9	280
Economic globalization	75.03	12.12	42.1	97.01	280
Trade openness	62.87	31.65	16.01	183.29	280
Unemployment	7.41	3.96	.47	24.17	280
Female labour force participation	52.76	8.05	33.2	64.2	280
Market capitalization of listed firms (% GDP)	81.72	56.16	10.19	317.03	280
Private sector credit (% GDP)	115.47	49.5	30.77	232.1	280
Finance, Insurance and Real Estate Gross Operating Surplus (% all sectors)	31.42	7.05	16.59	47.36	247
Labour's share of Gross National Income	58.68	5.01	43.82	70.46	280
Financial globalization (log)	5.41	0.70	4.16	7.54	210
Economic growth (real GDP % yearly change)	4.6	3.37	-10.24	17.6	280
Capital taxation (% total tax burden)	0.75	0.57	0.00	4.56	244
Indirect taxation (% total tax burden)	31.82	4.56	20.28	41.9	244
Net income inequality (Gini)	29.37	4.48	20.75	37.84	280
Extent of banking sector liberalization	–	–	1	3	224
Extent of banking sector supervision	–	–	0	3	224
Financial reform index	0.91	0.09	0.52	1	224
Top 0.1% income share	2.91	1.55	0.93	8.25	216

may have augmented top income growth, by impacting the ability of top earners to realize higher income levels (Piketty, 2014). According to Piketty, relaxed top income taxation and wider financial regulation—theorized above as embedded in a specific historical regulatory logic—played a key role in spurring inter-actor wage competition since the 1980s. These models control for government consumption, union density and economic globalization, as well as market capitalization as a base measure of domestic financialization. We also include economic growth measured as the yearly percentage change in real GDP taken from the Penn World Table. This variable controls for periods of economic volatility, whilst testing for transfer effects linked to stronger economic performance (Kus, 2012; Volscho and Kelly, 2012). Models include financial globalization, measured as the log of external assets and liabilities over GDP (ILO, 2013; Stockhammer, 2013) in order to capture the dependence of domestic financialized profitability on international expansion (Christophers, 2012). The data on financial globalization are taken from Lane and Milesi-Ferretti (2007), and their coverage extends from 1990 to 2004. In light of their limited coverage, inclusion of this variable is limited to the first model in order to capture its unique effect as a component of financialization, and to maximize panel coverage for subsequent models.

In order to assess whether top income growth has proceeded independent of domestic taxation measures, and to assess the distributional consequences of different taxation streams, we include the extent of capital and indirect taxation as a percentage of the total tax take, sourced from the European Commission's Annual Macro-Economic Database (AMECO). This set of models also includes a measure of post-tax and transfer income inequality taken from Solt (2009), in order to assess the relationship between underlying personal income inequality

rates, and concentrations within upper percentiles. Given the greater redistributive capacities associated with more social democratic transfer systems, we should expect greater levels of personal income inequality across the personal distribution to influence top percentile accumulation (Atkinson *et al.*, 2010, p. 706). To account for potential endogeneity, a re-specified model using the income share of the top 0.1% is available as an online supplement, although results in the GMM specification are similar in direction. The political basis of redistributive capacity is further emphasized by research showing how social expenditure, capital taxation rates and top income growth are often dependent on partisan incumbency, and their disposition to greater or lesser degrees of regulation and social transfer (Castles and Obinger, 2007; Volscho and Kelly, 2012). Finally, to assess the effect of financial sector regulation, we include measures of the extent of banking sector liberalization, the extent of banking sector supervision as well as a standardized index of financial sector reform, all taken from Abiad *et al.* (2008). Full details of their operational definitions and direction of scoring are provided in Table 2.

4. Results

4.1 Power resources and the capital–labour bargain

The labour market-bargaining context of inequality observed in existing studies thus appears to hold in relation to top incomes, in light of consistency in the magnitude and direction of controls across all specification (Table 3). Institutional protections such as government consumption and unionization compress top income accumulation, whilst trade openness and economic globalization appear to benefit top incomes, consistent with studies of the impact of globalization on capital shares which link increasing capital power to technologically driven productivity capture, innovation in financial instruments, capital account openness and trade deregulation (Harrison, 2005; Jayadev, 2007). Unemployment, which captures both cyclical economic downturns and the corresponding structural weakness of labour, displays positive association with top incomes across all specifications. This is unsurprising given the comparative ease with which high earners are able to weather economic downturns through reliance on alternative ‘unearned’ income streams linked to financial instruments, an effect mirrored in later specifications which show positive effects linked to economic growth (Volscho and Kelly, 2012). The accession of women to the labour force, a condition associated with accession to low-security, low-skill occupations (Kus, 2012) is also unstable across specifications and non-significant in the full bargaining model, suggesting these mechanisms may bear more relevance to the wider personal income distribution.

