

This is a postprint version of the following published document:

Fernández, J. J., & Jaime-Castillo, A. M. (2018).  
The Institutional Foundation of Social Class  
Differences in Pro-redistribution Attitudes: A  
Cross-National Analysis, 1985–2010. *Social  
Forces*, 96 (3), pp. 1009-1038.

DOI: [10.1093/sf/sox068](https://doi.org/10.1093/sf/sox068)

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**The Institutional Foundation of Social Class Differences in Pro-redistribution  
Attitudes: A Cross-National Analysis, 1985-2010**

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April 2017

The authors thank Ulrich Wagner and the Department of Economics at the Universidad Carlos III de Madrid for granting access to computing servers needed to estimate the multilevel models presented below. The authors benefited from extensive comments from David Brady, Jane Gingrich and Jonas Edlund and attentive audiences in the Social Sciences Department at the University Carlos III of Madrid and the Sociology Department at the University of Toronto. We also thank Richard Frederick for editing the text. The project was generously funded by two grants from the Spanish Ministry of Economy and Competitiveness (CSO2011-29346 and CSO2015-70297) and an A.SK Post-doctoral Fellowship in the Berlin Social Science Research Center.

Our understanding of cross-national differences in the relationship between social class location and voting choices has improved substantially in the last decade. Yet scholarship about cross-national and longitudinal variations in the relationship between class location and policy preferences remains neglected. This paper addresses this important gap in the literature through a comparative, longitudinal analysis of the substantial, cross-national variation of class differences in pro-redistribution attitudes. To explain this variation, we focus on the role of preexisting policies and engage with an ongoing debate in the policy feedbacks literature. The *self-interest approach* argues that higher redistribution creates the incentives among the upper classes to oppose redistribution, widening the class cleavage. By contrast, the *normative approach* argues that universal social policy regimes meet the fairness criteria of middle and upper classes, thereby reducing attitudinal differences. Using an innovative dataset containing 106 country-years between 1985 and 2010, our study supports the *self-interest approach*. Countries achieving more redistribution display larger class cleavages in pro-redistribution attitudes, while universalism does not reduce this divide. The study further shows that redistribution and class cleavage are linearly related, because redistribution bolsters the already low commitment with inequality reduction in the *upper service* and *lower service* classes.

Social class location is a stable, individual condition linked to employment relations and a person's occupation, which distinguishes the respective life chances of the upper and lower classes. Accordingly, the upper and lower classes have starkly different policy interests that shape market-based levels of relative, material deprivation. Driven by this principle and the indisputable rise of income inequalities across affluent democracies, scholarly attention to class location is undergoing a revival with class inequalities focused at the center of many recent studies of domestic (Bartles 2008; Hout 2008; McCall 2013; Sosnaud, Brady, and Frenk 2013; Weeden and Grusky 2012) and comparative politics (Achterberg 2006; Brooks, Nieuwebeerta and Manza 2006; Evans and De Graaf 2013; Gingrich and Häusermann 2015; Waal, Achterberg, and Houtman 2007). While a majority of the work focuses on class divides in voting choices, it pays little heed to cross-national variations in other class divides, particularly those related to policy preferences and pro-redistributive attitudes.<sup>1</sup> We have therefore but limited understanding about the contours and institutional foundations of these equally consequential, attitudinal gaps. This paper contributes to this literature by addressing two concrete questions: While lower classes tend to be more pro-redistributive than upper classes, has this class gap been cross-nationally variable since 1985? If so, what is the relationship between different dimensions in welfare policy and this country-level variation?

A close examination of class cleavages in pro-redistribution attitudes is justified for social and theoretical reasons. In social terms, a large class cleavage signals a lack of public consensus regarding a critical societal decision in all affluent democracies – the role the state should play in reducing inequalities. On theoretical grounds, this analytical

object provides leverage in the ongoing debate regarding the mechanisms by which policies restructure mass politics (Campbell 2012: 345; Mettler and Sorelle 2014: 175; Pierson 2006: 125). Although some studies argue that policies could have self-interest and normative effects (Bruch, Ferree and Soss 2010: 206; Mettler 2002), the theoretical literature displays two, clearly differentiated perspectives on the feedback effects of social policy on the mass public. According to the *self-interest approach* (Pierson 1994; Skocpol 1992), redistribution mainly increases the class divide in social policy preferences; while according to the *normative approach* (Mau 2003; Rothstein 1998), universalist policies mainly diminish the class divide in social policy preferences. A focus on class differences in attitudes is helpful in this regard, because both approaches posit *opposite* feedback effects by two linearly associated dimensions of welfare state policy – relative redistribution and universalism.<sup>2</sup>

Our study examines group-specific policy effects in a cross-national setting, which is particularly suited to capturing details of causal mechanisms effectively while allowing generalizations to a group of countries. The first analytical step assesses these policy effects through a novel, cross-national, time-series dataset. Using the International Social Survey Programme (ISSP Research Group 2013), we calculate the probability of supporting economic redistribution among six, social classes (*upper service, lower service, routine non-manual, self-employed, skilled manual and working class*), along with an indicator of overall class cleavage in 27 countries and 106 country-years between 1985 and 2010. The second step employs panel data and multilevel models to reveal if the levels of redistribution or universalism are related to the class differences in pro-redistribution preferences.

Our main contention is that cross-national differences in pro-redistribution class cleavages depend mostly on the level of redistribution. First, consistent with research on *self-interest* policy feedbacks, we show that countries which conduct more redistribution display larger class cleavages in pro-redistribution attitudes. This is because the preferences of the upper classes are particularly sensitive to the level of redistribution. Under conditions of more redistribution, the *upper service* and *lower service* classes hold particularly low pro-redistribution stances. By contrast, the expectation of the *normative approach* that welfare universalism undermines pro-redistributive divides is not confirmed. Robustness checks indicate equivalent results using the income factor.

### **1. The Theoretical Debate between Self-Interest and Normative Policy Feedbacks**

Social scientists concur that public policies constitute lower-level institutional norms with the capacity to shape individual incentive structures, establish behavioral constraints, forge group identities and provide schemas of perception (Campbell 2012; Mettler and Soss 2004; Mettler and Sorelle 2014; Pierson 2006). One strand of institutionalist literature stresses that some of these feedbacks should manifest at the individual level, thereby suggesting that public policies like redistributive programs may feed back into politics by shaping the preferences of different, socio-economic groups.

The dominant process by which social policies mold attitudes has yet to be clarified however. The current literature displays a lively theoretical and empirically unsettled debate (Campbell 2012; 345; Pierson 2006: 128; Weakliem 2005: 244) between two main approaches that stress *self-interest* and *normative* feedbacks, respectively. The critical and fascinating aspect of this debate is that the two approaches focus on closely

associated, nearly indistinguishable dimensions – redistribution and universalism – and yet display *opposite expectations*. While both approaches offer mutually contradictory rationales, only one can be the predominant, feedback mechanism. By elucidating the logic and expectations of the *self-interest* and *normative* approaches, the ensuing discussion may help settle this theoretical debate.

A clarification is in order. By distinguishing between *self-interest* and *normative* consequences of enforced public policies, we do not maintain that these motivations are orthogonal in every period and context. Instrumental and value rationality are enmeshed in real life (Weber 1978[1922]: 26). Certain policies also induce both instrumental and normative effects (Mettler 2002: 362). We stress this distinction, however, because the major theoretical contributions, discussed below, consider that redistributive policies mainly have either *self-interest* or *normative* feedback effects.

The *self-interest mechanism* is deeply rooted in neoclassical economic theory and thereby sustained by a longer tradition in policy analysis. In its fundamental form, the *self-interest* approach argues that a given institutional context determines the structure of marginal costs and benefits for any given action, inducing actors to support policies that maximize their personal rewards (Meltzer and Richard 1981). Gøsta Esping-Andersen, Theda Skocpol and Paul Pierson first introduced this principle into the analysis of mass (non-elite) policy feedbacks. According to Esping-Andersen (1990: 226-229), welfare regime configurations establish group-specific cost/benefits for further change, which must translate into distinct, attitudinal cleavages.

Esping-Andersen (1990: 226-229) did not, however, conceptualize the mechanism by which policies feed back into political self-interests. Skocpol (1992) and Pierson

(1994), instead, accomplished the task as part of their separate analyses of the politics of social protection. Skocpol and Pierson noted explicitly that policies restructure political struggles by transforming the resources available to certain interested actors. For instance, meager Civil War pensions, introduced by the US federal government in the 1870s, provided “new political capacities” by which “veterans became self-consciously organized and mobilized to demand ever improved benefits” (Skocpol 1992: 59, 126). Entitlements also radically transform the politics of mature social policies. When redistributive programs provide substantial entitlements, beneficiaries commonly can use their additional time and resources to halt governmental attempts at policy retrenchment (Pierson 1994: 18).

