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## Testing Theories of Redistribution: Structure of Inequality, Electoral Institutions, and Partisan Politics

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# LIS

## Working Paper Series

No. 854

### Testing Theories of Redistribution: Structure of Inequality, Electoral Institutions, and Partisan Politics

Evelyne Huber, Itay Machtei, John D. Stephens

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## Abstract

### Testing Theories of Redistribution: Structure of Inequality, Electoral Institutions, and Partisan Politics

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We re-analyze the major explanations of redistribution including the Meltzer-Richard (MR) model, power resources theory (PRT), the Iversen-Soskice political institutions explanation, Lupu and Pontusson's wage inequality skew, along with works suggesting other causes, such as immigration. The paper reconsiders the causal chain posited in the various theories. We find that partisan government is directly related to redistribution and has a strong effect on the generosity of social policy. Lupu and Pontusson's wage dispersion skew measure has no effect on redistribution but does have a positive effect on generosity of social policy. In contrast, the MR measure is consistently highly significant but negative. Our analysis is based on a comprehensive data set on inequality in the working age population drawing on three sources; our own analyses of LIS and Eurostat SILC microdata and OECD macro data. The combined data set consists of 504 country year for the period 1969 to 2019.

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## **Introduction**

Experienced income inequality, in the form of distribution of disposable household income, has risen in virtually all post-industrial societies. As Table 1 demonstrates, this rise is partly due to increasing market income inequality and partly due to stagnant or declining redistribution through the welfare state. What is important to note is that the differences between countries and welfare state types persist, despite the general trend towards increasing inequality. We have discussed the increase in market income inequality elsewhere (Huber, Machtei and Stephens 2021); here we explore in greater detail the drivers of redistribution. Specifically, we offer a systematic comparison of the explanatory power of different theories of redistribution.

Our concern is with actual redistribution rather than with the mass public's attitudes towards redistribution. We realize that even among the most institutionalized democracies a considerable gap exists between popular attitudes or support for policies and actual legislation and implementation of policies, and our primary interest in the paper is the latter. Thus, we shall review theories used to predict actual redistribution, even though many of them implicitly rely on assumptions of majority support for redistribution.

We begin the next section by reviewing various theories of redistribution. We first discuss theories that tie redistribution directly to either the degree or structure of market inequality (Meltzer and Richard 1981; Lupu and Pontusson 2011; Schwabisch, Smeeding and Osberg 2006). These theories are based on straight economic self-interest as read off from individuals' position in the income distribution. We then consider the role of social factors, such as ethno-linguistic diversity (Alesina and Glaser 2004) and religion (Scheve and Stasavage 2006), which may cross-cut income-based interest. We next turn to theories focused on the political dimension in the form of political institutions (Iversen and Soskice 2006; Bradley et al. 2003) or partisan politics (Bradley et al. 2003; Huber, Machtei and Stephens 2021). After describing the theories, we operationalize and test the variables that would support their hypothesized explanations of redistribution. We then discuss our findings and conclude by drawing out their implications.

## **Literature Review and Theory**

In this study, we conceptualize and measure redistribution as the difference between pre- and post-tax and transfer income inequality as a percentage of pre-inequality. Redistribution in this sense depends on the social risks affecting market incomes, or the level of need, the political aptitude to respond to these needs, and the state's concrete policy effort to smooth income disparities. There is agreement that redistribution is directly connected to the magnitude of welfare state benefits (Bradley et al. 2003). Obviously, if taxes and social expenditures are low,

not much income can be redistributed. On the other hand, not all social expenditures are allocated in an equally redistributive manner, which is why it is important to measure social rights directly. However, such measures are labor intensive to calculate and have only become publicly available in the past couple of decades. Therefore, much earlier work on redistribution used social expenditure either as a proxy or as a measure of government effort.

Arguably the most influential theory in the literature on redistribution is the one developed by Meltzer and Richard (MR) (1981). They argue that a greater difference between the mean and the median income will result in a greater size of government and thus more redistribution, because the voter with median income is decisive under majority rule. They assume that voters will prefer redistribution up to the point where the costs of lower per capita income due to work disincentives outweigh the benefits to the median voter. The model is apparently simple, though – as Iversen and Goplerud (2018) point out – it rests on a number of additional assumptions: a proportional tax, a flat-rate benefit, a balanced budget, efficiency costs of taxation, full voter turnout, and the absence of other salient issues or multi-dimensional politics. We could add to that the assumption of well-informed voters regarding the efficiency costs of taxation, as Meltzer and Richard themselves acknowledge (1981: 924). Though Meltzer and Richard do not test their theory, the assertion that higher inequality will result in more redistribution has become the starting point for many studies.

Moene and Wallerstein (2003) argue that they are extending the MR model by taking into account the degree to which social policies mix insurance and redistribution. They find that inequality lowers [assumed support for] spending on policies that provide support for unexpected loss of income. In contrast, there is no relationship between income inequality and [assumed support for] spending on welfare programs where the benefits are received by all independent of their employment status. So, in fact, they find no support for MR. They claim that the reason why they found no positive relationship between inequality and spending is the absence of welfare state programs designed purely to provide redistributive benefits among active participants in the labor market (p.510).

Lupu and Pontusson (2011) propose a theory similarly based on one-dimensional material interest politics, but focusing on the structure of inequality, not just its magnitude. They propose that in the absence of cross-cutting ethnic cleavages, the extent of social spending on the non-aged population is determined by the ‘skew’ of the market income distribution: the distance between the middle and the poor in relation to the distance between the middle and the rich. The intuition behind this model is that greater income proximity between social classes will lead to an affinity with respect to their redistributive expectations. If the distance between the middle and the poor (the 50:10 earnings ratio) is smaller than the distance between the middle and the rich (the 90:50 earnings ratio), the middle class will have greater affinity to the poor and support redistribution, and vice-versa. They test their theory and control for ethnic and linguistic diversity using a measure of immigrants and non-citizens as a proxy, and find statistically significant effects of the skew on both redistribution and social spending.

Schwabisch, Smeeding and Osberg (2006) also theorize about the impact of the structure of inequality on social spending. They look at the impact of the 50:10 and the 90:50 ratios of pre-tax and transfer household income on spending on the non-elderly separately and come to a different conclusion from Lupu and Pontusson (2011) regarding the distance between the middle and the rich. They find that the 50:10 ratio has a small positive effect on redistribution but the 90:50 ratio has a far larger and strongly negative impact on social expenditures. They argue that as the rich become more distant from the middle and the lower classes, they are more likely to opt out of social programs in favor of private alternatives, which has a negative effect on social spending.

Going beyond income-based models of redistribution, ethnic, linguistic, and racial diversity have long been acknowledged as social cleavages that can cut across class lines. This may carry negative implications for distributive politics in so far as it reduces solidarity among those with an interest in redistribution and consequently lowers popular support for redistributive policies. A decline in social solidarity may also harm unionization rates (Stephens 1979, Lee 2005), an important variable for partisan politics, because unions have formed the strongest support base of left parties. Alesina and Glaser (2004) showed that racial and ethnic fractionalization had a significant negative effect on social spending in the United States and Europe while Rueda (2018) shows that support for redistribution declines earlier in the income distribution in more heterogeneous settings. Desmet et al. (2009) add to this literature and show that the statistical effect of linguistic diversity depends on the measure used for the analysis. While the simple ethnic linguistic fractionalization index (ELF) produced no significant effect on redistribution, an index that accounted for distances between linguistic groups (GI, aka CF) showed significant negative effects on redistribution. Finally, Baldwin and Huber (2010) test the effect of both ELF, CF and a measure of between-group income inequality (BGI) on public goods provision and find a consistent negative association with only the latter. There is nevertheless a scarcity of studies on the long-term effects of racial and ethnic fractionalization on inequality because there are no time series data comparable across countries. Studies in this vein commonly rely on cross-sectional data or use immigration as a proxy for diversity.