The progressive inclusion of different components of financialization allows us to examine more clearly their effects, in tandem with underlying labour market conditions. The positive effect of finance-related variables supports our assertion that financialization has driven top income growth through bargaining asymmetry, both by stifling real incomes through demand-sustaining debt servicing, and weakening bargaining capacity under decentralized industrial relations. In the literature, the growth of debt markets plays an important role as an additional channel for the enrichment of top earners through securitization, aided by innovation in financial instruments linked to increasing firm involvement in financial markets. The effects of both market capitalization and domestic credit volume are weak relative to stressors such as unemployment and economic globalization however, with the latter non-significant. The weaker effect of debt is curious, considering that rising debt has been linked both to

Table 3. Power resources and the capital–labour bargain

	Top 1% income share					GMM
	1	2	3	4	5	
Top 1% _(t-1)	–	–	–	–	–	0.256*** (2.63)
Government consumption	–0.530** (–2.40)	–0.340 (–1.66)	–0.619** (–2.79)	–0.809** (–2.84)	–0.551** (–2.84)	–0.100 (–1.14)
Unionization	–0.059** (–2.18)	–0.081** (–2.59)	–0.047* (–1.77)	–0.016 (–0.65)	–0.032 (–1.43)	–0.063** (–2.02)
Economic Globalization	0.054*** (3.15)	0.010 (0.57)	0.051*** (2.94)	0.038 (1.06)	–0.020 (–0.51)	0.059 (1.60)
Trade openness	0.017** (2.66)	0.009 (0.87)	0.016** (2.58)	0.021*** (4.23)	0.006 (0.74)	–0.12 (–0.86)
Unemployment	0.087*** (3.09)	0.076*** (3.42)	0.093*** (2.97)	0.074** (2.10)	0.059* (1.91)	0.057* (1.93)
Female labour force	0.092** (2.76)	0.081** (2.71)	0.078** (2.60)	–0.014 (–0.21)	–0.001 (0.03)	–
Market capitalization	–	0.011*** (6.34)	–	–	–	–
Domestic credit volume	–	–	0.004 (1.54)	–	–	–
FIRE gross operating surplus	–	–	–	0.185*** (3.24)	0.161*** (4.02)	0.116*** (3.53)
Labour's share of GNI	–	–	–	–	–0.207*** (–4.01)	–0.079*** (–3.77)
C	4.053** (2.12)	7.149*** (3.27)	4.848** (2.34)	5.338 (0.97)	21.673*** (2.87)	6.710** (2.29)
P-value (<i>F</i> /chi ²)	0.000	0.000	0.000	0.000	0.000	0.000
Obs	272	270	267	241	241	218
Groups	14	14	14	14	14	14
R ²	0.852	0.862	0.855	0.869	0.890	–

*10%; **5%; ***0.01%.

median income stagnation, and the substantial rise in publicly traded debt servicing agencies which would suggest a stronger effect (Kus, 2013a). This finding likely reflects Kus' analysis of the moderating effects of debt, which shored up consumption and moderated personal income inequality (Kus, 2013b).

The mechanism of association between top incomes and market capitalization is perhaps easier to establish, although its detected effect remains substantively small. As the 'disconnected capitalism' thesis is predicted on a divergence of corporate strategies towards share price and dividends, the corresponding delinking of executive pay from underlying performances indices likely underpins the strong growth of top managerial incomes relative to median wage earning (Lin and Tomaskovic-Devey, 2013). High-earning hedge fund managers now routinely earn over a billion dollars per year (the top 50 of whom are all male), whilst CEO earnings including salary bonus and stock option, have been rising since 2010, reaching

an average of 10.5 million dollars in 2012 (Forbes, 2012). This is despite rising OECD market income inequality and increases of up to 8 percentage points in relative income inequality in countries such as Ireland since the onset of the financial crisis (OECD, 2014).

