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CLASS STRUCTURE AND THE US PERSONAL INCOME DISTRIBUTION, 1918–2012

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ABSTRACT

Quantitative measures of class, by percentile position and income share, are constructed using U.S. personal income distribution tax-unit data from 1918 to 2012. Three classes are identified: 'capitalists' with sufficient non-labour income that they do not need an employment contract (although typically they are in employment); 'managers', with insufficient non-labour income to meet that threshold; and 'workers' with no supervisory responsibilities in employment. Class measures of inequality show that inequality was very much greater by 2010-11 than at any time since 1918. The paper concludes with how causal explanations might be constructed and how the data might be used.

1. INTRODUCTION

Ricardo famously began the Preface to his *Principles* by declaring

> The produce of the earth – all that is derived from its surface by the united application of labour, machinery, and capital, is divided among three classes of the community; namely, the proprietor of the land, the owner of the stock or capital necessary for its cultivation, and the labourers by whose industry it is cultivated. . . . . To determine the laws which regulate this distribution, is the principal problem in Political Economy. . . . (Ricardo, 1951 [1821], p. 5)

Ricardo's focus was on class, and defining class in terms of type of income received (rent accruing to landlords, profit to capitalists and

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wages to workers) was socially obvious in early 19th century England. Some half a century later, partly in reaction to how Marx had further developed an approach based on class, political economy was transformed by the neoclassical revolution of the 1870s, and its basis sought in the activities of optimizing individuals rather than in the relations between classes.

This transformation reflected developments in the economic structure of capitalism. The development of joint-stock companies on the principle of limited liability began to spread nominal ownership more widely, and later, as corporate structures began to replace the family firm in the late 19th and early 20th centuries, professional layers of managers emerged, whose income was derived largely from employment rather than from the ownership of capital. The latter eventually became concentrated in financial institutions (insurance companies, pension funds and later sovereign wealth funds), largely comfortable with the derogation of control to salaried managers. Since pension funds in particular gave large numbers of people an indirect stake in corporate profits and interest on debt, the separation of ownership from control was easy to associate ideologically with the demise of class. One consequence was the distinction drawn between the macroeconomic class distribution that had been Ricardo's concern, and the income received by individuals; the former became the province of the 'functional distribution of income' and the latter the 'personal distribution of income'.

Much recent work has focused on the top of the personal income distribution, and the description of how inequality has evolved over time has received a major impetus from the recent publication of Piketty (2014). In some ways, this book is a progress report on work by a number of scholars. For example, Atkinson *et al.* (2011) have surveyed the long run evolution of top incomes; Alvaredo *et al.* (2013) have focused on the top 1 per cent; and a number of collaborators have constructed and are extending a world database of top incomes.[1] Much of this paper was inspired by Piketty and Saez's (2003) work on tax-unit-based income inequality in the United States, which has justly had a wide impact, and with regular updates of the data—currently, Saez (2015)—their work has become a standard reference.

Two features of the Piketty and Saez dataset on incomes, constructed out of the internal revenue service (IRS) individual statistics of income (SOI) data, are that the basic unit of analysis is a tax-unit, and that the incomes are pre-tax. While the pre-tax feature provides evidence over time of underlying trends, the tax-unit basis has some awkwardness. People

[1] http://topincomes.g-mond.parisschoolofeconomics.eu/#Home.

inhabit households, not tax-units; in 1967 there were 1.26 tax-units per household, falling to 1.21 by 1979, and tending to rise thereafter, reaching 1.33 in 2013. For many purposes it would be preferable to have measures of household income, drawn from the Census Bureau's current population survey (CPS). This provides historical household income data (although only from 1967), but it is differently defined from Piketty and Saez's IRS(SOI)-based tax-unit income. Further, only a comparison of pre-tax and post-tax household incomes allows an assessment of the effectiveness of redistributive policies, and neither dataset is satisfactory in this regard. The congressional budget office (CBO) comments:

> The SOI lacks information on couples and individuals who do not file a federal tax return, does not report all income from government cash transfer programs, has no information on the receipt of in-kind transfers and benefits, and uses tax returns rather than households as the reporting unit. The CPS lacks detailed information on high-income households, does not report capital gains, underreports other income from capital, and lacks information on deductions and adjustments necessary to compute taxes. (Congressional Budget Office, 2011, p. 33)

CBO has accordingly matched detailed SOI records with CPS records such that each pair has both the CPS demographic characteristics and the SOI income, and on that basis has explored the evolution of the US personal income distribution (Congressional Budget Office, 2011). But the CBO study is limited to the period 1979–2007, and cannot therefore address the question of how the distribution has changed over the longer run (the 1970s, the 'golden age' before 1973, World War II and the inter-war years). For all of its limitations, there is no choice but to use IRS data for a long run study.

Since incomes are the sum of labour incomes (deriving from an employment contract) and non-labour incomes (deriving from the personal ownership of wealth in a variety of forms), some studies focus directly on the evolution of inequalities in the underlying distribution of wealth (for example, Piketty and Saez, 2014; Piketty and Zucman, 2014; Saez and Zucman, 2014). Like the studies of income distribution, these studies look at particular cuts into the (tax-unit) distribution to see how these have evolved over time (for example, the top 10 per cent, the top 1 per cent, the top 0.1 per cent). But there is nothing in particular to motivate the selection of these percentile numbers, save that they are numerically 'the top'. Wolff and Zacharias (2013) have examined household wealth inequality, using a different dataset, matching data from the Census Bureau's Annual

Demographic Supplement with data from the Federal Reserve's Survey of Consumer Finances, but only for the two years 1989 and 2001. The relevance of this study in the present context is that it attempts to cut into the distribution with sociological rather than numerical categories. Thus,

> A household is considered to be a capitalist household if it has non-home wealth of at least $4 million or business equity worth at least $2 million (in 2000 dollars). Our thresholds reflect wealth levels that would be, under normal circumstances, sufficient to yield a property income that can provide a household with a standard of living that is over and beyond a life of leisure. (Wolff and Zacharias, 2013, p. 1384)

But Wolff and Zacharias concede that these thresholds are 'arbitrary' (ibid. p. 1385).

The challenge is therefore to provide sociologically meaningful thresholds that are both less arbitrary and can be used over the long run with IRS data. That is what this paper attempts, on the basis of the income dataset published by Saez (2015).

Piketty and Saez (2003) summarized their findings as follows:

> Our estimated top shares series display a U-shape over the century and suggest that a pure Kuznets mechanism cannot fully account for the facts. . . . top capital incomes were severely hit by major shocks in the first part of the century [World War I, post-WWI depression, Great Depression and World War II]. . . [and] were never able fully to recover from these shocks, probably because of the dynamic effects of progressive taxation on capital accumulation and wealth inequality. (Piketty and Saez, 2003, p. 3)

They further asserted that 'the increase in top income shares in the last three decades is the direct consequence of the surge in top wages'. (Piketty and Saez, 2003, p. 3), concluding that 'the working rich have now replaced the coupon-clipping rentiers' (ibid.). Wolff and Zacharias (2009) pointed out that this conclusion was overstated, and Piketty has revised it in favour of the two 'cohabiting' rather than the one 'replacing' the other (Piketty, 2014 n. 39, p. 607; see also Saez and Zucman, 2014). Thus, for Piketty and Saez (henceforth PS), both Kuznets and Marx were wrong; Kuznets because his belief, that growth and competition would in later stages of development reverse the inequalities of early development, is belied by the data; Marx because his thesis, that concentration of income and wealth in ever-fewer hands would characterize capitalist development, is also belied by the data. Rather than a deterministic process, 'rising or shrinking inequality… depends on the institutions and policies that societies choose to adopt' (Piketty and Saez, 2014, p. 843).

