Voter preferences and redistributive outcomes:
Exploring determinants of unequal representation

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A growing body of literature demonstrates how government policy tends to be more responsive to the preferences of affluent citizens than to the preferences of poor citizens and that this holds not only for the US (Bartels, 2008; Gilens, 2012; Gilens and Page, 2014; Hayes, 2013; Rigby and Wright, 2013; Stegmueller and Becher, 2019) but also for many other liberal democracies, including countries with a more equal distribution of disposable income than the US (Peters and Ensink, 2015; Bartels, 2017; Donnelly and Lefkofridi, 2014; Persson and Gilljam, 2018; Elsässer et al., 2018). More surprisingly perhaps, some of this literature indicates that government policy is also more responsive to the preferences of affluent citizens relative to the preferences of citizens in the middle of the income distribution.

Given the accumulating evidence of seemingly pervasive nature of this "unequal responsiveness", this paper seeks to shed light on its precise determinants by analyzing the relationship between support for redistribution by income and changes in redistributive policy outcomes across countries and over time. We focus on redistribution because this is an issue on which it is reasonable to expect income-based polarization of policy preferences and existing empirical literature confirms this expectation (Soroka and Wlezien, 2008). As commonly noted, unequal representation by income obviously presupposes that preferences differ significantly across income groups (Soroka and Wlezien, 2008; Gilens, 2012; Gilens and Page, 2014; Branham et al., 2017). Even if policy-makers were to disproportionately respond to the preferences of the affluent, as long as these preferences are an almost perfect proxy of the preferences of the entire electorate, low-income individuals might be very well represented by "coincidence" (Enns, 2015).

To assess unequal responsiveness in a broad fashion, we have harmonized and integrated survey data spanning more than 50 countries and four decades to measure preferences for redistribution by income groups via group-level latent variable models. We distinguish three equal-sized income groups: the low-, middle- and high-income terciles or, for short, L, M and H. We combine our estimates of support for redistribution in each of these groups with high-quality, time-varying, standardized measures of the redistributive effects of taxation and transfers taken from Solt (2019) and explore how country-level variables, such as turnout and government partisanship, moderate the association between the preferences of income groups and changes in redistribution. While the question of how responsiveness to H compares to responsiveness to M is of particular interest from the point of view of democratic theory, we wish to insist at the outset that unequal responsiveness is a meaningful concept so long as responsiveness to H exceeds responsiveness to L.

1. Theoretical Background and Hypotheses

As mentioned above, the key objective of the analysis that follows is to try to identify time-varying, country-level variables that affect the degree of income bias in political representation or, in other words, unequal responsiveness as identified by previous studies. Specifically, we set out to test four hypotheses derived from existing literature. While these do not stem from a single overarching theoretical framework, they to all tap into the same underlying puzzle: Why would reelection-minded policy-makers across many different political systems systematically disregard the preference of lower-income citizens? Identifying circumstances under which they do should help us to improve our theoretical understanding of unequal representation and representative democracy more generally.

To begin, several studies (notably Peters and Ensink, 2015; Franko et al., 2016) identify electoral participation as a key determinant of representation in general and unequal representation in particular. Two distinct aspects of this argument apply here. The first and rather mechanistic one stresses how surveys used to elicit public opinion as done below typically consist of voting and non-voting respondents alike. Under the assumption that re-election-seeking politicians primarily care about the policy preferences of voters as opposed to those of non-voters, the extent to which elicited policy preferences predict policy responses should increase in high-turnout scenarios where almost all citizens vote. The expectation for this scenario arises as a) survey opinion should become a more reliable indicator of public opinion among voters and b) any potential systematic differences between the preferences of voters and non-voters that would bias survey-based estimates shrink to zero as the survey becomes increasingly dominated by the voting subset of a given population.[1]

On a more substantive level, we can expect higher electoral turnout to mitigate inequalities in representation across different income groups. It is long known that turnout differs across income groups in many different settings and that those with relatively lower incomes tend to turn out to vote in lower numbers compared to their high-income counterparts (Tingsten, 1937; Franko et al., 2016; Peters and Ensink, 2015). As a result, the voting subset of the electorate might be biased in their average preferences towards high-income interests and a rational re-election seeking politician would maximize votes by adhering to the (biased) voting subset of the electorate (Griffin and Newman, 2005; Peters and Ensink, 2015). Therefore, the preferences of low-income citizens (with their lower turnout propensities) would not factor into policymaking as much as their relative proportion in the electorate