These discrete elements of the financialization narrative, and their embedding within broader logics of economic action, may be better understood through a more fundamental indicator—that of the relative importance of the financial sector. This variable forms a crucial context to the shifting power resources of economic actors, and its importance is evident in the consistent positive effect of FIRE sector operating surplus in our models. The outpacing of FIRE sector profits relative to other economic sectors reflects a fundamental shift in the generation of profits away from commodities and trade towards financial channels, a process which saw widespread dependence of non-financial industries on financial income streams as a profit subsidy (Krippner, 2005). Whilst the scale of this shift in the structure of profit has long been recognized as a key indicator of the conceptual validity of financialization, it also played a key role in reshaping power relations between interest groups within economic sectors. More general works on the distributional consequences of financial sector expansion particularly stress its effect on top-tier income capture, through the use of non-indexed performance bonuses and stock options (de Serres *et al.*, 2002). As reflected in sectoral-level work on top compensation, the relative weight of financial to business receipts hastened a ‘decoupling’ of surplus generation from production, enhancing executive compensation while excluding the wider workforce from wage-setting as resources were steadily reallocated away from core production (Lin and Tomaskovic-Devey, 2013, p. 1294). The consistency of our FIRE variable thus generalizes this important structural precondition of bargaining asymmetry to the wider pool of advanced democracies.

The distributional consequences of the growing weight of the FIRE sector in economic life are further reflected in our findings concerning the effect of labour’s share. Consistent with models of the relationship between the factor and personal income distribution, we find a greater share of labour in Gross National Income to be associated with a reduction in top income shares. Capital income growth has been explained with reference to the rise of growth strategies incorporating capital account deregulation (Jayadev, 2007) which are typically investment-oriented. As a result, greater shares of capital in national income have been associated with greater overall income inequality (Daudey and Garcia-Panalosa, 2007). The above results suggest that this relationship holds net of underlying bargaining controls, and of the sectoral importance of finance. Furthermore, it strongly affirms Atkinson’s (2009) suggestion of giving greater attention to the intermediary effects of factor shares as a meaningful moderator of the personal income distribution. The balance of labour’s share appears to matter not only as a definitional measure of the setting of an economy-wide income pool as per Atkinson, but also as a measure of the capacity of labour to effect greater income capture. All specifications thus point towards a strong asymmetry in bargaining capacity reflected both in the explanatory and conceptual literatures on finance-driven inequality.

4.2 Financial regulation and redistribution

The second set of models retains relevant controls from the power resources specification, namely government consumption, unionization and economic globalization, in order to include institutional power resources as a context for formal regulation. To these are added economic growth, both as a test of transfer effects linked to stronger economic performance

Table 4. Financial regulation and redistribution

	Top 1% income share				GMM
	1	2	3	4	
Top 1% _(t-1)	–	–	–	–	0.278 (1.59)
Government consumption	–0.099 (–0.78)	–0.009 (–0.07)	–0.517** (–2.57)	–0.593** (–2.79)	0.051 (0.27)
Unionization	–0.058* (–2.14)	–0.204*** (–7.26)	–0.045 (–1.20)	–0.047 (–1.20)	–0.150** (–2.57)
Economic Globalization	–0.042* (–2.06)	0.031 (1.34)	–0.011 (–0.33)	–0.048 (–1.03)	–
Economic growth	0.059** (2.31)	0.029 (1.24)	0.063 (1.46)	0.070 (1.59)	–
Market capitalization	0.008*** (4.09)	0.009*** (8.50)	0.011*** (6.99)	0.012*** (7.25)	0.005*** (2.64)
Log financial globalization (1990–2004)	1.528*** (4.47)	–	–	–	–
Capital taxation	–	–0.179** (–2.61)	–	–	–0.017 (–0.40)
Indirect taxation	–	–0.169*** (–4.37)	–	–	–
Post-tax personal income inequality	–	0.238*** (3.27)	–	–	0.191 (1.02)
Extent of banking sector liberalization (90–05)	–	–	0.546** (2.28)	–	–
Extent of banking supervision (90–05)	–	–	0.393** (2.59)	–	–
Financial reform index (90–05)	–	–	–	0.229* (2.10)	0.237** (1.84)
C	5.431*** (3.05)	12.531*** (3.51)	12.950*** (3.87)	12.411*** (4.61)	1.878 (0.44)
P-value (<i>F</i> /chi ²)	0.000	0.000	0.000	0.000	0.000
Obs	200	222	214	200	158
Groups	14	12	14	14	12
R ²	0.915	0.905	0.872	0.875	–

*10%; **5%; ***0.01%.