Additionally, welfare policies transform self-interested incentives for activism. Since citizens have a “negativity bias” or loss aversion – i.e., the fact that “constituencies are more sensitive to losses than to gains” (Weaver 1986: 373) – any welfare reform project that reduces disposable market income or public entitlements triggers fierce opposition by stakeholders (Pierson 1994). Similarly, redistribution could also trigger aversion to market income loss among the upper-middle and upper classes. As noted by Prasad (2006: 61), a context of intense redistribution may create resentment among the net contributors – upper-middle and upper classes –, incentivizing their mobilization to reduce (or stabilize) the level of redistribution.

To date, tests of the micro-level foundations of the *self-interest* approach have generated mixed evidence. On the one hand, Campbell (2003) shows that in the post-WWII period US seniors benefited from time and resources provided by Social Security to extract gradual benefit increases from Congress and deactivate, since 1980, Republican



efforts to retrench the program (also, Fernández and Jaime-Castillo (2013)). Mettler (2005: 91, 112) shows that US WWII veterans, who benefited from a federal policy that financed their educational enrollment, increased their political engagement – particularly those less affluent. On the other hand, tests of attitudinal cleavages predicted by Esping-Andersen and based on selected countries, have generally failed to produce conclusive evidence (Jaeger 2009: 734). Additionally high dependence on public pensions, in Europe, does not predict support for the pension system status quo (Lynch and Myrskylä 2009: 18).

In the last 15 years, a growing body of institutionalist work, supporting a *normative mechanism*, has explicitly challenged the *self-interest approach*. While the *self-interest approach* conceptualizes institutions as regulators of material incentives, the *normative approach* conceptualizes institutions as regulators of ethical conceptions, moral orders and interpretive frameworks, instead. In the latter view, institutions and policies affect mass political attitudes by (trans)-forming dominant beliefs in a society. March and Olsen (1989: 160) argue that with resilient policy structures a ‘logic of appropriateness’ acquires a rule-like status, defining legitimate goals in the political field.

A group of German and Scandinavian scholars has led the research on the normative effects of welfare policies. For them, each welfare state configuration gradually solidifies into a ‘logic of social justice’ – or a ‘moral economy’ – as a set of generalized beliefs regarding the appropriate extent and patterns of redistribution (Mau 2003: 35-38; Sachweh, Ullrich, and Christoph 2007: 126-128). Mature welfare states, in this view, bolster the principle of reciprocity – i.e., the perception of mutual obligations between fellow citizens – to ensure the welfare of those who contribute to society or

abide by social norms. Bo Rothstein, however, is the author who formulated the most fulsome version of the *normative* feedbacks approach – particularly in *Just Institutions Matter* (1998) and *Social Traps and the Problem of Trust* (2005).

Rothstein's core argument holds that specific types of welfare states induce self-reinforcing dynamics because they better meet inter-subjective expectations of justice and fairness. He specifically focuses on the divide between universal and targeted welfare states. In contrast to targeted regimes, he argues, universal ones are embodied in programs that most citizens perceive as *substantially* and *procedurally* fair. As noted by Korpi and Palme (1998: 663), targeted programs concentrate resources on the poor; universal ones provide equivalent benefits for all. For Rothstein, this means that targeted programs open a debate about problems specific to the needy (rather than the entire society), singles them out, favors unintentionally their stigmatization and leads to an irresolvable debate about their deservingness. By contrast, only universal programs attain 'substantive justice', because they forestall a situation where "a majority may start asking whether the needy themselves are not to blame for their predicament" (1998: 158-159).

In Rothstein's view, universalism also stands out by having unbiased implementation rules, thereby benefiting from more 'procedural justice'. Targeted programs are characterized as having heavy conditionality and imposing complex regulatory and administrative structures. To Rothstein (1998: 160-163; 2005: 123-124), targeted programs produce a circle of distrust between administrators with excessive discretionary power; applicants incentivized to fraud; and skeptical taxpayers. Unintentionally, therefore, targeting creates conditions for arbitrariness, which, cunningly exploited by anti-redistributive politicians, could lead to perceptions of programmatic

inefficiency and unfairness. Rothstein believes that universal programs, by contrast, have a major advantage in their non-conditionality and automatism that ensure a broad base of social support.

Supporting the *normative approach*, Kumlin and Rothstein (2005: 31) find that Swedish citizens with more contacts to needs-tested programs display lower levels of social trust than those more exposed to universal programs (also Kumlin 2004: 195). Larsen (2008: 161) shows that in social democratic countries, where programs are generally universalistic, citizens are less likely to think that poverty is caused by “laziness or lack of will power”. Regarding the US, Soss (1999: 365) demonstrates that – as opposed to disability program beneficiaries – federal assistance beneficiaries are subject to constant scrutiny and discretionary judgments, thus making them distrustful of the state and less likely to vote.

## **2. Hypotheses**

The *self-interest* and *normative* approaches draw on distinct theoretical assumptions. They differ particularly, however, in their expectations of feedbacks produced by the social policy regime on attitudinal cleavages across socio-economic groups. Although both approaches underscore closely- and *linearly-related* policy dimensions – redistribution for the self-interest approach; universalism for the normative approach – they have *opposite* expectations about the impact of their respective policy configurations on the preferences of different social classes. This section first argues for the use of social class analysis as a typology of socio-economic status, then discusses hypotheses emanating from the *normative* and *self-interest* approaches.

Most cross-national and case studies, regarding individual socio-economic status and the support for redistributive policies, focus on individual income (Barnes 2015: 15; Bartels 2008: 133; Beramendi and Rehm 2016; Brady and Bostic 2015: 289; Dion and Birchfield 2010: 326; Finseraas 2009: 105), rather than objective class location (Edlund 2007; Edlund and Lindh 2015; Svallfors, Kulin, and Schnabel 2012). We contend, however, that there are strong theoretical grounds for believing that social class, as an indicator of socio-economic position, is particularly well suited for shaping social policy preferences. We therefore rely on the Erikson and Goldthorpe (1992; Goldthorpe 2000) EGP schema, which differentiates six, main, social classes – *upper service* (which includes higher ranked professionals, managers and large employers), *lower service*, *self-employed*, *routine non-manual*, *skilled workers* and *working class*.<sup>3</sup> This continues to be the dominant typology in the cross-national, class analysis of political behavior (e.g. Evans and de Graaf 2013).

As with the income variable, the EGP classes capture the instantaneous influence of current salaries and wages. The *service* classes of professionals, managers and capitalists display higher income than the *routine non-manual*, *skilled manual* and – especially – the *working* classes (Chan and Goldthorpe 2007: 521), which should shape the respective preferences in redistributive policies.

The EGP has two main advantages with respect to the continuous income variable. First, paradoxically, *class* is more able to absorb probable income trajectories than contemporary income (Manza and Brooks 1999: 56-57). This stems from the response by firms to the risk of high rotation among *service* class employees. Firms tend to underpay junior service class professionals and overpay senior professionals (Chan and

Goldthorpe 2007: 521). It being a widespread practice, young professionals should be aware that their low income is but a temporary situation, which should make them less interested in redistribution than their current income would predict. In contrast to current income, in other words, a class schema can capture major, life-cycle effects and does not underestimate differences in the support for redistribution.

More important, class benefits form close links to the societal and discursive centrality of occupational differences. By virtue of the division of labor, interactions within and between highly specialized occupational groups segment and organize socio-economic life. Individuals develop intense self-identification with their own occupation vis-à-vis other occupations (Durkheim 1984[1893]: xxxix; Grusky and Sørensen 1998: 1198). Having occupation or class as a core identity, workers compare the living conditions of their reference group with that of other occupations to develop a cohesive understanding of their position in the social structure. This effect on class-based, life experiences is reinforced by the rich and multifaceted, popular discourse on occupational inequalities, which stresses variations in life chances across major occupational groups. Social networks dominated by members of their own occupation, moreover, facilitate the dissemination of shared beliefs and understandings across similar-positioned actors (Bourdieu 1984[1979]: 102). Given that occupations in similar employment relationships are the main, constitutive unit of the EGP schema, this typology captures the highly differentiated worldviews and socio-political attitudes that emerge from the convergence of occupation-centered interactions, differentiated life chances and widespread discourses on social inequality.

The deep embeddedness of occupational categories, furthermore, means that survey respondents are particularly willing to report personal information needed to construct their class location. In fact, the dataset constructed for this project produces 20.97% *less* missing cases for the class variable than the income variable. Survey-based research therefore achieves a more accurate representation of attitudinal differences among economic groups by considering class positions rather than income groups.