But the institutions and policies that a society chooses raises the question of how such social decisions are made. In a framework of methodological individualism, those choices are fundamentally made by individuals, and somehow aggregated. But that is not the only possible approach. Prior to the 'marginalist revolution' of the 1870s, class took centre-stage and individuals were conceived (in the first instance) only in so far as they were representative of the class to which they belonged. Subsequently, the notion of class has never quite died. The idea that individuals might only derive existential meaning from some sort of 'class-belonging' in a wider social context, while increasingly alien to economics, lived on in the other social sciences, where there was less concern with trying to construct the behaviour of aggregates out of the optimizing decisions of individuals.[2] And it remained central to the Marxian tradition, in which individuals have always been treated (at least in the first instance) as the 'bearers' of class relations. It is worth considering whether this is a more promising framework for interpreting the PS data in Saez (2015). This paper proposes that underlying the PS data is a class-divided reality, and that those class divisions can be constructed from their data. It thereby provides a basis for exploring the proposition that the institutions and policies that a society 'chooses' have more to do with power and class conflict than individual choice.

Using the personal income distribution to define classes, and then supposing that the class structure thereby defined generates that distribution of income, might be considered circular. But that circularity is an essential feature of class reproduction. Through time (rather than at a point in time) classes have to be able to reproduce themselves, and hence have income requirements deriving from asset ownership that determine class existence. A perspective of reproduction through time entails that asset ownership and hence class determines income *and* that income determines asset ownership and hence class.

There is a huge sociological literature on class, to which for example Wright (1976, 2009) has been a major contributor, but this paper confines itself to quantitative estimates on the basis of the definitions to be outlined below. The advantage of these definitions is their analytical coherence and tractability over the long run; the disadvantage is that they cannot address intra-class issues. But in a long run historical treatment, there is something to be said for analytical simplicity in place of detailed historical complexity.

[2] It might also be argued that the notion of class retained some presence in post-Keynesian economics through the Cambridge saving equation.

Further, the paper does not address questions of mobility between classes, and the crucial questions of class identity and class subjectivity. This latter in particular can be fluid, both the subject and the object of politics; while it has an objective basis in the definitions of class proposed, it also has considerable autonomy. The paper does not therefore address issues surrounding economic determinism and the social construction of class-belonging.

Finally, a terminological difficulty must be mentioned. Most people at the top of the income distribution are business executives of one sort or another (Bakija *et al*., 2012). In the classification proposed in this paper, they are determined as members of the capitalist class. But this latter also includes lawyers, doctors, scientific and technical professionals, some in arts, media and sports, some in Government, teaching and social services, and airline pilots (in total, 32 per cent of the top 1 per cent in 1979 and 33.1 per cent in 2005). Calling them all 'capitalist' does some violence to traditional terminological understanding. But calling them 'capitalist managers and others' is too verbose. Similarly, the class immediately below the capitalist class will contain a similar occupational diversity, but in this paper they are called 'managers', rather than the terminologically more exact 'non-capitalist managers and others who are neither capitalists nor members of the working class'.

The paper proceeds as follows. The next section considers the classical approach to class and its difficulties, while the following section proposes different definitions of class which remain within the spirit of the classical approach, but are more operational. In so doing, the paper constructs a historical record of each of the classes in terms of their percentile position in the personal income distribution and their share in total personal income. The following section focuses on what this reveals about income inequality in class terms, and the next section sketches some proposed explanations for the historical patterns displayed. A short conclusion then suggests where this class approach could lead.

2. DEFINITIONS OF CLASS: THE CLASSICAL APPROACH

2.1 The working class

Marx took Ricardo's definition of the working class as those in receipt of wages and developed it further through an examination of the wage bargain. For Marx, what was transacted in that bargain was the capacity to work (or labour-power) for a defined period of time. The purchaser had then the right (like any commodity purchaser) to consume the commodity purchased during that time; consuming labour-power meant putting the worker into a production process in which more was produced than the cost of inputs. With the value of non-labour inputs transferred by labouring activity to the final product, the value produced by the consumption of labour-power over the period of time covered by the transaction was greater than the value of that labour-power at the beginning of that period of time, and this difference accrued to the owner of the commodity as surplus-value.

Why would workers sell their labour-power in this manner? Marx's answer was in two parts. First, they were able to do so. This was the result of the long run historical developments that had destroyed those feudal restrictions that in the countryside had bound peasants to the land and in the towns had bound urban workers to the guild. Second, workers were forced to do so, because they had no non-labour means of production with which to work on their own account. The same historical developments that had destroyed feudal restrictions also dispossessed workers from means of production, so that they had no access to means of subsistence (consumer goods, housing, medical care, education, transport and so forth) other than through the sale of the only asset from which dispossession was impossible—their capacity to work. Dispossession from the means of production (typically land) was partly an economic process (in which larger production units enjoying scale economies could bankrupt smaller units), and partly extra-economic (particularly through the enclosures of common land). Revolutions in mechanical power generation then enabled the concentration of production in the new urban factories, in which much greater control and supervision (and, subsequently, transformations) of the work-process were possible (as compared with the rural 'manu-factories' of the putting-out system). As rural migration into the towns accelerated (ex-agricultural workers being pushed by dispossession from the land, and pulled by the availability of urban work), the modern capitalist economy came into being.

This two-part definition constituting the working class has always had some ambiguities regarding the determination of the value of labour-power. With a floor set by biological subsistence requirements, the social norms determining what living standards obtain at any particular time are undetermined, except by a generalized notion of class struggle. Changing household and family structures impinge on whether the wage is to be regarded as supporting the individual, the family or the household, creating particular difficulties of definition when the family (or household) has more than one wage-earner. Welfare states intervene to support the young, the old, the sick and the unemployed, providing some non-market access to subsistence (albeit with considerable variability both across time and across countries). Nevertheless, the general principle is clear: in a surplus-based approach, classes in capitalist society are determined by their situation with regard to the wage bargain. The working class comprises those who have no choice but to sell their labour-power, and this is summarized as their structural subordination to the 'capital relation', structural because it is essentially involuntary.[3]

Applying such a definition empirically is difficult. As the family firm was replaced by the corporation, so the labour contract came to characterize the employment situation of almost everybody. Those at the apex of the largest corporations (Chief Executive Officers, for example) and those at the bottom (office cleaners, for example) are all employees with labour contracts, and all receive 'employee compensation'. Hence, there is no distinction in employee compensation data between involuntary and voluntary participation in the labour market. A striking feature of the data presented by PS (Saez, 2015) is the percentage of income (excluding realized capital gains, social security payments and unemployment insurance) that is accounted for by labour income at the top of the income distribution. For the bottom half of the top decile (P90-95), since 1940 more than 80 per cent of average income has been labour income, and since 1960 around 90 per cent. For P95–99, since the early 1950s more than 70 per cent, and since 1980 more than 80 per cent of average income has been labour income. And for the top 1 per cent, since 1980 their labour income has fluctuated around 60 per cent of their average income (around double what it was in the 1920s). Thus, while the proportion of income that is labour income falls as smaller and smaller top percentages are considered, nevertheless that proportion remains substantial right at the top, and has increased more sharply right at the top than further down the top decile. An obvious conclusion is that because the receipt of labour income is so significant at the top of the income distribution, the receipt of labour income cannot be used to define the working class.