(Volscho and Kelly, 2012), and as a precondition of state redistributive capacity linked to fiscal policy, which is likely to be responsive to underlying economic performance. As financial market engagement provides a theoretical link between the power resources of top earners vis-à-vis formal regulatory regimes, its consistency across both specifications net of underlying controls is noteworthy. Similar to Stockhammer (2013), we find a particularly strong effect for financial globalization net of other controls (Table 4). Given that the general weakening of median income associated with globalization is a standard condition of bargaining models of income distribution, it is unsurprising that this should also profoundly influence top incomes.

This component of the globalization of finance may also be linked theoretically to the mechanism elaborated for market capitalization, where the outward focus of firms and inter-trading of financial instruments forms an integral component of the equity-oriented regime of corporate governance. Instrument innovation also plays a central role in Piketty's model of divergent economic growth and capital returns as a driver of wealth concentration, where the diversity of capital gains sources outstrips regulatory capacity. Together, both market capitalization and financial globalization have been associated with growing capital mobility, and a diversification of within-firm income streams, both of which appear to substantially augment the share of the top 1%. In a broader sense, financial globalization should also capture the 'leveraging' effects of global finance. This has consistently been identified as a factor which raised the pre-crisis exposure of national polities to volatile financial markets, whilst also increasing the global scale of profiteering, as securitization and deregulation both conspired to erode the domestic limits of financial activity (Guttman, 2008; Tabb, 2010).

Specification two confirms something of the relationship between different components of the overall income distribution identified in our original bargaining models. Both the factor and personal distribution of income appear to track closely the shares of the top 1%, with greater post-tax and transfer personal income inequality associated with higher shares of income for the top 1%. Together, these measures construct a clearer overall picture of the inter-relationship between different aspects of the income distribution and top income capture, where the rise of the rich appears closely connected both to their volume of capital share in GNI, and weaker state redistributive capacity (personal income inequality). Higher capital taxes are predictably associated with lower top income shares, reflecting the likely dependence of this cohort on interest-bearing income. The effect of higher capital taxation may work either by conditioning of investor behaviour towards greater consumption, or by direct redistribution through social transfers (Volscho and Kelly, 2012, p. 694). The negative direction of indirect taxation is curious, considering greater reliance on consumption taxes is typically associated with regressive effects on inequality, where poorer households often bear the brunt of such increases. Although the distributive effect of various taxation streams depends on underlying consumption habits, luxury goods comprise a small proportion of the overall indirect taxation take, with the majority of consumption taxes levied on general goods (Bermandi and Rueda, 2007). Although results point strongly towards the efficacy of capital taxation and state distributive capacity as factors mitigating top income capture, further investigation is clearly needed into the composition of the tax take in terms of the spread and general cost of goods and services included.

Banking sector liberalization, banking sector supervision and financial reform are all associated with growth in top income shares. The finding that all should contribute to top income growth is explicable in terms of the content of the measures, and of the general logic of financial sector liberalization and supervision which accompanied financialization in advanced democracies. First, our banking sector variable is likely capturing the emergent effects of firm-level liberalization, whereby restrictions on foreign competition in the banking sector, and on the range of permissible activities of banks was substantially relaxed over the timespan of our models. This formed an important precondition of the financial crisis, whereby the commercial banking sector sought to diversify its income streams in a competitive global market through greater reliance on leveraged financial instruments (Ó Riain, 2014, p. 143). This expansion was both facilitated and underpinned by a specific logic of 'light-touch' regulation which was embedded throughout the OECD through policy measures such as the repeal of

the Glass-Steagall Act in the USA (Lin and Tomaskovic-Devey, 2013), global implementation of revisions to the Basel Accord (Guttman and Plihon, 2008) and the harmonization of fiscal rules and monetary policy under the provisions of the European Monetary Union (conditions captured broadly by our latter two variables). These institutional diversifications and policy measures have been shown not only to increase the volume of exposure of the financial system to high-yield capital markets, but also to drive welfare state retrenchment and weaken domestic labour movements, thus driving income inequality higher (Beckfield, 2006, 2009). In the post-crisis years it has also become clear that the pace of supervision and financial reform were insufficient to keep up with the growing complexity of financial instruments. This combination of banking liberalization and weak governance thus appears to have sustained a potent mechanism for top income gains by substantially enhancing the scope of rentier income streams, which form a key element in the income composition of top fractiles (Alvaredo *et al.*, 2013, p. 12).