Having noted the advantages of class schema over alternative typologies of socio-economic status, we can now examine implications of the *self-interest* and *normative approaches* to class cleavages in pro-redistribution attitudes. According to the *self-interest approach*, higher redistribution increases the capacities of lower classes to engage in consciousness-raising activities and fight for further equality-enhancing programs. Consequently, for lower (mainly *working* and *unskilled manual*) classes, redistribution expands their pro-redistribution attitudes (Hypothesis 1a) (Figure 3).

#### FIGURES 1 ABOUT HERE

For the upper classes, however, the effect should be the opposite. Although redistribution does not affect the class position *per se* of any class, the *service* classes are net contributors to the game of redistribution, and state-driven inequality reduction decreases income advantages associated with their class location. For these classes consequently the unitary cost of equality-reduction increases with the level of redistribution. They are also averse to market income losses, since their attitudes are especially sensitive to changes in the established institutional setup. They perceive each unitary increase in redistribution as encroaching on their property rights. High levels of redistribution, therefore, undermine the support of the upper classes for these policies

(Hypothesis 1b). In combination, opposing reactions to effective redistribution between upper and lower classes produce an expansion of class differences in pro-redistribution attitudes (Hypothesis 1c).

The *normative approach* has radically different empirical implications. Rothstein does not extract expectations about class differences – defined as employment relations – in welfare attitudes, but his theory has direct implications for the attitudinal divide between objective social classes. Universal systems do not create new collective identities of beneficiaries and non-beneficiaries, as do targeted systems. Rather, they frame the problem of income security as one of *society as a whole* (Rothstein 1998: 158). For this reason, welfare universalism does not reinforce group self-interest, but fosters a sense of communitarianism – i.e. ‘mechanical solidarity’ (Durkheim 1984[1893]) –, which should override self-interests vis-à-vis these policies. Thus, the first implication is that universalism undercuts and weakens class divides based on self-interests (Hypotheses 2a). This approach also suggests that *normative* policy feedbacks are especially concentrated in the middle and upper classes. To Rothstein (1998: 164), targeting increases the risk of cheating and undermines the support for redistribution by non-beneficiaries. Universalism, in contrast, has a simple administrative structure and greatly reduces the risk of cheating. Therefore, following Rothstein’s logic, universalism fosters the perception of fair implementation among the most-sensitive, net financial contributors – i.e., members of the middle and upper-classes – who then become more tolerant of these programs. In contexts of increased universalism, the middle and upper classes are more supportive of redistribution, which should undermine the overall class divide (Hypotheses 2b, Figure 1).

In sum, the theoretical, policy feedbacks literature offers starkly different understandings of how a social policy configuration transforms class divides in support of redistribution. According to the *self-interest approach*, redistribution shapes the cost/benefit balance faced by each class to further changes, which increases the overall, attitudinal class divide. According to the *normative approach*, universalism – a close proxy of redistribution – shapes conceptions of social policy fairness, which reduces the overall, attitudinal class divide.

Two recent, cross-national studies have begun exploring the feedback effects of social policy regimes on divides in pro-welfare attitudes across socio-economic growth. Beramendi and Rehm (2016) document a positive relationship between tax/transfer progressivity and the income gradient in pro-welfare attitudes. Edlund and Lindh (2015) show that countries with higher, welfare state generosity are less likely to consider that classes are in conflict and are more likely to display large class divides in pro-redistribution attitudes.

Yet these studies have three limitations. Since they do not assess the influence of universalism and redistribution, they cannot shed light on the core, theoretical debate in policy feedbacks literature between *self-interest* and *normative approaches*. Additionally, the comparative analyses of these two studies are solely cross-sectional – not longitudinal – which means that their results can be affected by unobserved heterogeneity in fixed-country characteristics. The two studies also lack theoretical predictions regarding which classes or income groups should be especially sensitive to the policy context. Accordingly, the literature has not yet clarified whether different, welfare state configurations produce *self-interest* or *normative* feedbacks. This study addresses these



critical limitations of previous research by considering the impact of longitudinal changes in social policy, assessing the role of redistribution and universalism, and testing theoretical predictions about the special sensitivity of certain classes.

### **3. Data**

#### *Dependent and Independent Variables*

Of the potential three, main, data sources available for testing the above-stated hypotheses – the World Values Survey (WVS), the International Social Survey Programme (ISSP) and the European Social Survey (ESS) – we employ the ISSP database. It offers more time points for attitudes towards redistribution (in contrast to the ESS); it also considers non-European countries like the US; and (in contrast to the WVS) includes detailed information needed to construct class variables regarding an individual's working status and occupation.

As regards the dependent variable, the ISSP provides two main items à propos redistribution. Of these, we utilize the one included in the largest number of waves. The item reads: “How much do you agree or disagree with each of these statements? It is the responsibility of government to reduce the differences in income between people with high incomes and those with low incomes”. Possible responses are “Agree strongly”, “Agree”, “Neither agree nor disagree”, “Disagree” and “Disagree strongly”.<sup>4,5</sup> The question has been included in 10 waves: 1985, 1987, 1990, 1992, 1993, 1996, 1999, 2000, 2009 and 2010, respectively. It has also become standard in the literature (Lübker 2007: 127; Kenworthy and McCall 2008: 39). We further recode the original ordinal variable in two categories: those who explicitly support redistribution (“agree” and

“agree strongly”), and those who do not (the remaining categories). This is done for two reasons. First, ordered logit and probit models normally violate the parallel regression assumption (Long and Freese 2006: 200). Second, methodological public opinion research shows that the likelihood of selecting certain possible answers varies systematically across countries (van Vaerenbergh and Thomas 2013: 204-205). Given that, dichotomizing the dependent variable minimizes the effect of two important sources of response bias: a mid-point response style and an extreme response style.

Our consolidated database covers 27 countries; 10 time points, stretching between 1985 and 2010; and 106 country-years (see Table A1 in the Appendix). Compared to previous, cross-national research on redistribution attitudes that relies on a smaller sample of level two units from only one (Beramendi and Rehm 2016) or two time periods (Edlund and Lindh 2015), the larger number of country-years covered by our study enhances the reliability of the findings (Bryan and Jenkins 2016).

With our main interest being that of class cleavages in redistribution attitudes, our key, individual-level, explanatory variable is *social class*. To operationalize *social class*, we draw upon the general logic of the Erikson-Goldthorpe-Portocarrero (EGP) schema (Erikson and Goldthorpe 1992). Adhering to work by Goldthorpe and associates, which applies the typology with flexibility, we introduce two modifications to the original schema that are now standard in social mobility research. First, due to the negligible size of the *supervisors and technicians* group (in EGP parlance – class V), and to minimize the influence of outlier cases, we collapse it with *skilled workers* (class VI) (see Erikson and Goldthorpe 1992: 37-40). Second, *routine non-manual, lower grade employees* (class IIIb) share the critical feature of easy monitoring with the *non-skilled manual* and

*agricultural workers* (class VII) (Goldthorpe 2000: 222). We then collapse these two groups into *working class*.

To map occupations into social classes, we rely on questions regarding employment status, supervisor status and the specific occupation. Our primary source, for the latter, is the 1988 International Standard Classification of Occupations (ISCO-88) that has been the standard coding for occupations in the latest rounds of the ISSP. In some cases, we rely on national occupational classifications and ISCO-68. Whenever possible we translate national occupational systems and ISCO-68 into ISCO-88 with the help of equivalence tables before translating occupations into social classes.<sup>6</sup>

At the individual level, we control for *gender*, *age*, *age squared*, *unemployed*, *not in the labor force* and *religiosity*, which are determinants of pro-redistribution attitudes (Owens and Pedulla 2014: 1100; Stegmueller, et al 2012: 490). The variable *religiosity* differentiates between *religious* (those who attend religious services at least once a week) and *non-religious* individuals (the rest).