Religion has also served as a cleavage undercutting class solidarity. Religiously diverse countries typically have politically divided labor movements. Scheve and Stasavage (2006) focused on religiosity, not religious diversity, and argued that religiosity reduces demand for social insurance and has a negative effect on social spending. On the other hand, it is a well-established finding in the literature that strength of Christian democratic parties is associated with high social transfer expenditures (van Kersbergen 1995; Stephens 1979). Like studies of ethnic and linguistic diversity, studies of religiosity face a data problem. Time-series data of religious practice or beliefs that are comparable across countries are extremely scarce.

Political institutions have figured prominently in many studies of redistribution. Iversen and Soskice (2006) argued that PR systems redistribute more than majoritarian systems because they favor more frequent center-left than center-right governments. Their argument accepts and

supports the assumption that partisan politics matter, but they explain the variation in partisan coalitions in government as a function of the electoral system. In majoritarian systems, both parties have centrist platforms, but they cannot make credible commitments to stick to them after the election. The resulting implications to middle class voters are asymmetrically distributed across the political spectrum: A post-election deviation to the right (little taxation and spending) would result in insufficient transfers from the rich to the middle class and the poor, whereas a deviation to the left (high taxes and spending) could result in transferring income from the rich *and middle class* to the poor. As result, the middle classes are more likely to vote for the center-right. In PR systems, lower, middle, and upper classes vote for the parties that represent their interests and after the elections the parties conclude coalition agreements. Middle classes have more to gain from an alliance of their party with the party representing the lower classes because they can collectively impose the costs on the rich and share in the benefits. In their statistical models they find that PR electoral systems are negatively associated with right-leaning governmental centers of gravity and that right-leaning governments are negatively associated with redistribution. Interestingly, they also find that a statistically significant direct effect of the electoral system on redistribution remains when government partisanship is in the equation (2006: 175). As a possible explanation they refer to Persson and Tabellini's (2003) argument that single member plurality systems induce geographically concentrated spending whereas PR systems induce more universalistic spending, which is more redistributive.

Immergut's (1992) veto-points framework drew attention to how institutional structures could delay social policy expansion at the height of the golden age by giving minority actors sufficient intervention points. Federalism, presidentialism, bicameralism, and frequency of referenda all provide multiple access points for opponents of redistributive policy, which slows welfare state expansion (Huber, Ragin and Stephens, 1993). By the same token, the fact that veto points protect the status quo also means that they may serve to slow cuts in welfare state benefits (Huber and Stephens, 2015). And indeed, by the time of retrenchment, the relationship grew more complex with the same mechanisms now being used to block cuts to popular policies (Pierson, 2001), but also to facilitate drift, which reduced policy efficacy (Hacker, 2005).

Voter turnout has also figured prominently in many studies of redistribution. The assumptions are that voters vote according to their economic self-interest and that lower-income voters are less likely to turn out than upper-income voters. Therefore higher overall turnout means that more lower-income voters are turning out and that more politicians will be elected who favor redistribution. Kenworthy and Pontusson (2005: 459) argue that voter turnout is a proxy for electoral mobilization of low-income workers and conditions the responsiveness of government policy to market income inequality trends. Some researchers have measured the skew in voter turnout and found a negative effect on redistribution (Mahler, Jesuit and Paradowski 2013), while other studies found that electoral institutions associated with higher turnout increased support for left policies (Bechtel, Hangartner and Schmid, 2016).

Our own theory, which we shall test along with the theories outlined above, is a variant of Power Resources Theory (PRT) that is focused on partisan politics. We argue that welfare state generosity and distributive profiles are tied to partisan politics, since these benefit structures and institutions are typically built up and entrenched by governments over long periods of time. The role of government policy in determining the difference between disposable and market income naturally draws attention to the political arena where policy is decided. The historical development of the welfare state demonstrates that incumbent social democratic, Christian democratic and liberal parties left distinct legacies with respect to their social legislation and redistributive patterns (Esping-Andersen, 1990; Huber and Stephens, 2001). Left parties in particular have long been strong supporters of redistribution and egalitarianism, and left partisanship is associated with lower levels of poverty and inequality (Brady, 2009; Nelson, 2012; Huber and Stephens, 2014). Christian democratic parties have traditionally also strongly supported the welfare state (Huber & Stephens, 2001; van Kersbergen, 1995) but have historically valued egalitarianism less than social democratic parties (Esping-Andersen, 1990) and have been primarily concerned with poverty and the welfare of children. In two previous analyses, we have found that Christian democratic governments were associated with *less* redistribution (Bradley et al., 2003; Huber and Stephens, 2014).

In our data analysis, we explore direct and indirect effects of various groups of variables hypothesized by the different theories of redistribution. Here it is incumbent on us to elaborate what the essential elements of each theory are; what does and does not constitute strong evidence for or against the theory. Beginning with MR, the essential element is that greater difference between the mean and median household income is causally related to more redistribution via more redistributive public policy. The causal link is the expectation that in more unequal societies, the median voter will favor more redistribution and that policy will indeed respond to the median voter's preferences. This however means that an increase in redistribution due to need rather than policy change, will not support the MR intuition. For instance, greater unemployment would mechanically increase both income inequality and redistribution without any input by the median voter. It is thereby important to account for sources of such mechanical effects in our analysis, which we do by integrating measures of social risk.

In an earlier work (Huber and Stephens, 2012), we argued that PRT and MR make diametrically opposite arguments about the relationship between inequality and redistribution. Whereas MR claim that more market income inequality will be causally related to more redistribution, PRT claims that they will be negatively associated because economic inequality is related to political inequality unless counterbalanced by strong organization among the lower classes. PRT argues that strong unions and associated labor market configurations (high union contract coverage, centralized unions and wage bargaining) will result in low levels of wage



dispersion and strong unions and left government will result in more redistributive public policy.

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A far less disputed proposal concerns voter turnout. Kenworthy and Pontusson, Iversen and Soskice, MR, and PRT, among others, all argue that voter turnout will be positively associated with redistribution. Arguably, one can treat voter turnout as an aspect of power resources. As noted, Kenworthy and Pontusson (2005) regard it as a result of electoral mobilization of low-income workers, which in turn is a major goal of unions allied with political parties. Nevertheless, this argument is sufficiently agreed upon that a finding that turnout is associated with redistribution, though worth noting, does not discriminate between the theories.

Among the institutional variables, the causal power of veto points does not directly negate any of the theories above but rather complements them as a moderating element. For instance, it can serve to explain why similar partisan configurations may fail to produce equivalent redistributive measures due to institutional variation (Immergut, 1992). Because this effect has served to both stall new social policies and protect extant policies, PRT does not have a clear directional expectation from veto points. Next, Iversen and Soskice's argument that PR will lead to redistribution because it is associated with more frequent left government, shares left governments as a mediating mechanism with PRT. We would argue that, while MR never mention partisan government, it is not incompatible with their theory. As we noted, Iversen and Soskice actually find that PR can affect redistribution independently of left governments, which is not evidence for the core of their theory but does not contradict it either.