Further empirical indication is thus given to the process of disembedding described by Jessop (2013), where the institutional fixes of post-Fordist accumulation are predicted on political measures geared towards loosening constraints on financial capital. These measures have a clear political history through policies such as the Basel accord, which triggered widespread use of securitization by financial institutions in an attempt to circumvent its capital adequacy conditions (Guttman, 2008). Coupled with the recorded weakening in labour's share (Kristal, 2010) and growth in personal income inequality particularly since the financial crisis (OECD, 2014), the above results underline a class-based bargaining model of accumulation, where the political control of capital and its regulation have generated uneven advantage with a clear class gradient (Lin and Tomaskovic-Devey, 2013). Whilst our coefficients on taxation, redistributive capacity and financial globalization affirm the role of income-related social policy in tandem with financialization, there is clearly a broader politics of distribution at work, as revealed by the consistent direction and magnitude of institutional protections and stressors in all specifications. The political basis of redistributive capacity is further emphasized by research showing how social expenditure, capital taxation rates and top income growth are often dependent on partisan incumbency, and their disposition to greater or lesser degrees of regulation and social transfer (Castles and Obinger, 2007; Volscho and Kelly, 2012).

5. Conclusion

This analysis contributes two fundamental points to the financialization debate in particular, and to Piketty's thesis in general. First, given the general responsiveness of top incomes to measures of power resources linked to financialization, our results suggest that wealth concentration must be interpreted in terms of relative class-based and institutional power resources. Second, these results offer a wider theoretical contribution, insofar as they reassert the necessity of conceptualizing social change in terms of distinct regulatory regimes—financialization being the most recent. While the preceding results must be cautiously interpreted owing to sample limitations, they beg important questions concerning prognosis, as wider trends suggest the era of financialization to be one of the worst in terms of its capacity to enhance inequality. Our evidence shows that bargaining asymmetry is driven by a variety of factors beyond fiscal policy alone, such as regulatory control, class-based power resources, financial globalization and institutional weakening. Whilst the weight of financial sector profit and productivity has continued its upward climb relative to other economic sectors, in many

countries—including social democracies such as Denmark for example—it continues to outstrip the real economy in terms of its contribution to productivity and growth. In light of this complexity, serious questions must be asked about the ability of capital taxation measures alone to effect redistribution in the absence of a broader reconfiguration of social relations linked to the distribution of economic reward (Piketty, 2014).

In light of our findings that FIRE sector surplus constitutes a key predictor of top income growth, and its noted role as a contributor to re-shaping the field of bargaining between capital and labour, our findings must surely raise questions concerning the ability of a fragmented labour movement, particularly in liberal market economies, to effect meaningful equality of outcome in an economy yet beholden to elite-dominated finance. This effect is especially concerning since it captures a fundamental shift not only in the organization of capitalist economies, but of the social relations under which the struggle for capitalism's rewards takes place. Recent history has shown that the shift towards finance has merely offered a tentative basis for growth, volatility for labour, yet according to our results, a reckonable channel for the resource-endowed to augment their fortunes. This analysis further underscores the importance of exploring income in terms of its factor and personal distributions, where inequality is driven both by greater capture of national product by capital relative to labour, and by a 'hollowing out' of protections associated with greater redistribution. Questions of class-biased power resources rest at the heart of these inequalities, such as control over the setting of fiscal and social policy, allocation of the burden of post-crisis austerity and a deference on the part of stricken governments to financial markets in their recovery strategies.

If we are to accept the prognosis following from Piketty's 'empirical proof' of the centrality of inequality to a functioning capitalism, the consequences of continued top income growth are likely to be dire. Harvey (2014) arrives at much the same conclusion in his diagnosis of the principal contradictions of capitalism, where he singles out the unsustainability of compound growth in a system dependent on exponential returns. Worse still, the post-war asset devaluations identified by Piketty as a principal shock to the fortunes of the wealthy have apparently done little to alter the concentration of income in the crisis of our time. Instead, the devaluation of 2008 estimated by the IMF at one year's worth of global output, offered but brief pause as property and interest-bearing assets remained largely in the hands of the wealthy (Harvey, 2014, p. 234). It is therefore ironic that the recent financial crisis has favourably exposed the 'apparatus of exploitation' embedded in capitalism's latest 'phase transition', lending credence to public debate for redistributive measures such as wealth taxation (Moreno, 2014, p. 265). Caution is required in generalizing these results however. Whilst our choice of data was driven by the need to strike a balance between eligible countries from the WTID with relevant financialization indicators, our conclusions are thus limited primarily to 'advanced capitalist democracies' (Kristal, 2010). However, many of our results are corroborated by other decomposed models which have examined advanced countries (Stockhammer, 2013), where financialization has proven a greater boon to capital shares than globalization, technological change and welfare state retrenchment.