Our key, country-year level, explanatory variables are *redistribution* and *universalism*. Because adequate measures of these policy outcomes are not yet publicly available for all 106 country-years (Table A1), we compute these measures from the raw data of the Luxembourg Income Study (2015). *Redistribution* is measured as the relative difference between market inequality (before taxes and transfers) and net inequality using the following expression:  $((G_m - G_g) / G_m) * 100$  – where  $G_m$  is market Gini, and  $G_g$  is post-government Gini.<sup>7</sup> *Universalism* refers to the homogeneity of benefits distribution within the population and represents the average size of transfers in households, divided by its standard deviation (Brady and Bostic 2015: 278).<sup>8</sup> Both *redistribution* and *universalism*

are computed on household income, adjusted by household size, after trimming the income distribution at top and bottom to avoid the influence of outliers.<sup>9</sup> Also, in accordance with the literature on redistribution, both indicators are calculated solely for the working-age population (between 25 and 59 years old). This is due to the ‘second order effect’ of redistribution whereby redistribution lowers the incentives of the elderly to engage in paid employment in countries with universalized pension systems, making redistribution endogenous to market income (Bradley et al. 2003: 208; Mahler and Jesuit 2006: 485; Jesuit and Mahler 2010: 1394). Intermediate missing values of *redistribution* and *universalism* were interpolated using linear interpolation.<sup>10</sup>

We use six additional, country-year level controls underscored by previous research. *Union density* has been proven to have a significant impact on class voting (Korpi 1983: 35; Nieuwbeerta and Ultee 1999: 144-145). It is therefore included in the models and is measured as the percentage of union membership among wage earners in employment (Visser 2015). *GDP per capita* is included because low levels of a country’s economic development reduce the capacity of lower classes to ensure their subsistence, thus increasing their interest in redistribution (Dion and Birchfield 2010: 325). Similarly, the working class faces a higher risk of unemployment. Consequently, in a context of higher *unemployment rate*, the lower classes have incentives to demand further inequality reduction efforts. In countries with a higher *percentage of industrial workers* and *percentage of the working class*, workers have more opportunities to share experiences conducive to increased class-consciousness (Knutsen 2006: 131-132). Finally, we control for *market inequality* in our models, (as per the Gini index - before taxes and transfers), to avoid any confounding effect between post-market redistribution and the previous

level of inequality. Descriptive statistics of the dependent and all independent variables and pairwise correlations between country-year variables are available in Tables A2 and A3 (Appendix II).

### *Construction of the Class Cleavage*

Our first step is to construct and analyze a single indicator for overall, class differences in the demand for redistribution. To do so, we first run separate logistic regressions for each 106 country-year. In these logit models, the dependent variable is *preference for redistribution*; while the main, explanatory variable is *social class*, as defined according to our version of the EGP schema. These models include the aforementioned six, individual-level controls: *gender*, *age*, *age squared*, *unemployed*, *not in labor force*, and *religiosity*. More precisely, the indicator of class cleavage is the standard deviation of the predicted probability of supporting *redistribution* for each *class* in country *c* at time *t* (Brooks et al. 2006: 100). Since probabilities cannot be estimated without error, we use a modified measure in which probabilities are weighted by the inverse of their standard error, as suggested by Jansen et al. (2013: 59):

$$\kappa_{ct} = \left[ \frac{1}{J} \sum_{j=1}^J \left( \frac{\hat{p}_{ctj} - \bar{p}_{ct}}{e_{ctj}} \right)^2 \right]^{\frac{1}{2}} \quad (1)$$

In equation (1),  $\kappa$  or *kappa* is the class-cleavage,  $J$  is the number of social classes,  $\hat{p}_{ctj}$  is the expected probability of supporting redistribution for class  $j$ , and  $se_{ctj}$  denotes its error.  $\bar{p}_{ct}$  is the average probability of supporting redistribution for the whole country-year sample. This way of computing *kappa* is similar to the WLS approach in two-steps regressions, in which first-stage coefficients are weighted by the inverse of

their sampling errors (Lewis and Lincer 2005: 350-351). Consequently, probability  $\bar{p}_{ct}$  is obtained from the computed probabilities weighted by the inverse of their standard error:

$$\bar{p}_{ct} = \frac{\sum_{j=1}^J \hat{p}_{ctj} 1/e_{ctj}}{\sum_{j=1}^J 1/e_{ctj}} \quad (2)$$

By definition,  $\kappa$  ranges from 0 to .5 (Brooks et al. 2006: 100), where a value of 0 indicates no class differences in the probability of supporting redistribution, and a value of .5 indicates the greatest class differences in preferences for redistribution. The higher the value of *kappa* across countries and time, the higher the intensity of overall class cleavage around preferences for redistribution.

#### 4. Class Cleavage across Countries

The database constructed for this study reveals two main, descriptive findings. First, social classes differ substantially in their pro-redistribution position. Figure 2 shows that on average *skilled manual* and *working* classes are the most pro-redistributive followed by *routine non-manual*, *self-employed*, *lower service* and *upper service* classes. This pattern is largely consistent with previous research on class cleavages in policy attitudes (Jaeger 2006: 166). Second, Figure 3 shows that the value of the *kappa* index used to represent the overall class divide (discussed in Section 3) displays a substantial cross-national variation. Scandinavian and Eastern-European countries have the largest class differences in pro-redistribution attitudes, followed by Western European, other English-speaking and Southern European countries.

FIGURE 2 ABOUT HERE

FIGURE 3 ABOUT HERE

How can we account for the substantial cross-national variation in the *kappa* index? Specifically, does a relationship between policy regimes and class cleavage exist? To answer, we first conduct an analysis using country-year level variables, exclusively, which take the estimated *kappa* as the dependent variable. As a preliminary approximation, the scatter plots in Figure 4 display the linear relationship between the two main, country-year level variables and country *kappas*. They reflect a strong, positive association between *kappa* and both *redistribution* and *universalism*.<sup>11</sup> Countries where the state engages in more redistribution and runs more universal programs have larger class differences in redistributive demand.

#### FIGURE 4 ABOUT HERE

These results are consistent with the *self-interest* approach and inconsistent with the *normative* approach. They could, however, be affected by a heterogeneity bias. *Redistribution* and *universalism* could capture the effect of one of the country-year level controls discussed in Section 4. We therefore estimate random and country fixed-effects models to explain what factors lay behind the overall class cleavage (Table 1).<sup>12</sup> In the following models, *redistribution* and *universalism* are included in separate models, because both variables are collinear ( $r=.712$ ,  $p<.01$ ). Adding them in the same model could lead to overfitting. This decision is further justified because the self-interest (normative) approach does not suggest that *universalism* (*redistribution*) should be included as a control, which would have required having them in the same equation. Given that both theories predict opposite effects, this separation cannot produce a Type I Error – in which one variable becomes significant because it captures the effect of the

other omitted variable. Robustness checks using a sequential equation approach for collinear variables produce consistent results (see Section 5).

#### TABLE 1 ABOUT HERE

In the random effects specification (Models 1 and 2), *redistribution* and *universalism* have positive and significant effects. Consistent with the *self-interest* approach (hypothesis 1c), an increase in redistribution produces a greater difference between social classes in redistributive preferences. At the same time, an increase in the level of universalism also produces *greater* class cleavages. The latter result is the exact opposite of what the *normative approach* predicts – therefore hypothesis 2a cannot be confirmed. The positive effect of *redistribution* in Model 1 is, furthermore, significant when controlling for *market inequality*. Accordingly, state redistribution does not reflect the role of the absolute level of pre-tax/transfer inequality. Neither the level of *union density* nor the level of *economic prosperity*, nor the *size of the industrial workforce* shapes class differences in redistributive attitudes.

Models 1 and 2 were estimated with random effects, which assume that there is no correlation between the residuals in the regression and unobserved time-constant variables (Haliby 2004). As a result, *redistribution* and *universalism* may capture the effect of a constant country dimension. We therefore replicate Models 1 and 2 using country fixed-effects. Since panel data models with country fixed-effects reveal the effect of longitudinal changes in the independent variables on changes in the dependent variable, they cannot be affected by time-constant, unobserved heterogeneity and offer a more demanding test of the hypotheses. These additional estimations produce similar results. Using fixed-effects, *redistribution* is still highly significant (Model 3), indicating



that longitudinal increases in the level of redistribution have a positive effect on class cleavages. By contrast, longitudinal changes in *universalism* and *market inequality* are not related to changes in class cleavage. None of the control variables has an effect in the fixed-effect models. The degree of redistribution therefore remains the most robust determinant of this cleavage.<sup>13</sup> In other words, countries with a stronger institutional commitment to reduce inequality display larger gaps between social classes in the support for redistribution.

## 5. Multilevel analysis

Returning to the debate about *self-interest* and *normative* effects on public policies, we have only found support for the *self-interest* approach, thus far. However, we cannot determine from the random and fixed-effects models what specific patterns produce increases or decreases in class cleavages. This aspect has been under-theorized in previous empirical research, although the institutionalist literature provides clear predictions as to why the attitudes of some classes should be especially sensitive to the level of redistribution. In fact, the *kappa* could increase with the level of redistribution primarily because (a) the lower classes increase their demand for redistribution, while the others remain constant; or (b) the upper classes reduce their demand, while the others remain constant. Therefore, to clarify the process by which social policies affect popular attitudes, it is essential to identify that which explains the support of *each* social class.

To provide answer, we use multilevel models. Our dependent variable is the individual preference for redistribution, coded dichotomously. Since individuals (level 1) are nested within country-years (level 2) and countries (level 3), we estimate a three-

level, random slopes, logit model with national covariates at the country-year level (Snijders and Bosker 2011). In this case, we include random effects, which account for the variation of the effects in each class between countries and time. We further add cross-level interactions between each social class and two country-year variables to explain this variation.