2.2 The capitalist class

The classical definition of the capitalist class is that group of people who own and control the means of production, and who therefore purchase labour-power, which is then put to work with those means of production. But the evolution of the firm entails serious difficulties in making this classical definition operational. For ownership of the means of production is vested in shareholders who are quite widely dispersed, and only those with

[3] Of course there is a large ideological industry (education, the media and so forth) devoted to socialization, to persuade that 'involuntary' is actually 'voluntary'.

major blocks of shares (such as pension funds and insurance companies) are able to exercise control, and only if they choose to do so. They rarely do so directly, and both day-to-day and strategic control is vested in senior management, who are constrained only by criteria of satisfactory performance (generally of shareholder value). Hence, the historical separation of ownership from control has created two related and significant difficulties with the classical notion of the capitalist class; how active managers should be treated, and how passive shareholders should be treated.

Marx's most extensive treatment of these issues was in the context of the division of surplus-value into profit of enterprise and interest, and the appearances that such a division generated (Marx, 1981 [1894], ch. 23). Suppose the industrial firm borrows to finance its advances of money-capital to purchase its inputs (labour-power and means of production). Then, surplus-value must be divided into profit of enterprise, accruing to what Marx called the 'functioning capitalist', and interest, the payment to the owner of the capital lent, called the 'money capitalist'. So he wrote, 'Interest-bearing capital is capital *as property* as against capital *as function'* (ibid., p. 503, italics in original); because the functioning capitalist has to manage production and circulation processes, he has to *work*, and hence his profit appears as a return to that work, that is, as 'the wages of superintendance' (ibid. p. 504). In this manner, 'The social form of capital devolves upon interest, but expressed in a neutral and indifferent form; the economic function of capital devolves on profit of enterprise, but with the specific capitalist character of this function removed' (ibid. p. 506).

Since, like a loan, shareholders' equity is a liability on the firm's balance-sheet, Marx generalized his argument:

> Joint-stock companies in general (developed with the credit system) have the tendency to separate this function of managerial work more and more from the possession of capital, whether one's own or borrowed... But since on the one hand the functioning capitalist confronts the mere owner of capital, the money capitalist... and since on the other hand the mere manager, who does not possess capital under any title... takes care of all real functions that fall to the functioning capitalist as such, there remains only the functionary, and the capitalist vanishes from the production process as someone superfluous. (Ibid. p. 512.)

Thus the appearance is that the firm's profits accrue as a result of managerial work, a return to the labour of 'superintendance', but the reality is different:

> interest accrues to the capitalist even if he does not perform any function as capitalist, but is simply the owner of capital; while profit of enterprise, on the other

> hand, accrues to the functioning capitalist even if he is not the owner of the capital with which he functions. In the face of the antithetical form of the two parts into which profit and thus surplus-value divides, it is forgotten that both are simply parts of surplus-value. (Ibid. p. 504.)

The appearance that the profit of the industrial firm is a return or reward to enterprise seems to imply that the greater the effort of the 'functioning capitalist', the greater the return and the higher the 'wages of superintendance'. But this neglects the issue that the magnitude of profit of enterprise increases with the magnitude of the capital invested, and the greater the latter the more essential and extensive are the hierarchies of management that have developed in firms as management has become professionalized. As soon as the division of labour specializes workers to different functions in the production process, then *coordination* of the production process is required. As Marx put it, 'the interconnection and the unity of the process is necessarily represented in a governing will, and in functions that concern not the detailed work but rather the workplace and its activity as a whole, as with the conductor of an orchestra' (ibid., p. 507). But coordination in any class society requires the work of *supervision*, which is authoritarian and hierarchical. In class societies, these two functions of management, coordination and supervision, were for Marx 'directly and inseparably fused' (ibid. p. 510). So while he recognized the distinction between ownership and control, the conclusions he drew from it were limited to an account of appearances, and these do not help in resolving the question of how far down the managerial pyramid the capitalist class should be conceptualized.

What is certain is that managers are employees receiving labour income, and the ubiquity of this at the highest levels of the income distribution problematises the classical definition of the capitalist class. If those with top incomes enter the labour market, the simple identification of classes via the functional distribution of income, while at the heart of classical political economy, is not possible. Moreover, a modern approach to class cannot rest on a minimal binary opposition of capitalist class and working class; it has to distinguish managers from workers and capitalists from managers.

3. DEFINITIONS OF CLASS: A REVISED APPROACH

3.1 The capitalist class

While a definition of capitalist in terms of ownership and control of the means of production is operationally problematic, a cognate approach can be pursued: if a capitalist is not forced to sell his labour-power, he must have sufficient non-labour income for this to be possible, a non-labour income deriving from asset ownership. Asset ownership in a modern economy is some distance from ownership and control of, say, a 19th century cotton mill, but a surplus-based presumption is that ownership and control of the means of production ultimately generates the rents that derive from ownership of land and property, and the interest and dividends deriving from the ownership of financial assets, as well as the profits from 'entrepreneurial' activities. A capitalist can therefore be defined in terms of receipt of sufficient non-labour income. Provided 'sufficient' can be satisfactorily defined, a capitalist is then someone who is not compelled to sell his labour-power, even though he might well do so.

3.2 The working class

Those who are compelled to sell their labour-power are in this regard powerless; they might be free to sell to whomsoever will buy, but they are not free not to sell at all. Moreover, once sold, their labour-power is at the disposal of its (temporary) owner, who can use it in whatever way will most contribute to competitive advantage. Hence, the seller of labour-power is to a degree powerless in a second regard, being organized and supervised in a production process. The history of production processes is a history of successive technological transformations which extend the division of labour and subordinate individuals to the imperative of machines-driven processes. These transformations are major arenas of struggle, as workers seek to retain craft skills that give them some autonomous control over their work-lives, and as the organizers of production seek to deskill their employees in order to remove such areas of autonomy. Issues surrounding power and control over the work-process are, therefore, important, both in describing the two-way relation between technical progress and hierarchical authority in production processes, and in defining the class situation of its participants (Braverman, 1974; Marglin, 1976; Edwards, 1979; Gordon, 1996).

The working class could, therefore, be defined as comprising those without any degree of power within the production process. More precisely, define powerlessness as *both* having no supervisory responsibilities over anyone else, *and* being supervised by someone else. The lack of any control emphasizes the power relationships involved; in capitalism, the working class is defined by its subordination. It seems a safe assumption that those at the top of the income distribution who do not have to sell their labour-power but nevertheless do so, will not sell their labour-power in order to enter a situation of powerlessness.

3.3 Managers

Managers manage, and managing under capitalist relations of production involves supervision, an organization of the 'collective worker' in a division of labour that is authoritarian and hierarchical (rather than democratic and participatory). By their exercise of a supervisory function, managers are not members of the working class. They nonetheless have two features in common with the working class. First, most managers are themselves managed: while they supervise, they are also supervised. Second, they do not have sufficient non-labour income, so that they are not free to choose whether or not to take employment (otherwise they would definitionally be capitalists). Unlike capitalists (who might also manage), they are labour-power dependent.

3.4 Empirical requirements

Operationalising these definitions has two requirements. First, is it possible to identify a 'sufficient' non-labour income to define a capitalist class? Second, can an absence of any supervisory responsibilities while in a supervised position be identified to define a working class? Given answers to these two questions, a labour-power dependent managerial class is also identified between the two.