As noted, we shall systematically test the master variables of alternative theories regarding the drivers of redistribution in our models. In addition to the PRT variables of left party and labor strength, we shall test the MR ratio of the mean to the median income, Lupu and Pontusson's skew of the income distribution, and Iversen and Soskice's electoral system variable. We shall treat factors that either reduce redistribution, such as high levels of employment and immigration (a proxy for ethnic and linguistic diversity) or increase redistribution like single parent households and unemployment (measures of social risk), and voter turnout as control variables. We do not include religiosity due to the lack of comparable time series data. Finally, we also include veto points and trade openness (a measure of globalization) as control variables though their effect on redistribution has been hypothesized to run in either direction.

Our analysis uses welfare state generosity, or social rights, to explore policy effort for redistribution whereas past work has mostly used welfare state expenditure (e.g. see Bradley et al., 2003). When worker vulnerability is held constant, greater generosity must have a net positive effect on redistribution by providing income to those who have none. We thereby expect non-aged social insurance generosity to be positively correlated with redistribution. If we assume that the level of welfare state generosity remains constant, then higher levels of social risk will

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<sup>4</sup> While we represent PRT's intuition concerning inequality and redistribution in our hypotheses in Table-2, no inequality measure is included in the PRT model as it they are not considered 'master variables' of this frame.

result in more redistribution. We therefore expect the level of unemployment and percentage of children in single-mother households to result in more redistribution and overall levels of employment to lower the need and therefore redistribution.

We take a step-wise approach to the analysis of redistribution. We begin by analyzing the relationship of the master independent variables in the various theories to redistribution, first by themselves and then with the control variables. Since all the theories assume that their master variables work through policy, we then add policy as an independent variable. We are keenly aware, though, that our measures do not capture all policy instruments for redistribution, so we expect remaining direct effects of the key theoretical variables. In a next step, we analyze the relationship between the master variables and policy generosity. We expect the same effects as for redistribution. All of the above hypotheses are summarized in Table 2.

## **Data and Measurement**

### **Dependent Variables**

Our measure of redistribution is the difference between the Gini index of market inequality of working aged households minus the Gini index of disposable income divided by the Gini of market income times 100 (see Table 2). We define the working age as those aged 18 to 64 years old. We drop all households with elderly members, as this would exaggerate the market inequality rates in countries with generous pension systems. The reason we drop all households with elderly members rather than just households ‘headed’ by the elderly is that it is not possible with the data we have to tell which household member is the ‘head’ of household. We do not drop households on the basis of the presence of children.

Market income is defined as all income from labor (wages and salaries as well as self-employment income), capital (financial interest and dividends and real estate income), and private transfers (inter-household transfers and transfers from non-profit institutions). Although the LIS harmonization process is very thorough, they ultimately rely on microdata collected by countries in sometimes different manners. In some country-years (36), market income is pre-transfer but post-tax, and in others (12), some taxes may be included but others not. For these country years, we compared the data to neighboring years for which the market income data was pre transfer and pretax and made small adjustments where necessary to harmonize the observations that were post tax or mixed.

Disposable household income includes market income plus all public transfers and less all direct taxes. Following LIS convention, market income is bottom-coded at zero while disposable income is top and bottom coded via the interquartile range as  $Q_3 \times \left(\frac{Q_3}{Q_1}\right)^3$  and  $\frac{Q_1}{\left(\frac{Q_3}{Q_1}\right)^3}$ , respectively. In the case of both market and disposable income, the standard International Labor Organization (ILO) recommended equivalency scale is used for both LIS and SILC data, in

which a household's income is divided by the square root of the number of household members (*Household Income*/ $\sqrt{\# \text{ Household Members}}$ ).

These variables are calculated using a combination of data from LIS, SILC, and the OECD. Both the LIS and SILC databases include detailed, individual- and household-level data on income, labor market and demographic characteristics. We used these microdata to create country-year-level variables, and harmonized the two series.

We combined the LIS/SILC series with OECD data on disposable and market income inequality. This is helpful because the series without the OECD data is heavily skewed towards years post-2003. The combined series still has most observations for the post-2000 period. The correlation for market income inequality between LIS/SILC and the OECD is .94; for disposable income inequality it is .96. Our procedure for combining the series was to use LIS when it was available (299 observations), then to add SILC data for the missing LIS data points (123 observations), and finally to add OECD data when LIS and SILC were not available (82 observations). We only use OECD data when the others are unavailable because we do not have microdata from this source. The combined series has 504 observations for market income inequality and inequality reduction. We then examined the combined data and, where we saw unexpected fluctuations, we made small adjustments to the SILC and OECD data to further harmonize the SILC and OECD data with the LIS data. The correlations between the original series and the combined series are between .92 and .99 for the pre-tax and transfer Gini and between .96 and 1.0 for the disposable income Gini.

The social rights variable in this analysis is nonaged welfare state generosity. Nonaged welfare state generosity is operationalized using an index of sickness and unemployment benefits taken from Scruggs's (forthcoming) Comparative Welfare Entitlements Project (CWEP). The indices combine measures of replacement rates, coverage, waiting days, qualifying conditions, and duration.

### Independent Variables

We have created a measure that operationalizes the MR argument, and replicated the measure used by Lupu and Pontusson. For the ML measure, we calculated the mean and the median of pre-tax and transfer household income and then divided the mean by the median. We calculated the skew measure by dividing the 90:50 wage ratio by the 50:10 wage ratio.

Most of the other independent variables in our analysis come from the Comparative Welfare States Dataset (CWSD), and from a variety of original sources (see Table 2). Left government is defined as the proportion of seats held by Left parties relative to the number of seats held by all governing parties. We use a cumulative measure from 1946 to the year of observation, as the effects of party control of government on institutions build up over the long term (Huber and Stephens, 2001). The political institutional variables besides Left government are veto points, proportional representation, and voter turnout. Veto points are measured using an

additive index (coded 0-4) of presidentialism, strong bicameralism, federalism, and regular use of referenda. Proportional representation is coded 0 for single member district, plurality elections, 1 for mixed, and 2 for proportional representation. Voter turnout is measured as the total number of votes cast (valid or invalid) in the most recent election as a percentage of registered voters.

Our globalization variable, trade openness comes from the Penn World Tables (Feenstra et al., 2015), and refers to the sum of exports and imports, as a percentage of GDP. Immigration, a related measure which we use as a proxy for diversity is operationalized as international migrant stock, as a percentage of the population, and comes from World Bank data. The data is for every fifth year from 1960 to 2015. Values for other years were interpolated.

Variables measuring changing social risks are the unemployment rate, percentage of children in single-mother households, and employment. Unemployment rates come from the OECD and are measured as the number of unemployed people as a percentage of the civilian labor force. The percentage of children in single-mother households is calculated from a combination of LIS and SILC data, and measures the number of children living in single-mother households, as a percentage of total children. Values for the years with only OECD inequality data were estimated by interpolation. Civilian employment is measured as the percentage of the total working-age population (15-64) in employment (including the self-employed).

We have collected data for 21 countries for the period 1969 to 2019. The countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, the United Kingdom, and the United States. Data for some of our variables are not available for the entire time, so that the number of observations in different models varies. There are very few observations before 1980 and most of the observations pertain to the post-2000 period. We deal with gaps in the data by using a statistical package specifically developed to handle this problem, as we explain below.