Estimation of multilevel models with categorical outcomes involves significant computational challenges due to the complexities of the likelihood function. Specifically, we have a complex, covariance matrix of random effects, including six random effects (six social classes minus the reference category plus the intercept) at country-year and country levels. We reduce the computational burden by two means to allow model estimation. First, we use an exchangeable, covariance matrix structure for the random effects, in which all random effects have common variances and one common, pairwise covariance. Second, we use Laplacian approximation to estimate models<sup>14</sup> since the cluster is big enough (Joe 2008) and this approximation produces unbiased estimates of the fixed-effects (Pinheiro and Chao 2006). Our multilevel model can be written as:

$$\eta_{cti} = \beta_{0ct} + \sum_{j=1}^J \beta_{jct} I_{ijct} + \sum_{k=1}^K \beta_k x_{ki} \quad (3)$$

Where  $\eta_{cti}$  is the log of the odds ratio of supporting redistribution for individual  $i$  within country  $c$  and year  $t$ ,  $I_{ijct}$  is an indicator variable taking value 1 if individual  $i$  belongs to class  $j$  (leaving out the *upper service class*, which is taken as the reference category in the following analyses) and 0 otherwise and  $x_k$  is the  $k$ th explanatory variable. In addition:

$$\beta_{0ct} = \gamma_{000} + \sum_{h=1}^H \gamma_{0h0} z_{hct} + \nu_{0c} + \nu_{0t} \quad (4)$$

$$\beta_{jct} = \gamma_{j00} + \gamma_{j10} RED_{ct} + \nu_{jc} + \nu_{jt}$$

Where the intercept  $\beta_{0ct}$  depends on a common intercept  $\gamma_{000}$ , a vector of  $h$  explanatory variables  $z_{ct}$  at country-year level and two uncorrelated random terms:  $\nu_{0c}$  and  $\nu_{0t}$  accounting for variation within countries and country-years, respectively. Similarly, the effect of each social class  $\beta_{jct}$  depends on a common effect  $\gamma_{j00}$ , the country-year level of *redistribution* and two random terms  $\nu_{jc}$  and  $\nu_{jt}$ .

Table 2 provides the results of four multilevel analyses that predict individual preference for redistribution. We introduce social class in Model 1, as the key explanatory variable, along with the other six controls at the individual level (*gender, age, age squared, unemployed, not in the labor market and religiosity*). In Model 2, we add the same set of seven, county-level, explanatory variables used in Table 2. Models 3 and 4 introduce cross-level interactions between each class and the indicator of the policy regime (*redistribution and universalism*).

#### TABLE 2 ABOUT HERE

Regarding the individual-level factors, all six models show a persistent pattern. Women, the unemployed, and those not in the labor market are more supportive of inequality-reduction efforts than men and employed individuals, which corresponds with previous research (Owens and Pedulla 2014: 14). As noted in Section 1, the lower classes are on average more supportive of redistribution than the upper classes, which is also consistent with previous research and the *self-interest* approach. *Skilled workers* and the

*working class* are the most pro-redistributive; followed by the *routine non-manual, lower service, self-employed* and *upper service* classes.

How does each social class react to variations in macro-level factors? Our focus now turns to potential sources of change in the *kappas* noted earlier. To this end, we need to examine the interactions between social classes, on the one hand, and *redistribution* and *universalism*, on the other (Models 3 and 4). Model 3 makes clear that *redistribution* has a significant influence on the effects of *upper service* class. The demand for redistribution by this class declines in contexts of more redistribution. In contrast, the significant effect of the interaction between *redistribution* and *routine non-manual, skilled manual* and *working* classes indicates that these classes do not follow the same pattern. *Redistribution* has a significantly smaller, moderational effect between the *routine non-manual, skilled* and *working* classes than the *upper service class*. Model 4, which includes interactions of *universalism* and all five social classes, displays similar results. *Universalism* reduces the demand for *redistribution* among the *upper service class*; for the *lower classes* it has a significantly smaller moderational impact.

These findings support the *self-interest* policy feedbacks approach. However, interaction terms do not reveal *how* the effects of classes vary at different levels of redistribution. For this reason, Figure 5 depicts the probabilities of supporting redistribution for the six social classes analyzed at different levels of *redistribution* and *universalism*, based on Models 3-4. Probabilities are computed for a reference category of an *employed* and *non-religious male* while holding *age* at the mean. The plots reveal that as the state further reduces inequality, the support for redistribution by the *upper service, lower service* and *self-employed* classes decreases noticeably. We can assess the

change in probabilities of supporting *redistribution* at two standard deviations below – and two standard deviations above - the mean in *redistribution* for different classes.

Using this comparison, the probabilities decrease by 16.97%, 13.17% and 14.30% for the *upper service*, *lower service* and *self-employed* classes, respectively. Alternatively, the *routine non-manual* class only moderately increases its already high commitment to redistribution (5.06% using the previous comparison), while the *working* and *skilled manual* classes do not change substantially (0.11% and 0.64%, respectively). Therefore, the aforementioned positive relationship between state-driven inequality-reduction and pro-redistribution class cleavage is mainly caused by stronger changes in the classes least supportive of redistribution – the service classes. This evidence is consistent with Hypothesis 1b, but not Hypothesis 1a.

#### FIGURE 5 ABOUT HERE

Moreover, the implication of the *normative approach* – i.e., that under conditions of substantial universalism the upper classes are more pro-redistributive because they perceive social provision as more fair and acceptable – is not supported by the evidence. *Universalism* does not have a positive effect on the weak pro-redistributive position of the *upper service*, *lower service* and *self-employed* classes. Indeed, as noted above, their commitment with inequality-reduction declines with the level of universalism. Hypotheses 2b is therefore not confirmed.

#### *Robustness checks*

We run several robustness checks to assess the stability of the results reported thus far (see Appendix II). First, large social classes might blur income differences. To address this potential concern, we replicate our analysis using five *income* quintiles. In

both panel data and multilevel models, the patterns of polarization, using the income variable, are equivalent to those found for the class variable: countries that engage in more redistribution display significantly larger cleavages across income groups in pro-redistribution attitudes. Moreover, the top two income quintiles are significantly more sensitive to changes in *redistribution* than the third to fifth quintiles (Tables A4 and A5).

Second, we use a sequential regression approach as an alternative strategy to the challenge posed by collinearity between *redistribution* and *universalism* (Graham 2003: 2812-2813). For both panel and multilevel models, we first regress *universalism* on *redistribution*. In the subsequent regression, we introduce *redistribution* and the residuals from the first-stage regression as explanatory variables, which represent the fraction of *universalism* that is not explained by *redistribution*. Results are equivalent to those included in Tables 1 and 2 (Tables A6 and A7).

Third, we use several alternative measures of *redistribution*. Using the raw files of the Luxembourg Income Study, we compute (a) the absolute (rather than relative) difference between market inequality and post-government inequality (Jesuit and Mahler 2010); (b) a measure based on the Theil index (instead of the Gini index). In both panel data and multilevel models, these alternative measures of redistribution produce consistent results with our operationalization of *redistribution* (Tables A8 and A9).

Fourth, we re-estimated both panel and multilevel models using a series of additional, individual-level controls that were excluded from the main models due to the severe increase in the number of missing cases. We refer to *education level*, *union membership*, and *working for public sector*. The results of these additional robustness checks are also in line with the main findings reported thus far (Tables A10 and A11).

Fifth, adding an interaction term between *social classes* and *union density* does not affect the results of the multilevel models (Table A12). In these additional models *redistribution* has a positive and significant effect on the class cleavage and the strongest moderational impact on the *upper service class*.

In addition, we use two alternative definitions of the dependent variable: the attitudes toward the extent of inequality in the country (Tables A13 and A14) and opposition to redistribution (Tables A15 and A16). Estimates for these two alternative, dependent variables are in line with the findings reported for our dependent variable. We re-estimate all the models without including market inequality as a control and also obtain consistent results (Tables A17 and 18). We compute our *kappas* using linear probability models (Table A19) instead of logits for each country-year, which produces very similar results. Finally, we conduct two tests of potentially influential countries - the first by including a dummy variable in the multilevel models to control for communist legacy (Table A20); the second by replicating Table 1 and using a test of outlier countries (Frees 2004: 41-42). In the latter two tests, our results are not driven by especially influential cases (Table A21).

## 6. Discussion

This study argues that cross-national differences in class divides, regarding the demand for redistribution, have institutional foundations. In support of this first contention, our central finding is that the level of redistribution constitutes the strongest and most stable determinant of variations in this class cleavage. Countries engaging in more redistribution display larger class cleavages in the demand for redistribution.

Longitudinally, countries that increase redistribution also display significantly larger increases in this attitudinal divide.