[1] Based on this argument, one might be tempted to use in-sample reported turnout to measure public opinion among reported voters only. While voters are generally overrepresented in surveys, reported turnout is known to be prone to turnout overreporting. Furthermore, this turnout overreporting is known to vary substantially across countries (Selb and Munzert, 2013) and across different formulations of survey items used to elicit it (Morin-Chassé et al., 2017). Finally, many surveys do not included dedicated turnout questions.

would suggest. In addition to this direct representational mechanism, the (supposedly higher income) voters will be overrepresented by virtue of electing like-minded politicians that advocate policies close to their preferences to begin with (Griffin and Newman, 2005). Thus, even with policy- instead of purely office-motivated citizens, inequalities in turnout can be expected to lead to unequal representation if preferences are sufficiently polarized. If however, turnout were to rise substantially under the above scenario, inequalities in under-representation of the less affluent is bound to decrease (Persson et al., 2013). Consider an extreme situation in which turnout stands at 66% and is perfectly imbalanced across income groups such that the upper two thirds of the income distribution vote at a rate of 100%, whereas none of the citizens in the bottom third of the income distribution vote (0% turnout). Accordingly, low-income preferences can be expected to be largely ignored in policy-making. Yet, any increase in turnout in this scenario necessarily has to stem from the low-income group. Be it via the selection of like-minded politicians or via reelection motives of office-motivated citizens, policy will become more responsive to the preferences of lower incomes (Franko et al., 2016; Peters and Ensink, 2015). We thus hypothesize:[2]

H1: As turnout rises, responsiveness of redistributive outcomes becomes more equal across income groups.

Another factor that could foster a more balanced representation is the presence of labor unions. To the extent that the preferences of the more affluent coincide with those of business more generally, the lobbying efforts of business organizations as a non-electoral input to the policy-making process can lead to an advantage for the preferences of the more affluent even without this group being necessarily more active through the electoral channel. Gilens and Page (2014) show for the US that unlike the preferences of the average citizen, preferences at the 90% quantile of the income distribution and the preferences of economic interests groups both predict policy change.[3] In addition and consistent with a resource-based model of politics (Brady et al., 1995), higher income individuals typically have higher monetary and non-monetary (cognitive, social, time etc.) resources at their disposal to influence the outcome of the policy process via non-electoral participation. Therefore, their preferences might be much more readily accessible for legislators than those of low-income individuals. Recent research (Broockman and Skovron, 2018) has demonstrated that legislators in the

[2] Note that this argument could be criticized for implicitly assuming that inequalities in turnout are relatively fixed or exogenous, rather than themselves being a function of underrepresentation. Abstention due to alienation has been long been salient in formal models of politics (Downs, 1957; Adams et al., 2006) and has also been named one of the driving factors of class differences in turnout (Heath, 2018).

[3] Note however that Gilens and Page (2014, p. 570) also show that preferences of more affluent citizens are not correlated with the alignment of interests groups on a given issue.

US estimate their constituents' average opinion with a systematic bias towards the conservative side, which results in part from the much higher propensity of more conservative citizens to contact their representative.

In such a scenario, labor unions might serve as a remedy against this more or less stable disadvantage of lower income citizens in the policy arena. In the US, unions have not only been found to typically share the same preferences as low- and middle-income citizens (Gilens, 2012), but have also been suggested to provide for higher donations to candidates, potentially matching those of business interest groups (Becher et al., 2018). Furthermore, unions have been shown to increase the political knowledge of their members (Macdonald, 2019; Iversen and Soskice, 2015), thereby potentially offsetting any disparities in non-monetary resources (see above). Even apart from "enabling" low- and middle-income citizens, the presence of strong labor unions could also produce a somewhat more balanced representation of political interests by simply voicing the interests of middle and low incomes more loudly on the national level and by making it more accessible to policy-makers and their staff (Hertel-Fernandez et al., 2019). Correspondingly, Flavin (2018) and Stegmueller and Becher (2019) demonstrate how representation in the US tends to be more equal across income groups in the presence of strong labor unions. While unions might differ in their primary focus (i.e. primarily focused on work-place versus national-level political issues) and in their structure and strategies across political systems, these various mechanisms still lead us to expect a more balanced representation of the interests of the less affluent compared to those with high incomes across different countries in the presence of stronger unions:

H2: As union membership rises, redistributive outcomes become more responsive to the preferences of the less affluent and less responsive to the interests of the more affluent.