### **Statistical Estimation**

Pooled time series data present special challenges for the statistical analyst. The non-independence of observations in pooled time series produces errors that are (1) serially correlated, (2) cross-sectionally heteroskedastic, (3) often correlated across units due to common shocks, and (4) often autocorrelated and heteroskedastic simultaneously. We handle serial correlation by correcting for first order auto-regressiveness rather than with a lagged dependent variable. Beck and Katz (2004, 2011) have shown that correcting for first order auto-regressiveness (ar1 corrections) actually does include a lagged dependent variable on the right-hand side of the equation. This statistical setup, PCSE and ar1 corrections, is known as Prais Winsten estimations. It deals with the problem of serial correlation without, as our results show, suppressing the power of other independent variables (see Huber and Stephens, 2000, 2001).

As we just mentioned, Prais Winsten estimations include the value of the dependent variable at t-1 on the right-hand side of the equation. Since our dependent variable series contains gaps, we use Vernby and Lindgren's (2009) *dvgreg* package, which, following an earlier lead by Iversen and Soskice (2006), develops a method to deal with gaps in the dependent variable. *Dvgreg* is designed to estimate dynamic panel data models with gaps in the dependent variable but complete or nearly complete data on the independent variables. It generates an estimate of the value of the dependent variable at t-1 for each gap, based on the values of the dependent variable at the previous actual observation and the values of the independent variables. This makes it possible to derive a corrected estimate of  $\text{ar1}$ . Instead of using panel corrected standard errors, Vernby and Lindgren deal with heteroskedasticity by using weighted least squares. Vernby and Lindgren (2009: p.9) state that "Monte Carlo studies conducted by the authors suggest that the estimates of the coefficients and standard errors are accurate as long as  $\rho$  and  $R^2$  are reasonably high, and the gaps are not too long." They illustrate their statistical package with LIS data on redistribution calculated by Bradley et al. (2003). These data have only 61 country year observations compared to the 504 country year observations in our combined LIS, SILC, and OECD series.

In the Appendix we do provide robustness tests with random effects and, to model non-linear relationships and control for autocorrelation, with polynomial regressions.<sup>5</sup> Fixed effects or country dummies are not appropriate for these data because (1) the theories tested are intended to explain variation between countries as well as within countries and (2) the variation in redistribution is primarily between countries and not through time. The  $R^2$  for a regression of redistribution on a full set of country dummies is .78 (adjusted  $R^2 = .77$ ) while the  $R^2$  for a regression of redistribution on a full set of year dummies is only .08 (adjusted  $R^2 = -.02$ ).

We hypothesize that most of our causes operate over the long term and changes in the dependent variables occur gradually, a case of cumulative causes in Pierson's (2003, p.198) typology of causes and effects. Thus, it is appropriate to measure the dependent and independent variables as levels. Moreover, in almost all pooled time series studies of the determinants of inequality, regardless of whether it is measured by wage dispersion, the Gini coefficient of household income, poverty levels, or top income shares, the dependent variable is measured as a level.<sup>6</sup>

## **Results**

Table 3 displays the results of our tests of the various theories of redistribution one by one, without any controls, starting with power resources in model 1. As predicted, both the strength of left representation in government and union density are highly significant, and those two variables together explain 42% of the variation. The test of Meltzer Richard in model 2, in

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<sup>5</sup> See Tables A1- A5 in the appendix.

<sup>6</sup> For this reason, error correction estimation in which the dependent variable is measured as a first difference is not an appropriate technique to model the hypothesized causal processes.

contrast, shows the opposite from the predicted effect. The ratio of the mean to the median income is highly significant but negative. So, the more unequal the income distribution, the less redistribution happens. Iversen and Soskice's argument about the impact of a proportional representation electoral system on redistribution both directly and indirectly via the strength of the left in government receives support from model 3. The highly significant left effect is as expected, and an equally significant effect of a PR system remains. The variation explained here is 33%, lower than for the power resources variables in model 1. Model 4 shows no support for Lupu and Pontusson's contention that a greater skew of the income distribution generates more redistribution. We entered the skew and the extent of inequality together, as they do in their analyses, to separate out the effect of the shape of inequality from its overall magnitude. The coefficient for the skew is not significant and the coefficient for the 90:10 ratio is highly significant and negative, as in our test of MR.

Table 4 shows the models for redistribution in the same order, with the control variables for social risks (unemployment, employment, children in single mother households), globalization (trade openness), diversity (immigration), and political institutions (voter turnout and veto points). The power resources variables in model 1 remain positive and significant, and the MR variable of mean to median ratio in model 2 remains significant in the wrong direction. Model 3 shows that left government remains positive and significant, but the coefficient for the PR electoral system fails to reach statistical significance. Entering the control variables does not change the results of model 4; the skew of the income distribution remains insignificant and the magnitude of the 90:10 ratio remains significant and negative. Among the control variables, voter turnout is highly significant and positive in every model, as are the social risk variables. The same is true for trade openness, and immigration is also consistently significant but negative. The only control variable that fails to reach significance in three of the models is the presence of veto points. This is not surprising because the data span both the periods of welfare state expansion and welfare state contraction, and pro status quo effects of veto points worked in opposite directions in the two periods. Interestingly, employment is significant but signed in the opposite direction in all four models. That is, higher levels of employment increase rather than reduce the overall level of redistribution.

Figure 1 shows the effects of a two standard deviation change in the independent variables on redistribution, calculated on the basis of models in Table 4. Voter turnout has the strongest substantive and positive effect on redistribution. Union density and wage dispersion have the next strongest substantive effects, union density positive and wage dispersion negative. Left government and mean to median ratio have the third strongest effects and similarly counterbalance each other. So, power resources can neutralize the strongly negative effects of inequality on redistribution. Indeed, if we include voter turnout in the theoretical framework of power resources, power resources as a whole can overcome the detrimental effects of inequality on redistribution.

In Table 5 we explore the intermediate step between the theoretical master variables and redistribution, the relationship between these variables and welfare state generosity. We present the same type and order of models as in Table 3, with only the main independent variables of interest. The results are essentially the same as in Table 3, with one exception; the skew becomes statistically significant in the predicted direction. Both the power resources variables, left incumbency and union density (model 1), and the PR electoral system (model 3) are significantly and positively associated with generosity of unemployment and sickness benefits. The mean to median ratio (model 2) remains highly significant and negative, again underlining that greater inequality results in less generous policy. An income distribution where the distance between the top and the middle is large compared to the distance between the middle and bottom (model 4) is associated with more generous social benefits.

Table 6 shows the same models with the control variables. The control variables are the same as in Table 4 except for our measures of social risks. The reason to include them in the analyses of redistribution but excluding them here is a theoretical one: With welfare state generosity held constant, greater risk or need will result in more redistribution. When it comes to explaining welfare state generosity, there is no clear theoretical reason to expect an impact of risk. Functionalist theories would argue that greater risks will generate a response to counter these risks in the form of new or more generous social policies; theories of the fiscal crisis of the state would argue that great problem pressure or high levels of risk will result in cuts to generous social policies.

The results in Table 6 mirror those in Table 5, with the exception of union density. Model 1 shows that union density loses statistical significance once the control variables are entered. We assume that voter turnout absorbs some of the effect of union density; the two variables are correlated .49. Left incumbency remains significant and positive in models 1 and 3, PR remains significant and positive in model 3 and skew in model 4, and the mean to median ratio remains significant and negative in model 2.