Second, our analysis shows that redistribution and the overall class divide are positively related due primarily to the sensitivity of the upper classes to the institutional environment. While the *routine non-manual*, *skilled manual* and *working* classes are generally the most supportive of redistribution, their commitment to economic egalitarianism is high in every context. The least, pro-redistributive *service* classes are instead substantially affected by the level of redistribution. In combination, the strong decrease in the demand for redistribution of the service classes and the absence of an effect of redistribution on the *routine non-manual*, *skilled manual* and *working* classes lead to a widening of overall class cleavage.

This definitive, intervening impact of the institutional context addresses a major debate in policy feedbacks literature as to whether redistributive regimes feed back into politics through *self-interest* or *subjective norms*. Our evidence cannot confirm the prediction of the *normative approach* – that highly redistributive (universal) welfare states satisfy the principles of procedural and substantive justice held by the upper middle classes, thereby inducing a convergence of preference among upper and lower classes. The evidence is consistent, however, with the central principle of the *self-interest approach* – that highly redistributive welfare states widen the attitudinal divide between classes by incentivizing more opposition to redistribution among the upper classes.

One observation regarding the causality between class cleavage and the level of redistribution bears mentioning. We concur with recent studies noting that public opinion and policies have complex, bidirectional relationships (Busemeyer 2013: 1125; Soroka



and Wlezien 2000: 38). Public opinion shifts likely impinge on policy structures, which also transform public demands. Yet, in our view, the possibility of a reverse causality scenario, where class differences determine the level of redistribution, is implausible. We have no theoretical reason to believe that, *by itself*, the size of the class cleavage can effect policy change. Instead, the policy responsiveness literature argues compellingly that levels of redistribution probably hinge on the policy preferences of the average (Brooks and Manza 2007: 41) – or median (Soroka and Wlezien 2000: 23) – citizen. Since pro-redistribution class cleavage proves unrelated to the average and median levels of demand,<sup>15</sup> the cleavage cannot simply reflect the effect of other factors with more direct policy-making relevance.

Returning to our main findings, our study makes relevant, methodological contributions to the literature on class and politics. Unlike previous work on class politics, we combine an analysis of country-year level factors (e.g. the overall class cleavage) and the preferences of concrete social classes, which allow us to better understand broad patterns across countries *and* the concrete mechanisms that produce them. We also demonstrate that a focus on changes in the probabilities of each social class is more adequate than one on marginal differences between pairs of classes because the former analytical approach helps identify the specific classes affected by the policy and political context.

The findings of this study specifically address the widely held assumption that highly redistributive, welfare states (e.g. Scandinavian) gradually construct a post-conflictive, political culture in which class attitudinal differences are undermined. In this view, such welfare states forge a broad domestic consensus because their programs

provide a satisfactory response to the interests and pre-established concepts of justice of all social classes (Huber and Stephens 2001: 28-30; Korpi and Palme 1998: 672; Rothstein 1998: 156). Our study challenges this assumption by showing that the most redistributive states actually display the largest degrees of class dissensus on the issue of redistribution. We argue that this relationship is due to the fact that highly redistributive policies substantially transform the outcomes of unrestrained capitalist market dynamics. By reassigning material resources, redistributive policies may unintentionally raise group consciousness among policy winners and losers, thereby spreading a perception about the potential of further policy change and bolstering class-based discourse in the media, political party agendas, and the policy making-process in general. Further research could examine if the level of redistribution also affects the extent of class divides in informal political participation and the extent of class-discourse in domestic politics.

In terms of the policy feedbacks literature, our study suggests that policies may rarely generate both *self-interest* and *normative* policy feedback effects. We provide strong evidence that social policy affects attitudinal divides by restructuring self-interests, not moral norms. In this regard, the literature has mainly analyzed dyadic relationships between (a) characteristics of public program benefits and *self-interest* feedbacks and (b) types of program administration and *normative* feedbacks (Campbell 2012: 338-341; Bruch, Ferree, and Soss 2010). It has *not* sufficiently explored, however, the possibility that the construction of distinct groups of policy contributors and beneficiaries determines whether or not *self-interest* feedbacks or *normative* effects are activated. Following Lowi's (1964) typology, "redistributive" politics may be prone to transform self-interests because they tend to establish zero-sum situations. By contrast,

“distributive”, “constituent” and “regulatory” policies tend to generate win-win (or lose-lose) situations that may be more prone to activate *normative* effects. Further research on the relationship between general types of policies and types of mass-attitudinal feedback effects would greatly advance our understanding of the means by which various policies influence democratic politics.

## Notes

<sup>1</sup> For exceptions see Edlund (2007), Edlund and Lindh (2015) and Svallfors, Kulin and Schnabel (2012).

<sup>2</sup> As noted below, redistribution and universalism are highly correlated ( $r=.712$ ,  $p<.01$ )

<sup>3</sup> For an expanded discussion on the EGP scheme, see Appendix I.

<sup>4</sup> We interpret the dependent variable item in terms of general beliefs – i.e., indicating support for redistribution in all contexts. Of course, this particular questionnaire item could also be interpreted as indicating the respondent's satisfaction with the level of redistribution in his/her country. We have strong reasons to believe, however, that respondents interpret this item in terms of generic commitment to state redistribution – rather than being *for* policy changes. The phrase “it is the responsibility” predisposes respondents to think in universal terms of “state” goals, not the specific context of a given country. Moreover, if respondents answered in terms of supporting additional policy changes, the levels of redistribution and average support of this statement should be negatively related. Yet the two items are not correlated ( $r=-.0001$ ,  $p>.05$ ). Our interpretation of this item as referring to general beliefs is also consistent with most previous research (e.g. Dion and Birchfield 2010: 320). Finally, after recoding the dependent variable to measure opposition against redistribution (Tables A15-A16), the results go in the expected direction.

<sup>5</sup> Three other items on redistribution included in ISSP provide less valid evidence of citizen preference towards redistribution. Items on the support for spending increases (4 waves) do not specify whether additional spending should be assigned to further reduce

income differences (anti-poverty goal) or preserve, instead, pre-tax/transfer differences (status maintenance goal).

Another ISSP item (4 waves) asks respondents their opinion about the statement “Differences in income in <R’s country> are too large.” Even if a person considers inequalities as being too large, however, it does not necessarily imply they would require the state to reduce these inequalities. The third ISSP item (6 waves) asks respondents their opinion on whether it “should or should not be the government’s responsibility to reduce income differences between the rich and the poor.” The dichotomy ‘rich/ poor’ evokes smaller groups and more extreme circumstances than the dichotomy ‘people with high incomes/people with low incomes’. As a result, the ‘rich/poor’ phrasing triggers more support for redistribution and insufficient variation for a meaningful analysis. Using the 1996 wave, more respondents consider it a government’s responsibility to reduce income differences between rich/poor (70.5%) than between high incomes/low incomes (58.6%). Moreover, state redistribution normally occurs between large groups having either high or low incomes, rather than exclusively between the extreme minority groups “the rich” and “the poor”.

<sup>6</sup> Additional sources are listed in Appendix I.

<sup>7</sup> According Bradley et al. (2003: 209), *market income* includes total income from wages, self-employment income, property income and private pension income; *post-government* includes market income plus transfers minus taxes.

<sup>8</sup> Although Rothstein (1998) assumes that targeting is the inverse of universalism, our data shows that targeting and universalism have a low and non-significant correlation ( $r=.098$ ;  $p>.05$ ). Yet, in an alternative model that replaces universalism with low income

targeting (Brady and Bostic 2015: 278), the effect of targeting was found to be non-significant in the fixed-model specification (Table A21).

<sup>9</sup> After bottom coding at 1 percent of mean income and top coding at 10 times the median income, we divide household income by the squared root of the number of household members (Bradley et al. 2003: 209).

<sup>10</sup> We use the 1982-2011 period for LIS data to gauge as many data points as possible. The proportion of interpolated cases in our key explanatory variables for this period is 73.7%.

<sup>11</sup> This is consistent with Svallfors, Kulin, and Schnabel (2012: 177), who report a negative bivariate correlation between the Gini coefficient and an index of class differences in social welfare attitudes.

<sup>12</sup> To facilitate the interpretation of the coefficients and homogenize the scale of the variables, the values of kappa are multiplied by 100 in random and fixed-effect models.

<sup>13</sup> *Progressivity* (Beramendi and Rehm 2016) and *the size of the welfare state* (Edlund and Lindh 2015) – two other aspects of welfare state design stressed in previous work – are not consistently related to changes in the class cleavage (Table A7 Appendix II).

<sup>14</sup> Note that the Laplacian approximation is equivalent to the method of Adaptive Gaussian Quadrature (AGQ) using one point of integration (Rodríguez 2008: 354).

<sup>15</sup> The correlation between *kappa* and average demand for redistribution in our sample of countries is .010; the correlation between *kappa* and median demand for redistribution is .174 (both non-significant at  $p < .05$ ).