4. ESTIMATING CLASSES[4]

4.1 Capitalist class

The average working class worker receives an average working class wage. Historically, one might think of an implicit bargain between male employers and male trade unions to exclude women and children from employment, so that the average working class wage had to support both an average working class worker and his family. Later historical developments saw the erosion of this implicit bargain, so that the family wage was

[4] The data underlying the Figures of the paper can be downloaded as a spreadsheet from http://webspace.qmul.ac.uk/smohun/.

gradually individualized and the single-earner family superseded by a multiple-earner family. Of course there were and are many exceptions to such pure historical stereotypes, but the point is there is some ambiguity both as to who the wage is to support and how this has changed over time. This ambiguity affects the level of income that can achieve a standard of living that allows non-participation in the labour market. Once that is resolved, a capitalist (tax-unit) is defined as having a non-labour income at least equal to this amount. The procedure then is to find that non-labour income threshold in the Pareto distribution of non-labour income; with total capitalist non-labour income found using the Pareto coefficients of the distribution, interpolation of the data in Table A7 in PS determines the capitalist (tax-unit) income share.[5]

How might this specified monetary standard of living be determined? One option is to take total supervisory labour income, find the corresponding point in the labour income distribution and determine the labour income threshold at that point. This is in effect the highest or maximum (tax-unit) working class wage. Two other possibilities focus on the average working class wage, but with different weighting procedures. The first weights each adult in a tax-unit as one, and each child as a half.[6] The second increases the average working class wage by the square root of tax-unit size (standard equivalization in reverse). These three possibilities are labelled below as A, B and C, respectively.

These three possibilities all rest on an identification of the (maximum or average) working class wage, and this in turn rests on the Employment, Hours and Earnings survey of the Bureau of Labor Statistics (BLS). Other countries by and large do not collect data analogous to BLS production and non-supervisory employee data, so that the methods thus far suggested cannot be applied to other countries. However, other data can be used to identify at least the capitalist class. A minimum non-labour income might be set as average tax-unit (labour and non-labour) income across all tax-units, or it might be set as the average tax-unit wage (defined across only those tax-units that have a wage-earner). These are both PS data (Saez, 2015), and therefore avoid difficulties of conversion to tax-units. They are labelled below as D and E, respectively. Or the minimum non-labour income could be set at the (P40-80) mean household income and benefits level from the Census Bureau's CPS (labelled F). Or it might be the Congressional Budget Office's threshold to the top decile of household income plus benefits less Federal taxes (labelled G). These last two are of more limited historical applicability;

[5] See the Appendix below for further details.
[6] A child in this paper is aged 0–13 from 1918 to 1945, and 0–17 thereafter.

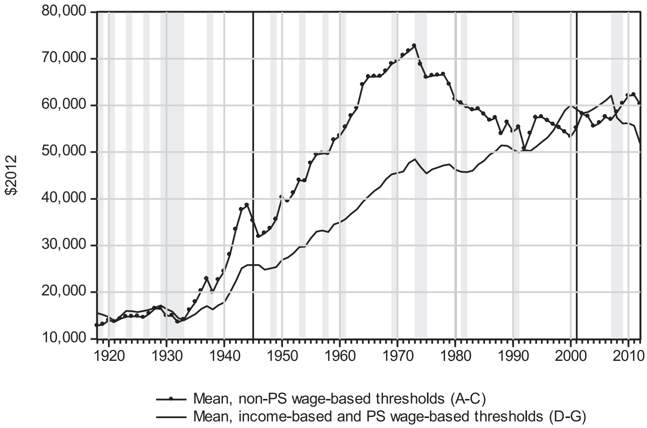

Figure 1. Minimum non-labour income of the capitalist class ($2012), USA, 1918–2012.

the former (F) begins in 1967 and the latter (G) in 1979 (and also only runs to 2007). So estimates of the capitalist class on this basis are not in principle US-specific and can be constructed for many countries.

It does not matter that these various possibilities are based on different definitions of income, for their sole purpose is to determine a minimum threshold for non-labour income. But they are not the same. For comparison, they are grouped in figure 1.[7] While A and B are similar in shape and level (although A is more fluctuating) and B and C are almost identical in shape (but C is at a rather lower level than B), it is convenient to group them, because of their underlying basis on the working class wage. Similarly, D to G are grouped, by virtue of not being based on the working class wage. The two groups are similar from 1918 to the mid-30s, but thereafter diverge, the mean of A to C increasing more rapidly to peak in 1973, falling back to the early-90s (to a par with the late-50s mean), and then recovering (although not smoothly) about half of that fall by 2012. By contrast, the mean of D to G also peaked in 1973, and then rather than falling sharply, it was fairly flat for a decade; it then rose from the early-90s to peak in 2007 before falling back. The shapes are different because the working class labour income experience has been different from that constructed out of some average of all classes. Figure 2 shows how these grouped thresholds translate into tax-unit and income shares. Each of the seven thresholds is used to produce tax-unit and income shares; the A-C measure averages those three generated tax-unit shares and income shares, and the D-G

[7] The shaded areas in all Figures indicate NBER recessions.

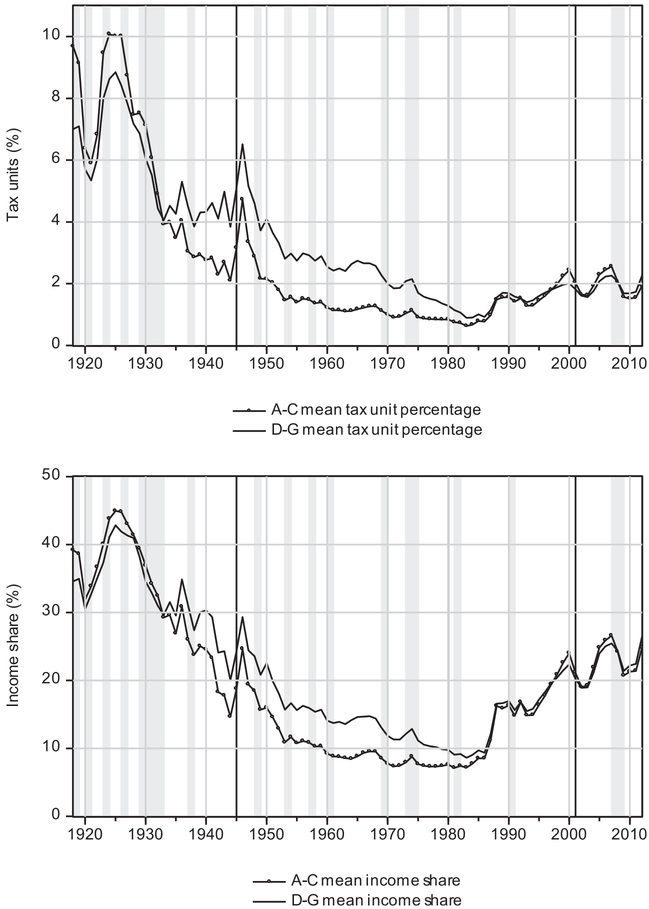

Figure 2. Alternative specifications of the capitalist class by tax units (%) and income share (%), USA, 1918–2012.

measures averages the remaining four correspondingly generated tax-unit shares and income shares. The A-C measure has a higher peak in the mid-20s and generally has a more pronounced fall through to the mid-80s. But thereafter the different criteria generate remarkably similar results, suggesting that this approach to estimating the capitalist class is reasonably robust to plausible choices of threshold for non-labour income. Since any of the seven threshold criteria can plausibly be defended, this paper determines for each year the average of all thresholds of that year, and that average threshold is used to generate corresponding tax-unit and income shares.