Our results point towards the rising structural weakness of labour in the face of stressors such as the globalization of capital, the erosion of redistributive measures such as collective bargaining capacity, strong labour unions and financial regulation as key culprits in rising wealth inequality. Financialization is implicated heavily in these dynamics, not only as a principal agent in the shifting balance of power towards capital, but as a force in the erosion of

regulatory control, as growth capacity in the developed world shifted from the real economy towards disembedded financial activity. Prescriptively, these results suggest that greater shares of state consumption, healthy labour movements, tighter regulation and stronger redistributive capacity are central to mitigating the effects of top income accumulation associated with financialization. Further, we find strong evidence that this accumulation has been driven by familiar components of the financialization narrative linked to a market-driven ‘disconnect’ between real growth performance and top compensation, and a side-lining of labour’s interests (Stockhammer, 2012; Thompson, 2013).

Although the preceding results identify a common stressor of equality in the form of financial globalization, comparative research suggests that future work may benefit from considering variation in the impact of financialization across different ‘worlds of capitalism’. Denmark’s post-crisis use of collective private funds for distressed banks for example, contrasts starkly with Ireland’s sector-wide deposit and liability guarantee scheme, illustrating the potential importance of cross-regime difference between liberal and social democratic political economies (Grossman and Woll, 2014). In the Irish case, the post-crisis response further entrenched inequalities between income groups by reducing the liabilities of investors, whilst redressing the fiscal balance through a wave of austerity policies, targeting public investment and welfare. This is but one example of the potential nuances which may be overlooked by an analysis at this level of abstraction. In terms of broader theory, our models suggest that a ‘social structures of accumulation’ approach, albeit one augmented to focus on the impact of class-biased power resources on inequality, is a productive line of inquiry. As evidence accumulates on the importance of the distribution of bargaining power between capital and labour, it is important that inequality research pays greater attention to how this bargaining power filters through regulatory orders, producing stronger concentrations of economic power and income capture.

Supplementary material

Supplementary material is available at *SOCECO* online.

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Appendix A

Table A1 reports panel unit root tests for all relevant interval variables included in the model. Unit root tests were performed using the Augmented Dickey-Fuller (ADF) sub-selection of Fisher-type tests. The following tests assume an AR1 autoregressive process and are repeated using demeaned variables to account for cross-unit heterogeneity. For all tests, H_0 : all panels contain unit roots; H_a : at least one panel is stationary. The results indicate that although unit root processes appear in a select number of variables, the diagnostics respond favourably to demeaning. These results lend further credence to the utility of a within-estimator, as the demeaned adjustment also subtracts cross-section averages from individual series. A majority of variables—as well as the demeaned dependent variable, government consumption and market capitalization—indicate absent or ambiguous evidence of a unit root amongst all panels.

Table A1. Unit root diagnostics

Panel unit root tests (AR1)				
Variable	Inverse chi-square (X^2)	Inverse normal (Z)	Inverse chi-square, demeaned (X^2)	Inverse normal, demeaned (Z)
Top 1% income share	27.37	0.26	50.42*	-1.11
Government consumption	74.54*	-0.10	92.12***	-2.04*
Union density	154.42***	-2.69**	75.13*	0.56
Economic globalization	158.53***	-7.24***	69.83	-1.57
Trade openness	47.61	1.21	57.95	1.1
Unemployment	106.30***	-4.79***	125.03***	-4.53***
Female labour force participation	61.56	2.13	70.33	-0.40
Market capitalization of listed firms (% GDP)	67.28	-2.61**	69.77*	-2.06*
Private sector credit (% GDP)	42.03	3.67	48.82	1.84
Finance, Insurance, and Real Estate Gross Operating Surplus (% all sectors)	62.80	1.13	81.97**	0.14
Labour's share of Gross National Income	136.72***	-4.02***	139.87***	-4.57***
Financial globalization (log)	6.43	9.19	26.53	5.55
Economic growth (real GDP % yearly change)	248.09***	-10.95***	314.36***	-12.58***
Capital taxation (% total tax burden)	131.82***	-1.93***	97.53***	-3.17***
Indirect taxation (% total tax burden)	126.02***	-4.37***	134.90***	-4.45***
Net income inequality (Gini)	137.62***	-3.88***	134.59***	-4.77***
Financial reform index	377.13***	-11.69***	274.43***	-9.24***
Political globalization	379.98***	-13.21***	197.00***	-6.11***