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## Tables and Figures

Figure 1. Theoretical predictions of the class-based link between effective redistribution and pro-redistribution attitudes for the self-interest and moral economy approaches

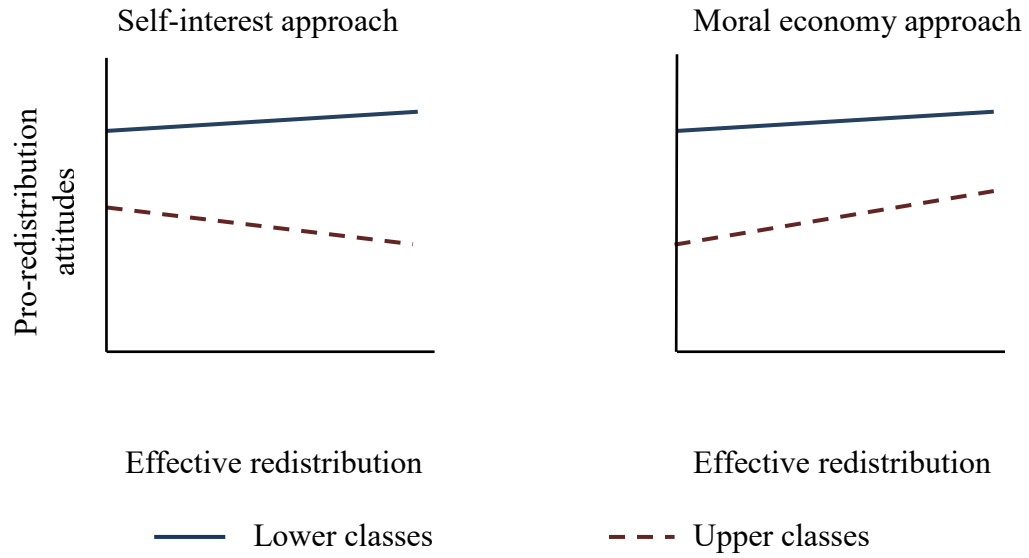


Figure 2. Support for redistribution by social class in 106 country-years, 1985-2010

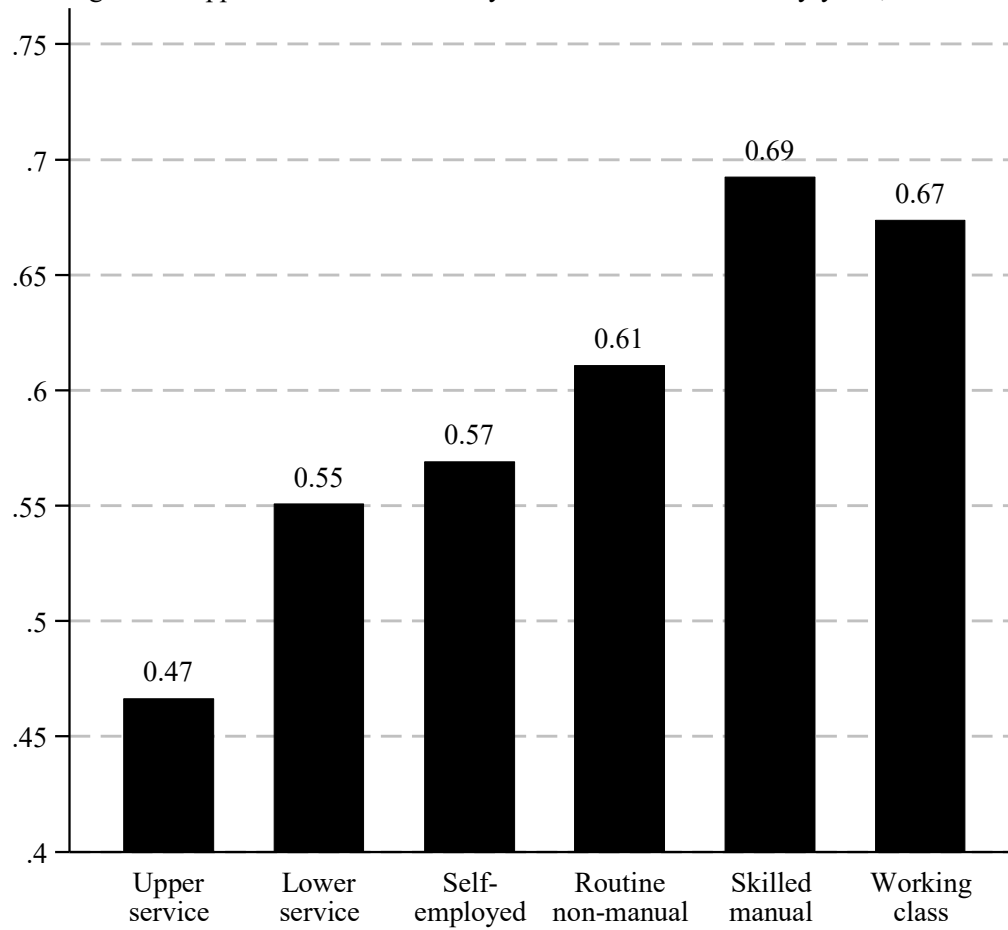
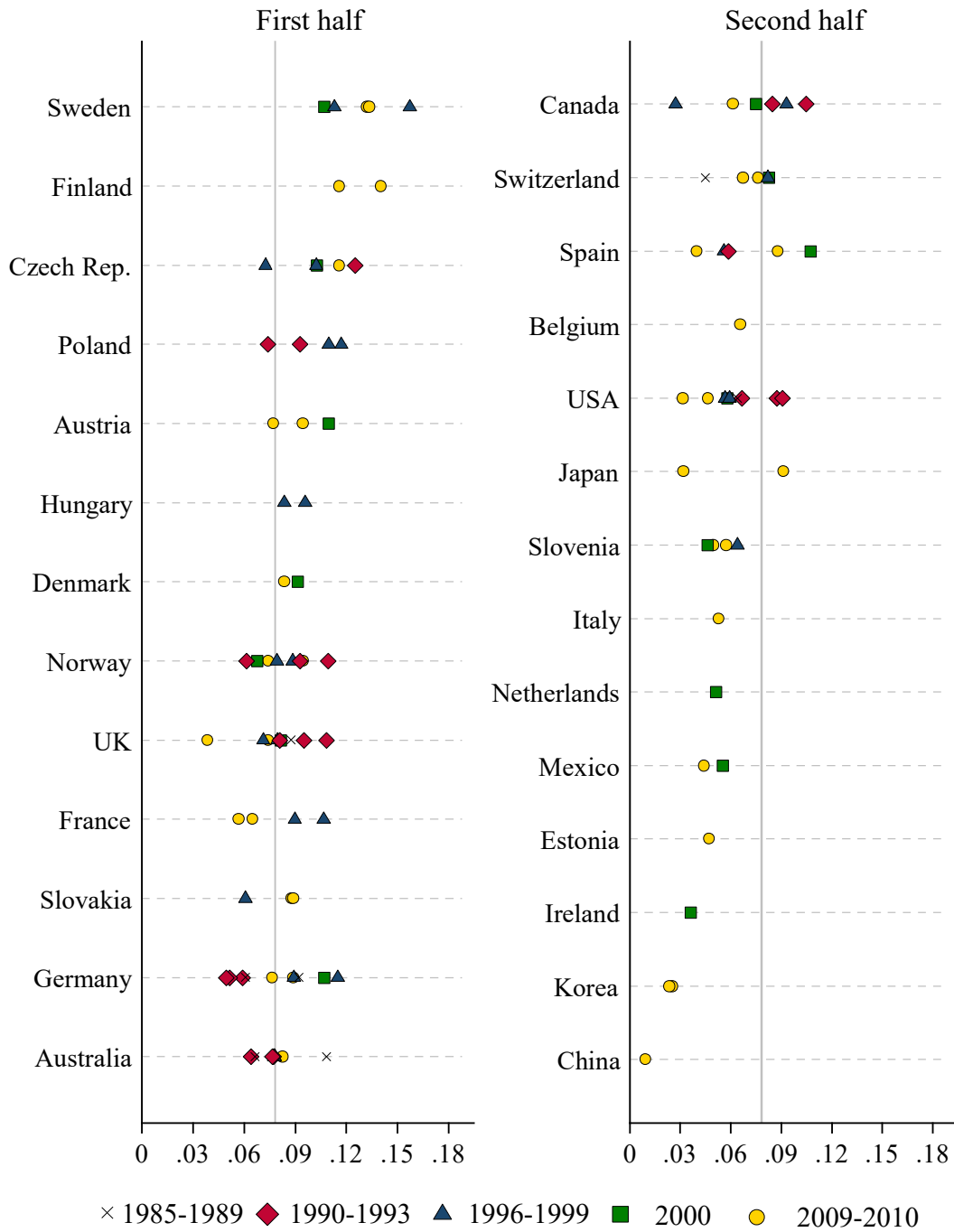


Figure 3. Weighted kappa value of the support for redistribution in 27 countries, 1985-2010



Note: Estimates obtained from 106 logit regression models, including controls for gender, age, age squared, unemployed, not in the labor market and religiosity.