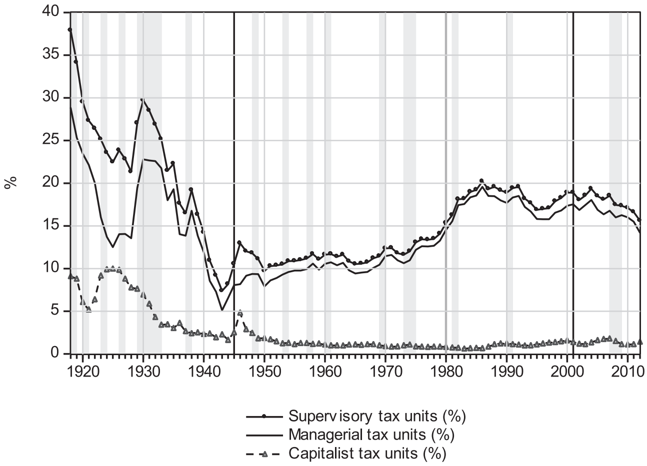

Figure 3. Supervisors, capitalists and managers, tax units (%), USA, 1918–2012.

5. CAPITALISTS AND MANAGERS

Figure 3 displays percentage tax-units for the capitalist and managerial classes and their sum, denoted supervisors. The vertical distance above the supervisory graph (to 100) measures working class tax-units, and the vertical distance below the supervisory graph to the managerial graph measures capitalist tax-units (but these latter are also shown separately). Supervisory tax-units fell steeply until 1928, rose sharply from 1928 to 1930 and then almost collapsed, falling from 29.7 per cent of the total in 1930 to 7.4 per cent in 1943. After a long period of slow rise, by the end of the 1960s they were still only 11.4 per cent of total tax-units. Over the subsequent two decades they almost doubled, to 19.6 per cent in 1992, and since then have drifted downwards in a fluctuating manner (to 15.6 per cent by 2012). The components, capitalist and managerial, have (except for the 1920s) broadly moved together. The capitalist class comprised 10 per cent of tax-units in 1925, fell to 1.6 per cent by 1944, hovered between 1.2 per cent and 1 per cent through the mid-50s to the late-60s, fell to a nadir of 0.6 per cent in 1983 and then doubled by the end of the 1980s. From the mid-90s to 2012, capitalist tax-units fluctuated between 1.1 per cent of all tax-units and a peak of 1.8 per cent in 2007. In terms of numbers, what is striking is the fall in both upper classes to the beginning of the 'golden age', the stationarity of class structure through the whole of the 'golden age', and the rise of the upper classes since then, the managerial class until the mid-80s, and the capitalist class from the mid-80s (but not *pari passu*, since the disparity in numbers is of course very large).

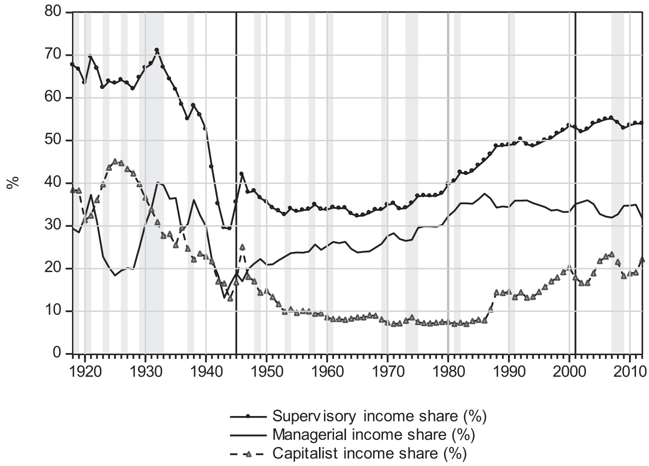

Figure 4. Supervisors, capitalists and managers, income shares (%), USA, 1918–2012.

Figure 4 displays the corresponding income shares. The supervisory income share was broadly flat through the 'roaring' 20s' at about 63 per cent (but with capitalist and managerial shares moving in sharply opposite directions). It peaked at 71 per cent in 1932, and then more than halved in a decade to a nadir of 29.3 per cent in 1944. It remained around 34 per cent for the whole of the 'golden age' until 1973, with the managerial class slowly increasing its income share at the expense of the capitalist class. The supervisory income share then rose from 34.2 per cent in 1973 to 55.2 per cent by 2007, the rise to the mid-80s accounted for by a rise in the managerial income share, and since the mid-80s by the capitalist income share (with the rise in this last outweighing a drift downwards in the managerial income share.

A number of further points should be noted. First, the top 1 per cent of popular discourse is fractionally less than capitalist class numbers through the 1950s (which averaged 1.3 per cent), and fractionally more for the 25 years after 1960 (an average of 0.9 per cent). Since the mid-80s, the capitalist class has varied between 0.6 per cent and 1.8 per cent of all tax-units, and has averaged 1.2 per cent, so that 'the 1 per cent' has generally covered most of the capitalist class. Second, Bakija *et al.* (2012) have examined the occupational structure of this top percentile over the period 1979–2005, classifying tax-units by occupation of the primary taxpayer. Arts, media and sports occupations, so prominent in popular culture, comprise just under 2 per cent of the total. Unsurprisingly, the majority of top tax-units are related to business. They also point to the increasing proportion of executive occupations in closely held businesses[8] over time, at the 1 per cent level rising from one sixth of identified non-financial executives, managers and supervisors in 1979 to more than a third in 2005 (Bakija *et al.*, 2012, Table 2). This rising proportion counteracts to some extent the effects of separation of ownership from control and blurs the distinction between labour and non-labour income. Third, a notable feature of the PS data (Saez, 2015) is the rising proportion of income over time in the top percentiles that is accounted for by labour income. For capitalist tax-units, whereas in 1918 an average of 43.4 per cent of capitalist tax-unit income was accounted for by labour income, by 2012 this had risen to 58.2 per cent. But there was no clear trend between 1918 and 1966, just a series of fluctuations between 40 per cent and 50 per cent before World War Two and around 40 per cent thereafter. However, from the mid-60s to the early-80s the rise was from 40.8 per cent to 62.2 per cent, coincident with a period of steeply falling profitability in the economy as a whole (Mohun, 2012). Finally, the U-shaped pattern of the income share of the capitalist class is evident, as is the feature that the climb from 1986 has not reached its mid-1920s levels. But it would be a serious mistake to conclude that class inequality thereby similarly falls short, because the size of the capitalist class (in percentage terms) is very much smaller today than in the 1920s.

6. INEQUALITY

It is difficult to make temporal comparisons when both incomes and numbers are changing. One way to approach this issue is to look directly at the inverted Pareto coefficient b. Figure 5 illustrates, comparing the evolution of the b of this paper over time with the PS P95 b (which it roughly tracks until the 1960s) and the PS P99 b (which it roughly tracks after the 1960s).[9] If b is taken as an index of inequality, its peak of 2.62 in 1928 was surpassed by 2005, and had risen to 2.72 by 2007. While it then fell back by a small

[8] A closely held business has more than 50 per cent of its stock owned by no more than five individuals (and is not a personal service corporation).