We show robustness tests for the combined models for redistribution and policy generosity in the appendix. The most consistent result is for the mean to median ratio: in every single model the coefficient is highly significant and negative. The other consistent result is that one or the other of our power resources variables is significant and positive in every single model. The PR variable is always correctly signed and mostly significant. Skew is mostly correctly signed and significant in the models with welfare state generosity as the dependent variable but not with redistribution directly.

## **Conclusions**

Our main findings are that the size and the shape of income inequality are either irrelevant for redistribution or work in the direction opposite of what the extant theories

postulate. The master variable of Meltzer and Richard, the ratio of mean to median earnings, is consistently significant and negative, indicating that higher levels of inequality generate less redistribution. Needs, wants, attitudes of the median voter are by no means automatically reflected in policy. Rather, higher levels of income inequality translate into higher levels of political inequality through various channels. Money speaks in politics through campaign contributions and hired lobbyists, so greater inequality results in a greater imbalance of political access and influence. In more unequal societies, those at the bottom are less likely to demonstrate interest in politics, engage in political discussions, and participate in elections to begin with (Solt 2008, 2010). Moreover, greater inequality is associated with higher levels of national pride among citizens regardless of income (Solt 2011) and thus by implication renders citizens more susceptible to appeals from nationalist populist parties. Bartels (2018), Gilens (2012) and Witko et al. (2021) have demonstrated for the United States, the country with the most unequal income distribution among post-industrial societies, that policies systematically respond to interests of the wealthy and business.

The main antidote to economic and political inequality is organization of the have-nots in unions and political parties. Unions can serve as lobby groups and they are able to mobilize members into political participation, thus reducing differential turnout across income groups. Unions have traditionally been the main support base of left parties, and they remain important forces pushing for redistributive policy even as many of their blue collar members have moved to support populist or nationalist parties. Christian unions were also an important force pushing Christian democratic parties towards more pro-welfare state policies. As this base has weakened, these parties have become more supportive of neo-liberal policies. We find a consistent and substantively important effect of union density on redistribution. We also found a very important effect of union density on market income inequality (Huber and Stephens, 2014), which means that resources for the political fight for redistribution are less unequally distributed to begin with.

Redistribution through the tax and transfer system, which is what we measure here, happens through legislation. Therefore, it matters who controls the government. Effective tax and transfer systems take time to build; therefore it matters who controls the government over time. Long-term incumbency of governments committed to redistribution will result in more effective and generous tax and transfer systems. There is a vast literature demonstrating this relationship (Amenta 2003; Campillo and Sola 2020), and our results here show this relationship again. To the extent that PR electoral systems result in more frequent incumbency of left parties, they result in more redistributive policy. So the Iversen and Soskice argument is a complement to power resources theory, not a rival.

All of the theories assume that the master variables work through policy to bring about redistribution. And indeed, we do find a substantively very strong effect of our policy variable, even though it only measures a part of the welfare state, essentially benefits for people in the labor force who have to drop out temporarily because of sickness or unemployment (author cite). This of course has been a very important part of the welfare state over the past 40 years with



high levels of unemployment over long periods in many countries. Here is one clue as to the trend towards greater inequality in disposable household income over time: In response to rising levels of unemployment, many countries reduced the generosity of their unemployment benefits and thus their capacity to redistribute income. Prominent examples are the Hartz reforms of 2004 in Germany and the cuts in unemployment replacement rates in the wake of the unemployment crisis in Sweden in the early 1990s, followed by further cuts in replacement rates, increased qualifying conditions, and reductions in duration during the bourgeois governments in that country between 2006 and 2014.

Given the central role of policies in redistribution, we examined how well the different theories predict the generosity of non-aged social policies. As expected, we found the same pattern as for redistribution. Left incumbency, which figures prominently in power resources theory and the Iversen and Soskice theory of the impact of PR electoral systems, is a strong predictor of generous social policy. PR remained a significant predictor, even controlling for left incumbency, which supports Iversen and Soskice's contention that PR systems incentivize more broad-based and universalistic policies than electoral systems that prioritize more narrow local support bases.

The distance between income earners at the 90<sup>th</sup> and the 50<sup>th</sup> percentile, relative to the distance between the 50<sup>th</sup> and the 10<sup>th</sup> percentile, turned out to be a good predictor of the generosity of policy, even though it did not have a significant effect on redistribution. As we noted, this measure is based on full-time wage and salary earners, not on households. This suggests that a wage distribution where the middle is closer to the bottom than the top is favorable for a political alliance to protect wage and salary earners from loss of income due to sickness and unemployment. However, it may not generate alliances for broader redistributive policies. This is easily understandable if we keep in mind that people are members of households, and their economic position is determined by the aggregate earnings in the household. Many low-income earners are second earners who have clear common interests with median earners or even those above the median in strong protection against loss of income due to sickness and unemployment, but if their household is, say, at the 70<sup>th</sup> percentile, they may not have an interest in higher taxes to finance better social assistance.

Our analysis covers some 50 years, with most of the observations for the period after 2000. The analyses of Iversen and Soskice and of Lupu and Pontusson cover the years 1967 to 1997 and 1969 to 2005, respectively. In these earlier years, union and left government effects were stronger. Since the 1980s, three important developments have taken place that have weakened the political power of unions and of left parties. Most importantly, the combination of globalization and technological change has destroyed jobs in previously well-organized sectors of the economy and thus has greatly reduced union density. Second, party system fragmentation and consequent coalition pressures have made it more difficult for left parties to dominate policy-making. Third, high capital mobility and in Europe the constraints of the common currency have reduced the capacity of national governments to control macro-economic

management. We could add a fourth development here that has made redistribution more difficult – immigration. In every single one of our models immigration was highly significant and negative, both for generosity of policies and for redistribution. To the extent that social assistance and unemployment benefits become associated with support for immigrants, welfare chauvinism may well undermine support for redistribution more broadly. Immigration has already had an indirect negative effect on redistribution by weakening the working class base of left parties as many of their supporters have turned to the nationalist populist right.

Given these developments, the trends documented in Table 1 do not come as a surprise. We see a rise in market income inequality in all but 4 countries (France, Netherlands, Switzerland and New Zealand) and in disposable income inequality also in all but 4 (France, Switzerland, Greece, and Ireland). The pattern in redistributive effort is quite different. The decline in redistributive effort is particularly noticeable in the most generous countries, the Nordic countries other than Norway, and in Belgium and the Netherlands. They retained their status as most generous, newly joined by Austria, France, and Ireland, with redistribution of over 30 percent, but the differences narrowed. The pattern is similar for the Anglo-American countries; redistributive effort declined in two of the most generous countries in the group, Australia and New Zealand, whereas it remained essentially stable in the least generous country, the United States. A strong increase is visible in the UK, as result of the policies of New Labour.

The countries that were most generous in the pre-2000 period were precisely the countries with the strongest union movements and repeated left participation in government. Accordingly, the effects of the trends outlined above, the decline of union density and the fragmentation of party systems, weakened the redistributive thrust. In addition, the Nordic countries, except Finland, along with Belgium and the Netherlands all reached immigrant levels of more than 10% by the post-crisis period; in Sweden the percentage of foreign born population reached 15%. These developments further weakened the redistributive coalition by diverting some working class support to the nationalist right.