* $P \leq 0.05$; ** $P \leq 0.01$; *** $P \leq 0.001$.

Appendix B

Table B1. Notes on the measurement of top incomes

Country	Measure (income definition)	Column title from WTID
Australia	Tax unit is the individual, control total for population is that aged 15 and over, control total for income is national accounts total of personal income with non-household items excluded (charities, universities, social security contributions, non-taxable payments). Australia uses 'actual income' concept from 1958 (pre-eligible deductions). Some gains are included under regular income tax, but others are excluded (as with UK) since 1986 under separate capital gains system (Atkinson and Leigh 2007a).	Top 1% income share
Denmark	Danish statistics offer a number of advantages such as a stable long-term tax code, centralized data collection and detailed tabulation. The taxable gross income concept excludes realized capital gains, but includes transfers such as unemployment and sickness benefit, and public pensions. Prior to 1980 where subtle variation is introduced owing to the availability of micro-data, the income concept included wage income and transfers, stock and dividend gains, and net business income. Tax units from 1970 are individuals aged 15 and over, and the control totals are derived from the actual number of tax units (Atkinson and Sogaard, 2013).	Top 1% income share adults
Finland	Data are sourced from the Income Distribution Surveys (IDS) and Household Expenditure Surveys. Although the IDS is a representative sample survey, it draws information on income, taxes and benefits from administrative registers. These income estimates include sources such as labour and entrepreneurial income, capital income and received transfers. Realised capital gains are taxable after 1993 reforms, however, state capital income tax and property tax are subtracted under their income definition. After 1975, jointly taxed persons were no longer assessed as a single taxable unit. The authors note that rising Gini income inequality has been driven strongly by increases in top income shares since the 1990s (Jantti <i>et al.</i> , 2010).	Top 1% income share IDS
France	Tabulations since 1915 list all individual income tax returns, and the income concept is pre-tax, pre-deduction taxable income. A key feature of the evolving composition of French top incomes is a decline in the share of wage income in top fractiles, a rising share of capital income (dividends, interest, rents). French top incomes thus derive mainly from dividends, and large capital owners are predominantly shareholders, not bondholders or landlords (Piketty, 2007).	Top 1% income share

Continued

Table B1. *Continued*

Country	Measure (income definition)	Column title from WTID
Ireland	Income definition from 1970 is ‘total income’, which is net of capital allowances, retirement annuities and interest paid. Tax unit is the single adult or married couple with dependent children, with control population total derived from census years through interpolation. Control total for aggregate income follows the USA, where aggregate personal sector income from national accounts is adjusted for transfers and social insurance contributions. By 2000, self-employed income comprised 69% of the income of the top 1% group, whilst predominantly unearned income accounts only for 4% of top income cases (Nolan, 2007).	Top 1% income share
Italy	Calculations are performed on personal income tax data compiled by the Italian tax administration, and the income concept is gross income before deductions, and including income items such as salaries, pension, self-employment income, dividends and real estate. Controls population totals are derived from census data, and the tax unit since 1976 is the individual. Realized capital gains are mostly excluded, but the series some gains from qualified equities. The control income denominator is calculated from national accounts data on wages and salaries, pensions, business income and non-labour income. The authors note that evasion on wages, salaries and pensions at the top of the distribution is low, as evasion rates tend to decrease with true income (Alvaredo and Pisano, 2010).	Top 1% income share
Japan	Data are sourced from income tax statistics published by the Japanese tax administration, and the income concept is gross income before individual tax liabilities, but after employers payroll and corporate income tax. This includes all income components reported in tax returns, such as salaries and wages, business and farm income, self-employment income, dividends, interest and rent, with realized capital gains excluded owing to their volatility. The tax unit is the individual, and control totals are calculated from counts of total adults, and from national accounts figures of total personal income (Moriguchi and Saez, 2010).	Top 1% income share
New Zealand	The tax unit since 1953 is the individual, and the control is the number of people aged 15 and over. The income total is pre-tax gross income, and the control total is derived from adjusted national accounts household income totals, including transfers. Realized capital gains are excluded, whilst dividends are covered by the estimates. An increase of the marginal tax rate on incomes over US\$ 60 000 from 33–39% in 2000, led to extensive realization of business earnings in 1999, whilst a fully separate system of capital gains returns was established during the same tax year (Atkinson and Leigh 2007b, p. 339).	Top 1% income share adults