[9] For PS, the P95 b is the ratio of the average income of the top 5 per cent (P95-100) to the P95 threshold, and the P99 b is the ratio of the average income of the top 1 per cent (P99-100) to the P99 threshold. The b of this paper is found from regressing the log of the percentile on the log of the negative of the ratio of the share to the percentile, for the six percentile points and shares given in PS. The slope coefficient in the linear regression is Pareto's power coefficient a, whence b is given by $b=a/(a-1)$.

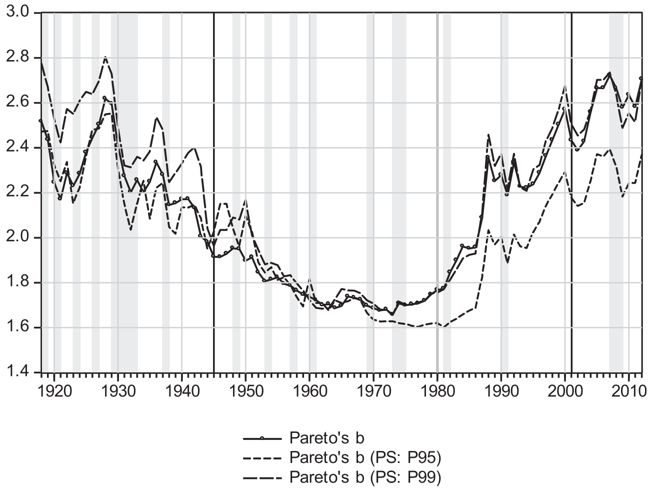

Figure 5. The inverted pareto coefficient b, USA, 1918–2012.

amount, by 2012 it stood at 2.71, effectively the same as in 2007. On this basis, class inequality today is on a par with its levels in the late-20s.

Another way of considering this in class terms is to consider the three ratios of average capitalist tax-unit income to average working class tax-unit income, average managerial tax-unit income to average working class tax-unit income, and average capitalist tax-unit income to average managerial tax-unit income. These are shown in figure 6. From the Great Depression until 1973, there is little difference between the capitalist to manager and the manager to worker average income ratios. During the 'golden age', an average capitalist (tax-unit) received 3.2 times the average income of a managerial tax-unit (with a coefficient of variation of 3.8 per cent), and an average managerial tax-unit 3.3 times the average income of a working class tax-unit (with a coefficient of variation of 2.7 per cent). The class stability of that era is again apparent. But after 1973, there is considerable divergence. Whereas the average capitalist tax-unit received 3.1 times the average managerial tax-unit in 1973, it was 5.9 times by 1983, and then fluctuated between 6 and 7 times until the end of the century, peaking at eight times in 2010. The big change was, therefore, between 1973 and 1983, the period of the collapse of the 'golden age' and the transition to neoliberalism. On the other hand, the average managerial tax-unit received 3.3 times the average working class tax-unit in 1973, falling to 2.7 times in 1984, rising to 3.6 times in 1996, and, after a small fall and rise, was 3.7 times in 2008. The class gain over the neoliberal period of average managerial tax-unit income relative to average working class tax-unit income was meagre.

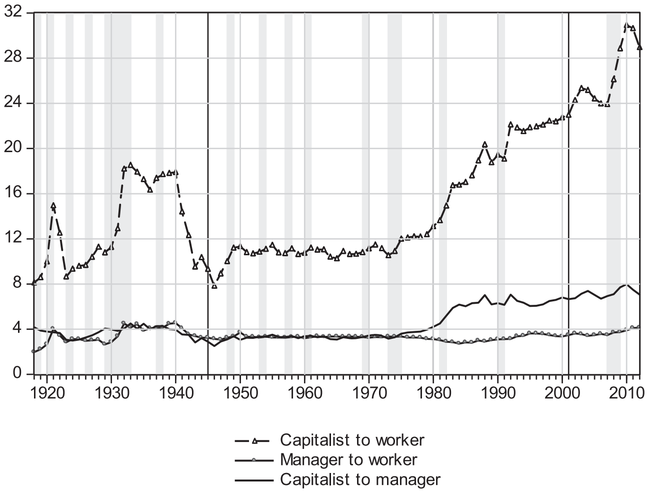

Figure 6. Average (tax unit) income ratios by class, USA, 1918–2012.

This was not true for capitalists. The ratio of average tax-unit capitalist income to average tax-unit working class income was 8.6 in 1923 and 18.5 in 1933; it then fell back to 10.4 by 1944 and remained around that level until 1973 (averaging 10.7 from 1946 to 1973, with a coefficient of variation of 3.3 per cent). It was 12.4 in 1979, and had surpassed its 1933 peak by 1987, reaching 23.9 times in 2007, and 30.9 times in 2010. The collapse of the 'golden age' and the introduction of neoliberalism rewarded capitalists richly relative to the working class, and much more so than in the run-up to and through the Great Depression.

These are, however, imperfect measures for two reasons. First, the data are in tax-units, and more than a fifth of tax-units have no labour income at all. These will be concentrated at the bottom of the income distribution because of unemployment, sickness and, most of all, retirement (and most government transfers are not in the data at all). Hence, average working class tax-unit income is misleadingly low. For example, in 2007 average working class tax-unit labour income was $27,431; assuming all 52 weeks are paid for, BLS report a 2007 figure for production and non-supervisory employees of $30,642 (neither including farm, household and general government employees, nor allowing for employer-financed wage and salary supplements). That the data are in tax-units, therefore, matters, and particularly so in comparisons involving working class income. Second, the measures presume that the average of a class represents that class. But averages take no adequate account of intra-class inequality changes. Some

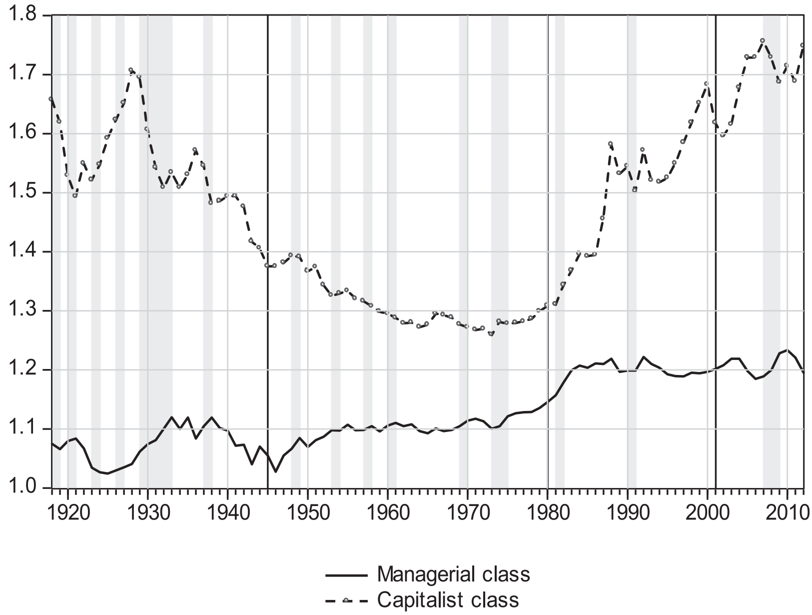

Figure 7. Ratios of average income to median income, USA, 1918–2012.

indication of these is given by the ratio of the average income of a class to the median income of that class, shown in figure 7 for the capitalist and managerial classes. For managerial tax-units up until 1973, there were fluctuations but around a fairly flat trend. For a decade after 1973, the ratio of average to median increased to a new plateau and thereafter again fluctuated around a fairly flat trend. For capitalist tax-units, the situation was completely different: from an average to median ratio peak of 1.71 in 1928, the ratio fell to 1.26 by 1973. In 1979 it was 1.3, and then with the introduction of the neoliberal era rose sharply to reach 1.58 in 1988, 1.68 in 2000 and 1.76 in 2007 (and 1.75 in 2012). Within the capitalist class, there has been a considerable shift of income towards those at the top of the distribution, but this has been much less true for the managerial class.