A third expectation relates to the ideological composition of the government. In particular, we expect policy outcomes under left-wing governments to be more responsive to the preferences of low-income groups. While this might seem like a straightforward assumption at first sight, it requires some elaboration. Naturally, the ideological composition – which we operationalize as the ideology of the head of government below – should have an effect on policy outcomes in that left-wing governments implement left-wing policies. While this would imply higher *congruence* with the (supposedly more left-wing) preferences of low-income groups, this does not automatically imply a higher *responsiveness* to low-income preferences. Why would we expect the latter? We contend that governments have considerable control over the policy agenda in the national arena and increase the salience of issues they "own", i.e. on which they are traditionally seen as competent. Thus, redistributive issues and the consequences of policy-making for low-income groups will be more salient under left-wing

governments (Petrocik et al., 2003; Bélanger and Meguid, 2008). With the media and public becoming more attentive to redistributive issues, they are more likely to hold legislators accountable for their performance on it. As a result, the cost of ignoring low-income interests could increase for policy-makers and they are more likely to take these groups' preferences into account, *net* of the independent effect left-wing governments have on policy making. Bartels (2008) and Stegmueller and Becher (2019) indeed find left-wing legislators to be more responsive to low-income citizens. Other findings are less clear. Both Rigby and Wright (2013) and Hayes (2013) show that Democrats in the US respond most strongly to high-income interests, whereas Republicans cater to the middle class. Both groups, however, are found to be unresponsive to low-income interests. Nevertheless, based on the above considerations, we hypothesize:

H3: Under left-wing governments, responsiveness of redistributive outcomes is higher for low-income groups and lower for high-income groups.

So far, our arguments and hypotheses have been based on legislators for whom the preferences of the less affluent are either difficult to access or who face (varying) electoral incentives to disproportionally favor the interests of more affluent individuals over the less affluent. In that perspective, a perfectly informed legislator would have little reason not to represent low-income interests, provided that it benefits her at the polls.

Yet, even if the above arguments hold and policy-makers are in principle *willing* to adhere to the preferences of the low-income groups, they might be *unable* to do so as they face a myriad of constraints to simply crafting more redistributive policies and increasing social spending. In particular, redistribution via taxes necessarily resembles a zero-sum game where taking from the more affluent and giving to the less affluent might please the latter while alienating the former. Furthermore, extensive redistribution policies might have profound effects on labor costs and thus by extension on unemployment levels and the economy as a whole. While policy-makers could in principle fund redistributive spending via budget deficits, doing so might lead to adverse economic outcomes in the future (through direct effects of debts on economic growth) or limit their discretion in future spending (through an increased share of the budget devoted to debt servicing). In addition, some countries might face more direct constraints such as the Maastricht criteria in the Eurozone that directly limit deficits and public debt. Thus, designing policy that adhere to the preferences of the more affluent (that are less favorable of redistribution) might be substantially less difficult for policy-makers. Soroka and Wlezien (2005) demonstrate for the British case how debt levels predict changes in spending patterns even when public opinion, government partisanship and spending levels are accounted for. Taking this argument further, we expect policy-makers to be less responsive to the demands of the

less affluent, especially when they face direct and indirect constraints (for a somewhat similar argument, see Tober and Busemeyer, 2019). Focusing on the constraining effect of debts, we hypothesize:

H4: As public debt rises, redistributive outcomes become more responsive to the preferences of the more affluent and less responsive to the preferences of the less affluent.

2. Our empirical approach

Based on the theoretical discussion above, we seek to model redistributive outcomes as a function of the preferences of different income groups. Naturally, redistributive outcomes are unlikely to change radically from one year to another, as policies with redistributive implications affect the day-to-day livelihood of many citizens and are thus much more likely be affected incrementally by changes to existing policies. Established unemployment insurance benefits or public pension schemes are for instance unlikely to be scraped entirely, but rather will be changed at the margin by adjusting wage replacement rates and benefit levels. In addition, any policy change that is enacted typically takes some time to materialize in broad redistributive outcomes (Stimson et al., 1995). We thus expect differences between countries to outweigh the incremental changes within countries. Consistent with this "stickiness" of policy and the expected lag with which policy changes affect policy outcomes, we rely on the following basic model specification to explain how redistributive outcomes r (as measured using Gini coefficients, see below) in country i = 1,…,I change from year t = 1,…,T to t+2:

$$\Delta r_{it} = \alpha_0 + \beta_h * p_{hit} + \beta_m * p_{mit} + \beta_l * p_{lit} + \kappa z_{it} + \rho r_{it-1} + x_{it}\gamma + \Delta x_{it}\lambda + \epsilon_{it}$$

$$\Delta r_{it} = r_{it+2} - r_{it}$$

In this error correction type of model (De Boef and Keele, 2008), p_{hit}, p_{mit} and p_{lit} denote the redistribution preferences of the more affluent, the middle income group and the lower income citizens in a given country i in year t as measured using cross-country comparatives survey series (see below). Hence, we model the degree to which redistributive outcomes r change over a span of two years as a function of measured preferences.[4] In this model, we control for a range of potential