Our most consistent result has been the highly significant negative effect of the size of inequality on both policy generosity and redistribution. This is true whether we measured it with the Meltzer and Richard ratio of mean to median household income or the Lupu and Pontusson 90:10 ratio of wage earners. High economic inequality obstructs the formation of coalitions in favor of generous social policy and it weakens the political power of those with most to gain from redistribution. Given the consistency of these results, both in this study and in previous studies, it is simply amazing that so many scholars studying redistribution still refer to Meltzer Richard as a seminal contribution and take it as a starting point for their analyses.



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| Table 1 Household income inequality and redistribution by welfare state regime and period |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
|---|---------------------------------|------------------|------------------|-----------------------|------------------|------------------|-------------------------------------|------------------|------------------|
|   | <u>Market income inequality</u> |                  |                  | <u>Redistribution</u> |                  |                  | <u>Disposable income inequality</u> |                  |                  |
|   | <u>Pre 2000</u>                 | <u>2000-2007</u> | <u>2008-2019</u> | <u>Pre 2000</u>       | <u>2000-2007</u> | <u>2008-2019</u> | <u>Pre 2000</u>                     | <u>2000-2007</u> | <u>2008-2019</u> |
| <u>Nordic Countries</u>   |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| Denmark   | 34.6                            | 36.3             | 38.2             | 36.0                  | 38.1             | 35.4             | 21.5                                | 22.5             | 24.7             |
| Finland   | 35.0                            | 38.7             | 38.2             | 36.8                  | 32.2             | 29.8             | 22.0                                | 26.2             | 26.8             |
| Norway  | 31.2                            | 39.0             | 38.7             | 26.4                  | 32.3             | 31.4             | 22.8                                | 26.3             | 26.5             |
| Sweden  | 36.1                            | 38.6             | 40.1             | 35.4                  | 38.3             | 33.2             | 23.4                                | 23.8             | 26.8             |
| Mean  | 34.2                            | 38.1             | 38.8             | 33.6                  | 35.2             | 32.4             | 22.4                                | 24.7             | 26.2             |
|   |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| <u>Western Continental Europe</u>   |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| Austria   | 39.7                            | 39.5             | 41.3             | 31.4                  | 32.5             | 31.3             | 27.3                                | 26.6             | 28.4             |
| Belgium   | 38.8                            | 41.3             | 39.6             | 38.5                  | 34.9             | 34.4             | 23.9                                | 26.9             | 26.0             |
| France  | 41.5                            | 40.1             | 41.2             | 26.8                  | 28.5             | 30.8             | 29.3                                | 28.5             | 28.5             |
| Germany   | 35.8                            | 41.1             | 41.1             | 29.5                  | 32.3             | 27.5             | 25.2                                | 27.9             | 29.8             |
| Netherlands   | 38.3                            | 38.6             | 38.3             | 33.3                  | 29.0             | 28.8             | 25.5                                | 27.4             | 27.3             |
| Switzerland   | 34.3                            | 30.7             | 32.7             | 10.7                  | 9.9              | 12.5             | 30.6                                | 27.7             | 28.6             |
| Mean  | 38.1                            | 38.6             | 39.0             | 28.4                  | 27.9             | 27.5             | 27.0                                | 27.5             | 28.1             |
|   |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| <u>Southern Europe</u>  |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| Greece  | 39.3                            | 39.3             | 43.2             | 12.8                  | 15.4             | 21.1             | 36.3                                | 33.2             | 34.1             |
| Italy   | 38.8                            | 40.0             | 42.0             | 16.6                  | 18.7             | 19.3             | 32.3                                | 32.7             | 33.8             |
| Portugal  | 39.4                            | 37.1             | 43.3             | 17.0                  | 14.8             | 21.1             | 32.7                                | 31.6             | 34.2             |
| Spain   | -                               | 44.8             | 44.5             | -                     | 18.3             | 24.2             | -                                   | 36.6             | 33.7             |
| Mean  | 39.2                            | 40.3             | 43.2             | 15.5                  | 16.8             | 21.4             | 33.8                                | 33.5             | 34.0             |
|   |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| <u>Anglo-American countries</u>   |                                 |                  |                  |                       |                  |                  |                                     |                  |                  |
| Australia   | 39.2                            | 41.0             | 40.7             | 25.7                  | 26.2             | 22.6             | 29.1                                | 30.3             | 31.5             |
| Canada  | 36.4                            | 40.5             | 40.0             | 19.9                  | 19.9             | 19.8             | 29.1                                | 32.5             | 32.1             |
| Ireland   | 45.3                            | 43.3             | 49.8             | 26.2                  | 28.4             | 38.7             | 33.4                                | 30.9             | 30.5             |
| New Zealand   | 40.6                            | 42.4             | 40.6             | 25.8                  | 22.2             | 19.9             | 30.2                                | 33.0             | 32.5             |
| UK  | 39.1                            | 43.6             | 43.3             | 22.3                  | 21.8             | 25.8             | 30.3                                | 34.1             | 32.1             |
| USA   | 41.6                            | 44.1             | 46.1             | 17.3                  | 16.0             | 18.0             | 34.4                                | 37.1             | 37.8             |
| Mean  | 40.4                            | 42.5             | 43.4             | 22.9                  | 22.4             | 24.1             | 31.1                                | 33.0             | 32.8             |

Table 2. Variable definitions and sources

|  | Definition   | Original data source   | Redistribution | Social Rights |
|--|--|------------------------|----------------|---------------|
| <b>Dependent variables</b>             |  |                        |                |               |
| Redistribution                         | $(\text{Market income Gini} - \text{disposable income Gini}) / \text{market income Gini} * 100$                                      | LIS, SILC, and OECD    |                |               |
| Nonaged welfare state generosity       | Index of generosity of sickness pay leave and unemployment benefits combining replacement rates, qualifying conditions, and duration | Scruggs (Forthcoming)* | +              |               |
| <b>Independent variables</b>           |  |                        |                |               |
| Left government                        | Seats of leftist parties as proportion of the seats of all governing parties, cumulative from 1945 to date of observation            | Brady et al. (2020)*   | +              | +             |
| Union density                          | Net union membership as a percentage of employed wage and salary earners.  | Visser (2019)*         | +              | +             |
| Mean to median ratio                   | Mean to median ratio of household income in the working population, own calculations with LIS and SILC data                          | LIS and SILC*          | -/+            | -/+           |
| Proportional representation            | 0=single member district, plurality, 1= mixed, 2=proportional representation   | Brady et al. (2020)*   | +              | +             |
| Skew                                   | Ratio of 90-50 wage ratio to 50-10 wage ratio  | OECD*                  | +              | +             |
| Wage dispersion                        | Ratio of gross earnings of a full time employee at the 90th percentile to that received by an employee at the 10th percentile        | OECD*                  | -/+            | -/+           |
| Voter turnout                          | <b>Votes cast in the most recent election as a % of registered voters</b>  | Brady et al. (2020)*   | +              | +             |
| Veto points                            | Additive index of presidentialism, strong bicameralism, federalism, and regular use of referenda                                     | Brady et al. (2020)*   | -/+            | -/+           |
| Trade openness                         | Sum of exports and imports as a percentage of GDP.   | Penn World Tables*     | -/+            | -/+           |
| Immigration                            | International migrant stock as a percentage of the population  | World Bank*            | -              | -             |
| Unemployment rate                      | The number of unemployed persons as a percentage of the civilian labour force.   | OECD*                  | +              |               |
| % children in single mother households | Children living in single-mother households, as a percentage of total children.  | LIS and SILC*          | +              |               |
| Employment                             | <b>Civilian employment as a percent of total working age population.</b>   | <b>OECD*</b>           | -              |               |