In sum, in class terms, inequality of income by 2012 was greater than that experienced at any time in the 1920s and 1930s.

7. POWER

Explaining this within a framework based on individualism has proved difficult. The most common approach to labour market inequality focuses on marginal productivity and competition, seeing educational expansion increasing the supply of skills at a lower rate than technical progress has increased the demand for skills. This difference has been exacerbated first, because technical progress has evolved in ways that complement the skills of the already highly-skilled and substitute for the less highly-skilled, and second, because globalization has undercut the wages of the less-skilled in the U.S. with the lower wages of low-skilled workers in the rest of the world. Further, globalization and accompanying technological change has created a market for the very best that has enabled them to pull away from those who are less than 'superstars'.

The difficulties of this type of explanation for what has happened at the top of the income distribution are legion (such as the very notion of skill, difficulties in identifying marginal products, implicit competitive assumptions, and the production function framework itself). Not least is the scale of what has to be explained. For example, looking at the labour income of individuals rather than tax-units, and total compensation rather than wages and salaries, Mishel and Davis (2014) report that the CEO-to-worker compensation ratio has increased from 22.3 in 1973 to 231.8 in 2011 (having peaked at 383.4 in 2000 and then fallen back somewhat, because of its correlation with stock market returns); while a typical worker's compensation increased by 10.2 per cent in total between 1973 and 2011, CEO compensation increased by some 937 per cent. Yet, this spectacular increase has translated into a worse overall performance of the neoliberal economy than in the preceding 'golden age'.

For reasons such as this, attention has also focused on the responsiveness of income to changes in marginal tax rates. In 1918 in the United States, the top marginal income tax rate was 77 per cent (having risen from 7 per cent in 1913–15). Following the Great War and its aftermath, the top rate was successively lowered, down to 25 per cent by 1925. In 1932, it was raised to 63 per cent, and raised successively in 1936, 1940, 1942 and 1944 when it was 94 per cent. After World War II, the top rate fell back to the low 80s, but then rose again by 10 percentage points during the Korean War and its aftermath. From 1953 to 1963, the top rate was 91 per cent, and was then cut to 70 per cent by 1965, where it remained until 1981. By the end of that decade, it had more than halved to 28 per cent. It increased to 40 per cent during the Clinton years, and was reduced to 35 per cent in 2003. So the supposition is that top marginal rate tax cuts from the early 1980s created incentives to earn more, and high income earners responded appropriately. The difficulty with this argument is that there have been similar cuts to top marginal income tax rates in other countries (for example, the UK after 1981) without the same degree of wage surge.

A related argument concerns the particular effects of the Tax Reform Act of 1986. Before 1986, top corporate income tax rates were considerably less than top personal income tax rates, which created an incentive for the very rich to organize their entrepreneurial income through a C-corporation; keeping their personal income within a corporation enabled them to defer high personal income tax rates and pay corporation income tax instead. The 1986 Act reduced the top personal rate below the top corporate rate. This had two effects. First, the incentive just mentioned was reversed, so that there was a considerable incentive to convert from a corporate to a pass-through entity (such as a partnership), in order that what was corporate income became individual income, to be taxed on an individual basis. Second, for those firms that retained a corporate legal status, there was an incentive to reduce their taxable income by transferring it to the individual tax base through higher royalty, interest and rent payments, as well as through higher wage payments to entrepreneurs. A sharp vertical change in the mid-1980s is clearly visible in the capitalist income share (figures 2 and 4), in the inverted Pareto coefficient (figure 5), and in the ratio of average to median capitalist tax-unit income (figure 7). But equally this was not the only rise in the neoliberal era, so that changing marginal tax rates and the effects of the 1986 Tax Reform Act might be part of an account of the wage surge in top incomes, but they are clearly not the whole story.

A different focus is not on changing marginal tax rates but on changing practices of corporate governance, and especially on how executive compensation packages are determined. Partly this has to do with the increasing role of stock options, which, when exercised, are (mostly) treated as a part of employee compensation on tax returns. The use of stock options is supposed to align managers' interests with shareholders' interests. But presumably, the interests of the latter are concerned with their stock rising faster than their competitors' stock (or indeed any alternative stock they could hold); yet a general rise in stock prices gives very large benefits to holders who exercise their options, so that the alignment of interests is hardly clear—top executives have been massively rewarded for doing no better than other top executives. Corporate governance is an issue because executive compensation committees are selected by top executives from among their peers, and these committees then make compensation recommendations for those top executives. Frydman and Saks (2010) argued that it is difficult to attribute the growth in top incomes to lax corporate governance, because, if anything, corporate governance has been strengthened over time and not weakened as the attribution would appear to require. But the quality of corporate governance and issues surrounding class solidarity are not the same thing.

Bakija *et al*. (2012) found significant heterogeneity in the top 1 per cent in income growth rates across professions, and divergence of income within professions, which they took to indicate that a successful explanation 'cannot just, or even primarily, be things that are changing in similar ways over time for everyone within the top one percent' (Bakija *et al*., 2012, p. 24), and they concluded that explanations for the rise in top income shares should be sought in financial market asset prices, the effects of the 1986 Tax Reform Act and perhaps corporate governance and entrepreneurship.

For PS, executive pay is 'probably determined to a significant extent by herd behavior' (Piketty and Saez, 2003, p. 35), and, in addition to fiscal policy, they point to social norms as the area in which to pursue an explanation. Appeal to herd behaviour and social norms does not imply that all in the herd behave in exactly the same way; rather herd behaviour and social norms imply the social construction of a permissive environment, in which those with most power prosper the most. But once issues of the social are raised in this manner, it is a small step from treating individuals as influenced by unexplained social norms to treating them as the bearers of social relations, who embody in their behaviour a culture of class power expressed by the norms they have created.

For changing norms reflect changing regimes of capitalist relations as particular patterns of relations undermine their conditions of existence over time. Basic capitalist relations might remain, but as they transform patterns of technology, trade and finance, so institutional structures and state economic interventions have to be reset in ways more appropriate to these changing patterns. What prompts such a resetting is a 'crisis', a set of events that demonstrate that matters cannot go on as before.[10] The changes that crises then require for their resolution, even when stopping short of transforming basic capitalist relations themselves, are generally highly contested.

Specifically, the era culminating in the 1929 stock market crash was characterized by a particular set of relationships that were transformed by the New Deal, wartime planning and the restructuring of the institutions of the international economy into the very different set of relationships that characterized the 'golden age' from the late 1940s to the early 1970s. Similarly these relationships were again transformed from the end of the 1970s into ones more reminiscent of the pre-1929 era. These changes are summarized in table 1. All of the years (except 2012) are approximately peak years of the cycle. The period 1918–29 covers the 'roaring' 20s', while the years 1929–45 were a period first of crisis and then of a stumbling transition

[10] The terminology was originally medical, denoting that stage of illness from which the patient would either recover or die.