Continued

Table B1. *Continued*

Country	Measure (income definition)	Column title from WTID
Norway	The calculation procedure follows closely that of Piketty for France. Data on incomes are derived from tax register micro-data files, supplemented with Income Distribution Survey data. Taxation is generally joint, although separate filing for two-earner couples has increased. Control totals for population include adults aged 16 and over, and the control income total relies on national accounts total household income data. These include employment income, interest, rents, dividends and transfers (Aaberge and Atkinson, 2010).	Top 1% income share
Spain	Estimates are compiled from personal income and wealth returns to the Spanish fiscal administration, where the tax unit since 1988 is the individual. The income concept is gross income, pre-deduction and incorporating all tax schedule items such as salaries and pensions, self-employment income, business income, dividends and interest. Although realized capital gains are included in the tax base, a series excluding them is provided and used for this study. Control population totals are derived from census data of total adults, and control income totals are derived from national accounts and GDP data. Reinforcing the necessity of tax-based methodologies, Spanish survey measures have shown a reduction in income inequality and relative stability post-1980, whilst tax-based measures show worsening throughout the 1990s (Alvaredo and Saez, 2010).	Top 1% income share
Sweden	Income data are derived from annual published income distribution statistics, the income concept is all-source gross income before taxes and transfers, less source interest payments. Although the concept includes realized capital gains, the data are structured in a way which allows them to be subtracted from the series. The final income total includes labour, capital and business income less realized capital gains. Control totals for population and income are derived from the adults population recorded by Statistics Sweden, and a combination of national accounts data and Swedish tax statistics, respectively.	Top 1% income share

Continued

Table B1. *Continued*

Country	Measure (income definition)	Column title from WTID
Switzerland	Income definition is 'Revenu net' income before deductions, which includes employment, business and capital income, excluding realized capital gains. The Swiss tax unit is at family level (married couple, or single person with dependents). Decennial census' are used to calculate control population totals through interpolation, and the control income total is the total of tax returned income with adjustment for non-returners. This total income is defined as personal income including transfers, and after-tax corporate profits after distribution of dividends. Switzerland maintains a very low top marginal income tax rate (10%); there is no federal inheritance or estate tax, and most counties do not levy inheritance taxes between spouses, parents or children. Thus the marginal tax rate on local and capital income has been very low relative to OECD comparators. Complete tax avoidance is difficult however, as returns on wealth invested are flat-taxed 35% at source. Whilst the use of flat-rate allows for a level of secrecy around account ownership, it allows for estimates of the proportion of non-Swiss filing income tax returns (Dell <i>et al.</i> , 2007).	Top 1% income share
UK	UK tax base figures do not correspond with definite income definition, and thus omit most capital gains and losses (note that there is a time effect here which lends some confidence to the consistency of figures within the timeframe under consideration within this study—whilst the effect of capital gains and losses over time cannot be assumed uniform as verified by the US case, incentives for tax avoidance fall within changes to policy, which tend to be less frequent). Units for top income estimates are individuals, and the control total for income is the total from income tax statistics with an added estimate of the income of units not covered. In 1997, the share of investment income of the top 1% was approximately 12% (Atkinson, 2007, p. 110).	Top 1% income share adults
USA	Tax unit is the married couple or single adult with dependents. Calculations use a gross income definition which includes all income items on tax returns before deduction (salaries and wages, farm income, dividends, interest, rents). Realized capital gains are not an annual flow of income and form a volatile component of income with large variations dependent on stock prices, thus the preferred series for comparability is the series with excluded capital gains (Piketty and Saez, 2007, p. 144, 195). Piketty and Saez show that for the USA, although measurement and taxation of capital gains are important, it is not the primary driving force behind changing trends.	Top 1% income share