Table 3. Determinants of Redistribution

|                             | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
|-----------------------------|---------|-----|---------|-----|---------|-----|---------|-----|
| Left government             | .188    | *** |         |     | .250    | *** |         |     |
| Union Density               | .166    | *** |         |     |         |     |         |     |
| Mean to median ratio        |         |     | -46.039 | *** |         |     |         |     |
| Proportional Representation |         |     |         |     | 2.065   | *** |         |     |
| Skew                        |         |     |         |     |         |     | 2.355   |     |
| Wage Dispersion             |         |     |         |     |         |     | -5.336  | *** |
| Constant                    | 17.095  | *** | 79.408  | *** | 18.693  | *** | 40.874  | *** |
| Common $\rho$               | .90     |     | .90     |     | .90     |     | .90     |     |
| Adjusted R <sup>2</sup>     | .42     | *** | .18     | *** | .33     | *** | .29     | *** |
| Observations                | 467     |     | 458     |     | 480     |     | 370     |     |

\* significant at .05; \*\*significant at .01; \*\*\*significant at .001; ^ significant opposite hypothesized direction.

Table 4. Determinants of Redistribution with controls

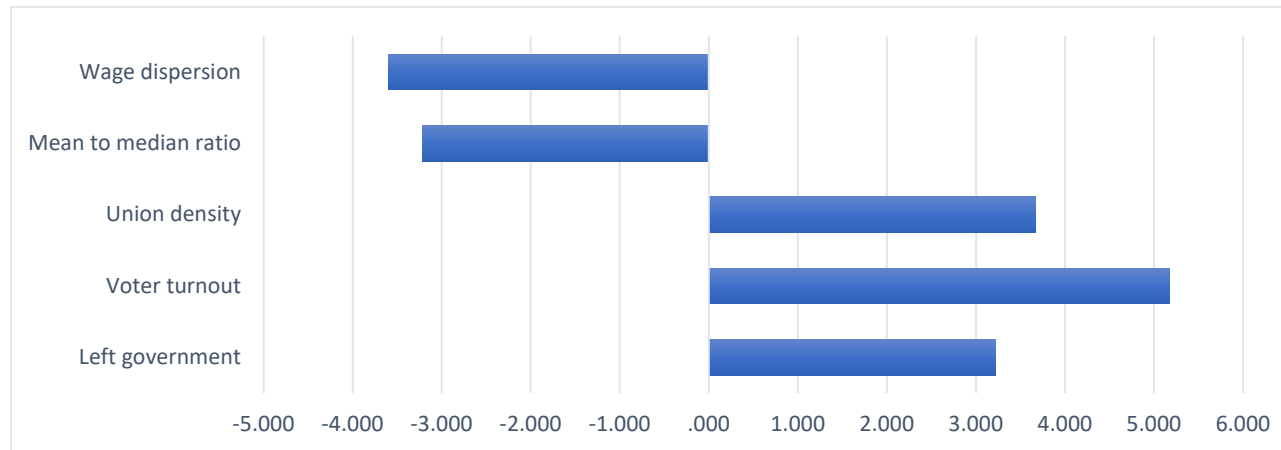
|  | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
|--|---------|-----|---------|-----|---------|-----|---------|-----|
| Left government                        | .122    | *** |         |     | .127    | *** |         |     |
| Union Density                          | .093    | *** |         |     |         |     |         |     |
| Mean to median ratio                   |         |     | -22.640 | *** |         |     |         |     |
| Proportional Representation            |         |     |         |     | .684    |     |         |     |
| Skew                                   |         |     |         |     |         |     | -3.178  |     |
| Wage Dispersion                        |         |     |         |     |         |     | -2.419  | *** |
| Voter turnout                          | .211    | *** | .250    | *** | .250    | *** | .237    | *** |
| Veto points                            | .303    |     | -.178   |     | .155    |     | .122    |     |
| Trade openness                         | .077    | *** | .080    | *** | .076    | *** | .088    | *** |
| Immigration                            | -.407   | *** | -.549   | *** | -.541   | *** | -.550   | *** |
| Unemployment rate                      | .389    | *** | .627    | *** | .369    | *** | .676    | *** |
| % children in single mother households | .455    | *** | .515    | *** | .485    | *** | .451    | *** |
| Employment                             | .141    | ^   | .372    | ^   | .231    | ^   | .412    | ^   |
| Constant                               | -15.000 | **  | -2.878  |     | -20.192 | **  | -19.564 | **  |
| Common $\rho$                          | .90     |     | .90     |     | .90     |     | .90     |     |
| Adjusted R <sup>2</sup>                | .67     | *** | .64     | *** | .64     | *** | .67     | *** |
| Observations                           | 364     |     | 365     |     | 366     |     | 289     |     |

\* significant at .05; \*\*significant at .01; \*\*\*significant at .001; ^ significant opposite hypothesized direction.

| Table 5. Determinants of Social Policy (nonaged generosity)  |         |     |         |     |         |     |         |     |
|--|---------|-----|---------|-----|---------|-----|---------|-----|
|  | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
| Left government  | .257    | *** |         |     | .179    | *** |         |     |
| Union Density  | .032    | **  |         |     |         |     |         |     |
| Mean to median ratio   |         |     | -46.419 | *** |         |     |         |     |
| Proportional Representation  |         |     |         |     | 3.848   | *** |         |     |
| Skew   |         |     |         |     |         |     | 7.141   | *** |
| Wage Dispersion  |         |     |         |     |         |     | -5.146  | *** |
| Constant   | 14.348  | *** | 73.105  | *** | 10.929  | *** | 26.877  | *** |
| Common $\rho$  | .90     |     | .90     |     | .90     |     | .90     |     |
| Adjusted R <sup>2</sup>  | .30     | *** | .24     | *** | .45     | *** | .32     | *** |
| Observations   | 946     |     | 666     |     | 966     |     | 638     |     |
| * significant at .05; **significant at .01; ***significant at .001; ^ significant opposite hypothesized direction. |         |     |         |     |         |     |         |     |

| Table 6. Determinants of Social Policy (nonaged generosity) with controls  |         |     |         |     |         |     |         |     |
|--|---------|-----|---------|-----|---------|-----|---------|-----|
|  | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
| Left government  | .309    | *** |         |     | .256    | *** |         |     |
| Union Density  | -.006   |     |         |     |         |     |         |     |
| Mean to median ratio   |         |     | -39.860 | *** |         |     |         |     |
| Proportional Representation  |         |     |         |     | 2.098   | *** |         |     |
| Skew   |         |     |         |     |         |     | 5.858   | *** |
| Wage Dispersion  |         |     |         |     |         |     | -4.519  | *** |
| Voter turnout  | .033    | *   | -.015   |     | .006    |     | .001    |     |
| Veto points  | 1.441   | *** | .168    |     | 1.265   | *** | .703    | *** |
| Trade openness   | .084    | *** | .073    | *** | .063    | *** | .089    | *** |
| Immigration  | -.403   | *** | -.144   | *** | -.305   | *** | -.173   | *** |
| Constant   | 8.833   | *** | 62.924  | *** | 8.944   | *** | 21.314  | *** |
| Common $\rho$  | .90     |     | .90     |     | .90     |     | .90     |     |
| Adjusted R <sup>2</sup>  | .56     | *** | .40     | *** | .59     | *** | .52     | *** |
| Observations   | 946     |     | 666     |     | 966     |     | 638     |     |
| * significant at .05; **significant at .01; ***significant at .001; ^ significant opposite hypothesized direction. |         |     |         |     |         |     |         |     |