Table 1. Summary class statistics, USA, 1918–2011

	1918	1929	1945	1973	1979	2007	2012
Tax-units (%)							
Capitalist class	9.1	7.6	2.5	1.0	0.8	1.8	1.4
Managerial class	28.8	19.4	8.1	10.6	13.3	16.8	14.2
Working class	62.1	73.0	89.5	88.4	85.9	81.5	84.4
Income share (%)							
Capitalist class	38.3	39.7	16.7	7.7	7.4	23.3	22.1
Managerial class	29.3	25.0	18.8	26.5	30.2	31.9	31.8
Working class	32.3	35.3	64.5	65.8	62.4	44.8	46.1
Average income ratios							
Capitalist class to Working class	8.1	10.8	9.3	10.5	12.4	23.9	29.0
Capitalist class to Managerial class	4.2	4.1	2.9	3.1	3.9	6.9	7.0
Managerial class to Working class	2.0	2.7	3.2	3.3	3.1	3.5	4.1

away from the prerogatives of the free market towards an era of regulation. The period 1945–73 marks the 'golden age', a weak form of social democracy that embraced regulation of national and international finance, state commitment to full employment, some welfare state provision and more egalitarian norms. This era ended in 1973, although there were clear signs of problems from the mid-60s onwards. The years 1973–79 were a period of stalemate in class struggle, which was ended by the interest rate rise of October 1979, ushering in the neoliberal period of stricter regulation of trade unions in order to hamper working class struggles, deregulation with respect to capital and its prerogatives, and the promotion of the market as the solution to all social and economic problems. The year 2007 marked the start of the financial crisis and the 'great recession', and 2012 is the last point of the dataset. It is against these historical specificities that explanations must be sought for the major changes outlined in this paper. In such explanations, contestation between classes is central, particularly during periods of transition from one era to the next. But such explanations also require a shift in focus from classes-in-themselves to classes-for-themselves, as the latter struggle to impose their own view as the universal common-sense of the day. That shift in focus is beyond the scope of this paper.

8. CONCLUSION

In order to construct a picture of long run US economic development in class terms, this paper has proposed cutting into the personal distribution of income such that the intervals constructed reflect the different classes of the economy. These intervals are not the constant percentile categories that have been the subject of so much recent attention. Apart from the construction of the basic class categories themselves, the main finding is that inequality of income in class terms is currently greater than at any other time since 1918.

There are two obvious directions in which to take this analysis further. While the specification of the periodization of US capitalism in the previous section requires more detail, the data in class terms are highly suggestive of a periodization of capitalism into different regimes over the long run. But this poses many questions. In particular, why was the income distribution so compressed through the 1930s and most of the 1940s? What was it that so entrenched the stabilities revealed by the 'golden age', and how and why were they so easily disrupted by the experiences of the 1970s? Why despite its support for the neoliberal turn did the managerial class on average fail to capture any income benefit relative to the working class? Did the financial crisis beginning in 2007 mark the beginning of another period of transition, or are the post-2007 years characterized by a neoliberal 'business as usual'? The data constructed in this paper provide a basis for a more detailed examination of these issues.

Second, in class terms it makes little sense to allocate capitalist income between distributed profits (including interest and rent) on the one hand and employee compensation on the other. If capitalist development can be summarized by the aggregate rate of profit for the economy as a whole, and if the numerator is broadly defined as net national product less employee compensation, it is worth investigating what difference is made to the profitability time trend by excluding capitalist labour income from employee compensation (and hence treating all capitalist income as a component of total profit, conceived in broad surplus terms). While in individualist terms such a procedure would be a category error, a class analysis positively invites it.

APPENDIX

Data sources

1. Bureau of Economic Analysis: National Income and Product Accounts (NIPA), at http://www.bea.gov/.
2. Bureau of Labour Statistics: Current Employment Statistics (Employment, Hours, and Earnings - National) survey (both current and discontinued databases), at http://www.bls.gov/.

3. Census Bureau:
   (a) population estimates at http://www.census.gov/popest/data/historical/index.html.
   (b) historical income statistics, Tables H1 and H3, at http://www.census.gov/hhes/www/income/data/historical/household/.
4. Federal Reserve Bank of St. Louis: Federal Reserve Economic Data (FRED), at http://research.stlouisfed.org/fred2/.
5. Historical Statistics of the United States: Bicentennial edition, Bureau of the Census (1975), and Millennial edition, Carter et al. (2006).
6. Internal Revenue Service:
   (a) All Individual Income Tax Returns: Sources of Income and Tax Items (in Current and Constant Dollars). Tax years 1913–2005. Published as SOI Bulletin article—Ninety Years of Individual Income and Tax Statistics, 1916–2005, Tables 1 and 1A [Excel file05in01an.xls];
   (b) Selected Income and Tax Items for Selected Years (in Current and Constant Dollars). Tax years 1990–2011. Published as Individual Complete Report (Publication 1304), Table A [Excel file 11intba.xls]; both at http://www.irs.gov/uac/SOI-Tax-Stats-Individual-Time-Series-Statistical-Tables.
7. Saez (2015). [Note: as set, this is at the end of 7(b) but it should be a separate item. Again apologies, I missed this first time round.]
8. US Department of Labor, Employee Benefits Security Administration (EBSA), at http://www.dol.gov/ebsa/pdf/historicaltables.pdf.

Calculations

Procedures of calculation are sketched below. Note that a great deal of data in the earlier years has to be constructed, and a detailed account of the procedures used is available from the author on request.

Non-labour income

Non-labour income is all income except wages, salaries and pensions, and is the difference between PS total income and the constructed total wages, salaries and pensions. Capitalist non-labour income is determined by the chosen threshold and the Pareto coefficients of the distribution of non-labour income. Working class non-labour income is assumed to be only self-employment income. The number of working class self-employed is the ratio of BLS production workers to all employees applied to total self-employment. A non-farm average working class wage is imputed to non-farm working class self-employment; similarly for the farm self-employed; the ratio of working class self-employment income to NIPA personal income less transfers less employee compensation is then applied to PS total income less total wages, salaries and pensions. Managerial non-labour income is total non-labour income less capitalist and working class non-labour income.

Labour income

From 1944, total wages and salaries are determined by multiplying PS total income by the ratio of IRS wages and salaries to IRS income less transfers. Prior to 1944, the ratio applied to PS total income is the NIPA ratio of wages and salaries to NIPA personal income less transfers. Pensions are from EBSA and FRED and are divided between supervisory and production workers in the same proportions as their wages and salaries. BLS data are used to determine the total labour income of production workers, and subtraction from appropriate NIPA data determines the labour income of supervisory workers. (For BLS definitions, see Bureau of Labor Statistics 2009. For a discussion, see the appendix to Mohun 2014.) The labour income share of each is then applied to the constructed total wages, salaries and pensions. The determination of the percentile (P) value for capitalist non-labour income determines the capitalist non-labour income share, and interpolation using PS Table A7 determines total capitalist income. Capitalist labour income is found by subtracting capitalist non-labour income from capitalist total income. Managerial labour income is determined by subtracting capitalist labour income from supervisory labour income.

Tax-units

The capitalist income share and the Pareto coefficients for the total income distribution determine the capitalist P value and hence the number of capitalist tax-units The supervisory income share is the sum of capitalist and managerial income shares, and the corresponding supervisory P value is found from the Pareto coefficients of the total income distribution; subtracting the capitalist P value determines the number of managerial tax units. Working class tax-units are the difference between total tax-units and capitalist and managerial tax-units.

Note that non-working dependents (whether young or old) of a working member of a class are also members of that class; independent retirees are allocated to a class by their tax-unit income no differently from anyone else; working spouses are allocated to a class determined by the income of their tax-unit.

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