Figure 4. Determinants of the class cleavage in 106 country-years, 1985-2010

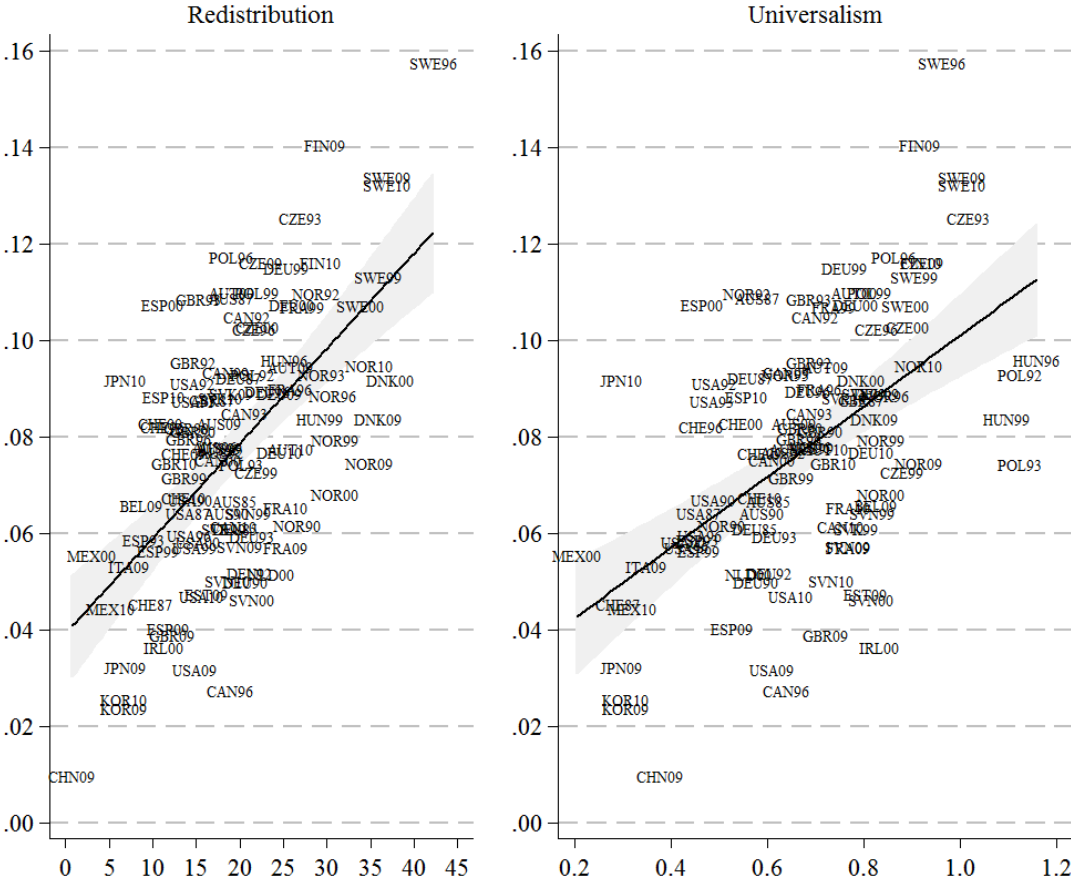


Table 1. Determinants of class cleavages. FE and RE models

	Random effects		Random effects		Fixed effects		Fixed effects	
	Model 1		Model 2		Model 3		Model 4	
Redistribution	.214**	(.038)			.425*	(0.166)		
Universalism			6.152***	(1.748)			5.566	(4.576)
Union density	.006	(.016)	.025	(.021)	-.050	(.069)	-.013	(.069)
GDP per capita (ln)	.114	(.189)	.272	(.234)	.690	(4.616)	1.595	(5.455)
Unemployment	.090	(.063)	.055	(.074)	.043	(.130)	.055	(.170)
Perc. indus. workers	.073	(.053)	.057	(.050)	.147	(.119)	.173	(.136)
Perc. working class	-.044	(.028)	-.095**	(.035)	-.049	(.047)	-.076	(.045)
Market inequality	3.957	(7.004)	2.803	(7.596)	-10.514	(16.929)	1.590	(16.717)
Constant	-.659	(4.161)	-.414	(4.535)	-5.659	(52.048)	-16.423	(61.519)
R <sup>2</sup> within	.131		.055		.167		.073	
R <sup>2</sup> between	.653		.562		.519		.139	
R <sup>2</sup> overall	.401		.367		.303		.111	
Observations	106		106		106		106	
Countries	27		27		27		27	

Notes: † p<.10, \* p<.05, \*\* p<.01, \*\*\* p<.001. Robust standard errors are in brackets.



Table 2. Determinants of redistributive preferences. Multilevel logit models

	Model 1		Model 2		Model 3		Model 4	
<b>Individual-level variables</b>								
Female	.198***	(.014)	.198***	(.014)	.198***	(.014)	.198***	(.014)
Age	.002	(.002)	.002	(.002)	.002	(.002)	.002	(.002)
Age squared	.000	(.000)	.000	(.000)	.000	(.000)	.000	(.000)
Upper service (ref. cat.)								
Lower service class	.417***	(.074)	.389***	(.073)	.396***	(.070)	.404***	(.069)
Routine non-manual	.646***	(.077)	.617***	(.076)	.645***	(.073)	.631***	(.072)
Self-employed	.342***	(.078)	.315***	(.077)	.313***	(.075)	.326***	(.073)
Skilled workers	.954***	(.077)	.927***	(.075)	.949***	(.073)	.939***	(.072)
Working class	.876***	(.074)	.848***	(.073)	.873***	(.070)	.859***	(.069)
Employed (ref. cat.)								
Unemployed	.360***	(.038)	.360***	(.038)	.360***	(.038)	.359***	(.038)
Not in the labor market	.114***	(.019)	.113***	(.019)	.114***	(.019)	.113***	(.019)
Religious (ref. cat.)								
Non-religious	.016	(.020)	.018	(.020)	.018	(.020)	.018	(.020)
Constant	-.225**	(.094)	-.263***	(.093)	-.251***	(.091)	-.240***	(.090)
<b>Country-year level variables</b>								
Redistribution			-.025***	(.007)	-.021***	(.006)		
Universalism							-.686***	(.210)
Union density			-.002	(.003)	-.001	(.002)	-.003	(.002)
GDP per capita (ln)			-.010	(.040)	-.001	(.039)	-.026	(.038)
Unemployment rate			-.001	(.010)	-.001	(.010)	.005	(.011)
Perc. industrial workers			.009	(.007)	.010	(.007)	.013 <sup>+</sup>	(.007)
Perc. working class			.012***	(.004)	.012***	(.004)	.017***	(.004)
Market inequality			.951	(.980)	.684	(.960)	.978	(.959)
<b>Cross-level interactions</b>								
Lower service*Redistribution					.004	(.006)		
Rout. non-manual*Redistribution					.027***	(.007)		
Self-employed*Redistribution					.003	(.007)		
Skilled manual*Redistribution					.022***	(.007)		
Working class*Redistribution					.021***	(.006)		
Lower service class*Universalism							.105	(.218)
Rout. non-manual*Universalism							.568*	(.239)
Self-employed*Universalism							.094	(.252)
Skilled manual*Universalism							.634***	(.235)
Working class*Universalism							.765***	(.218)
<b>Random Effects-Level 2</b>								
Variance (Social classes)	.018	(.003)	.017	(.003)	.016	(.003)	.017	(.003)
Covariance	.007	(.002)	.008	(.002)	.007	(.002)	.007	(.002)

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**Random Effects - Level 3**

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Variance (Social classes)	.117	(.026)	.112	(.026)	.102	(.025)	.098	(.024)
Covariance	.075	(.026)	.076	(.026)	.071	(.024)	.069	(.024)
Observations	110,592		110,592		110,592		110,592	
Country-years	106/27		106/27		106/27		106/27	
Log-likelihood	-67,400.72		-67,380.15		-67,364.26		-67,371.72	

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Notes: + p<.10, \* p<.05, \*\* p<.01, \*\*\* p<.001. Standard errors are in brackets. Models include one random effect for the intercept and each social class. Only one variance and one covariance are reported in the table, since we use exchangeable covariance matrix with common variances for each random effect and one common pairwise covariance.

Figure 5. Probability of supporting more economic redistribution for each social class at different standardized levels of redistribution and universalism, 1985-2010