**Figure 1.** Effects of a two standard deviation change in the independent variables on redistribution



**Table A1. Determinants of Redistribution with controls: Random Effects Estimations**

|  | Model 1    | Model 2    | Model 3    | Model 4    |
|--|------------|------------|------------|------------|
| Left government                        | .016       |            | .049       |            |
| Union Density                          | .155 ***   |            |            |            |
| Mean to median ratio                   |            | -2.166     |            |            |
| Proportional Representation            |            |            | 1.418      |            |
| Skew                                   |            |            |            | .632       |
| Wage Dispersion                        |            |            |            | -2.706 *** |
| Voter turnout                          | .047       | .125 ***   | .117 **    | .156 ***   |
| Veto points                            | -1.909 *** | -1.948 *** | -1.718 *** | -1.586 *** |
| Trade openness                         | .015       | .020       | .013       | .009       |
| Immigration                            | .291 ^     | .106       | .093       | .131       |
| Unemployment rate                      | .556 ***   | .643 ***   | .570 ***   | .615 ***   |
| % children in single mother households | .087       | .063       | .072       | .101       |
| Employment                             | .014       | .126       | .045       | .035       |
| Constant                               | 9.051      | 5.162      | 6.471      | 14.013     |
| R <sup>2</sup> within                  | .32        | .30        | .30        | .34        |
| R <sup>2</sup> between                 | .38        | .23        | .26        | .25        |
| R <sup>2</sup> overall                 | .37 ***    | .25 ***    | .31 ***    | .35 ***    |
| Observations                           | 382        | 383        | 384        | 316        |

\* Significant at .05; \*\*significant at .01; \*\*\*significant at .001; ^ significant opposite hypothesized direction.



**Table A2. Determinants of Redistribution with controls: Polynomial Estimation**

|  | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
|--|---------|-----|---------|-----|---------|-----|---------|-----|
| Left government                        | .155    | *** |         |     | .177    | *** |         |     |
| Union Density                          | .087    | *** |         |     |         |     |         |     |
| Mean to median ratio                   |         |     | -22.626 | *** |         |     |         |     |
| Proportional Representation            |         |     |         |     | .077    |     |         |     |
| Skew                                   |         |     |         |     |         |     | -2.819  |     |
| Wage Dispersion                        |         |     |         |     |         |     | -2.040  | *** |
| Voter turnout                          | .194    | *** | .263    |     | .243    | *** | .307    | *** |
| Veto points                            | .431    | **  | .103    |     | .465    | **  | .422    | **  |
| Trade openness                         | .078    | *** | .083    | *** | .084    | *** | .091    | *** |
| Immigration                            | -.368   | *** | -.572   | *** | -.523   | *** | -.614   | *** |
| Unemployment rate                      | .355    | *** | .650    | *** | .412    | *** | .735    | *** |
| % children in single mother households | .495    | *** | .496    | *** | .499    | *** | .500    | *** |
| Employment                             | .083    |     | .378    | ^   | .210    | ^   | .497    | ^   |
| t <sup>1</sup>                         | .295    | *   | .399    | **  | .296    | *   | .568    | *** |
| t <sup>2</sup>                         | -.020   | **  | -.025   | *** | -.022   | **  | -.042   | *** |
| t <sup>3</sup>                         | .000    | **  | .000    | *** | .000    | **  | .001    | *** |
| Constant                               | -11.401 | *   | -5.679  |     | -19.927 | *** | -34.392 | *** |
| Adjusted R <sup>2</sup>                | .67     | *** | .64     | *** | .65     | *** | .67     | *** |
| Observations                           | 369     |     | 371     |     | 371     |     | 303     |     |

\* Significant at .05; \*\*significant at .01; \*\*\*significant at .001; ^ significant opposite hypothesized direction.

**Table A3. Determinants of Social Policy (nonaged generosity) with controls: Random Effects Estimations**

|                             | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
|-----------------------------|---------|-----|---------|-----|---------|-----|---------|-----|
| Left government             | .011    |     |         |     | .000    |     |         |     |
| Union Density               | .038    | *** |         |     |         |     |         |     |
| Mean to median ratio        |         |     | -8.98   | *** |         |     |         |     |
| Proportional Representation |         |     |         |     | -.418   |     |         |     |
| Skew                        |         |     |         |     |         |     | -.179   |     |
| Wage Dispersion             |         |     |         |     |         |     | -1.079  | *** |
| Voter turnout               | -.076   | ^   | .002    |     | -.061   | ^   | -.013   |     |
| Veto points                 | -.691   | **  | -.451   |     | -.605   | *   | -.399   |     |
| Trade openness              | .015    | **  | -.005   |     | .012    | *   | -.017   | **  |
| Immigration                 | -.006   |     | .043    |     | -.021   |     | -.010   |     |
| Constant                    | 23.718  | *** | 30.987  | *** | 25.01   | *** | 26.114  | *** |
| R <sup>2</sup> within       | .06     |     | .05     |     | .06     |     | .07     |     |
| R <sup>2</sup> between      | .08     |     | .05     |     | .01     |     | .00     |     |
| R <sup>2</sup> overall      | .08     | *** | .09     | *** | .001    | *** | .02     | *** |
| Observations                | 966     |     | 669     |     | 987     |     | 640     |     |

\* Significant at .05; \*\*significant at .01; \*\*\*significant at .001; ^ significant opposite hypothesized direction.

**Table A4. Determinants of Social Policy (nonaged generosity) with controls: Polynomial Estimation**

|                             | Model 1 |     | Model 2 |     | Model 3 |     | Model 4 |     |
|-----------------------------|---------|-----|---------|-----|---------|-----|---------|-----|
| Left government             | .428    | *** |         |     | .322    | *** |         |     |
| Union Density               | -.058   | ^   |         |     |         |     |         |     |
| Mean to median ratio        |         |     | -40.390 | *** |         |     |         |     |
| Proportional Representation |         |     |         |     | 1.847   | *** |         |     |
| Skew                        |         |     |         |     |         |     | 6.127   | *** |
| Wage Dispersion             |         |     |         |     |         |     | -4.422  | *** |
| Voter turnout               | -.020   |     | -.012   |     | -.051   | ^   | -.004   |     |
| Veto points                 | 1.237   | *** | .193    |     | 1.105   | *** | .645    | *** |
| Trade openness              | .099    | *** | .072    | *** | .074    | *** | .088    | *** |
| Immigration                 | -.325   | *** | -.165   | *** | -.210   | *** | -.151   | *** |
| t <sup>1</sup>              | .041    |     | -.013   |     | .123    |     | .134    |     |
| t <sup>2</sup>              | -.010   | **  | .003    |     | -.012   | *** | -.007   |     |
| t <sup>3</sup>              | .0001   | *   | -.0001  |     | .0001   | **  | .0001   |     |
| Constant                    | 14.683  | *** | 63.191  | *** | 13.184  | *** | 20.727  | *** |
| Adjusted R <sup>2</sup>     | .63     | *** | .40     | *** | .63     | *** | .53     | *** |
| Observations                | 956     |     | 660     |     | 977     |     | 630     |     |

\* Significant at .05; \*\*significant at .01; \*\*\*significant at .001; ^ significant opposite hypothesized direction.