[4] While it might be desirable to include *changes* of preferences in addition to their *levels*, this is not possible in our application, as the "time series" of preferences that we estimate below have many gaps. In fact, the countries included in our models are typically observed every second year only or feature even longer periods without a preference measure available (see Figure 6 in the Appendix).

confounders x_{it} that affect redistributive outcomes and could also simultaneously affect preferences. These are broad-economic conditions meant to capture the state of the economy that also include so-called "automatic stabilizers" (Bartels, 2017) like unemployment that have a rather mechanistic effect on redistribution (see below). We include the levels of these covariates as well as their changes over two years. Finally, z_{it} denote the potential moderators of the relation between citizen preferences and redistributive outcomes proposed in the previous section. In the extended models, these are interacted with our preference measures p_{hit}, p_{mit} and p_{lit}.[5]

In addition to this baseline-specification, we also report models that capture redistributive outcomes r_{it+2} in levels rather than changes as well as these models in levels including country-fixed effects. We again use the two-year lead of our dependent variable to account for the slow-moving nature of redistributive policies like taxation and social spending. The models with country-fixed effects capture time-stable omitted variables that might simultaneously influence the extent of redistribution r_{it+2} of a country for all years t and the preferences of the three income groups. Moreover, they only use the (potentially very low) variation of the moderating variables z_{it} that occurs within countries. However, by exploiting only within-country variation in the redistributive outcomes and citizen preferences by income group, these models feature a comparatively weaker exogeneity assumption. Namely, they assume that there are no omitted time-varying confounders that simultaneously influence citizens' preferences for redistribution and actual redistributive outcomes.

In all of the specifications above, we assume that the different groups for which we measure preferences have the same size in the population thus reflecting thirds of the income distribution. Furthermore, the scale on which preferences are measured is the same for all income groups. Irrespective of the precise specification used, the expectation is thus – If there are no omitted confounders and the relative influence of the three income groups was the same (thus implying legislators that respond to all groups equally) – that the three slope estimates for the income-group-specific preferences β_h,β_m, and β_l would be equal. Yet, given the established findings of unequal

[5] We include the levels rather than changes of these variables for three reasons. First, many of these variable change very slowly and not at all over two years. Turnout for instance does not change by definition if no new national election is held. However, the mechanism of high turnout signaling a low turnout inequality still exists even in those cases. Second, we mainly include these variables in order to interact them with preferences, which are also measured in levels) We also believe that this is generally consistent with a "Dynamic Representation" (Stimson et al., 1995) type of framework in which policy-makers that perceive current public sentiment and take into account the current conditions to decide whether in and in what direction to change policy. Finally, a lot of the survey items that we use to measure preferences below can be thought of as measures of "relative" preferences (Caughey et al., 2019) in that they are inherently tied to the status quo and how it should be changed (i.e. by asking about whether inequality should be reduced or spending that should be increased). To enhance interpretation, our empirical models below use mean-centered and standardized versions of all non-binary covariates. Furthermore, all reported results use panel-clustered standard errors robust to heteroscedasticity and serial correlation (Arellano, 1987). The models are estimated in R via the plm-package (Croissant and Millo, 2008; Millo, 2017)

responsiveness (that we also expect here) in which legislators respond more to the preferences of the affluent compared to the preferences of the middle and low income groups would in contrast imply $\beta_h > \beta_m$ and $\beta_h > \beta_l$. We are thus primarily interested in the relative sizes of β_h, β_m, and β_l. The absolute levels of these coefficients, in contrast, are of no particular interest, as redistributive outcomes r_{it} and preferences p_{hit},p_{mit} and p_{lit} are not assumed to be measured on the same scale. As a result, the β-slopes above represent the degree to which legislators are responsive to the preferences of different groups, which does not necessarily imply that policy outputs or outcomes are congruent with citizens preferences, i.e. that this responsiveness led to better representation (Lax and Phillips, 2012; Lax et al., 2017; Simonovits et al., 2019).

A theoretically very attractive alternative to the described setup that is preferred by many scholars in the domain of representation would be to measure preferences and policy outcomes on the same scale. Corresponding approaches for instance use citizen support for specific policy proposals (binary or dichotomized) that can be compared to legislative votes on or policy adoption of the same proposals (Matsusaka et al., 2010; Gilens, 2012; Gilens and Page, 2014; Lloren and Wüest, 2016; Branham et al., 2017; Leighley and Oser, 2018; Stegmueller and Becher, 2019). However, two things should be noted. First, specific policies are typically not debated simultaneously in many countries (unlike for instance national bills in the US House districts as in Stegmueller and Becher, 2019) and corresponding items are not included in cross-country comparative questions. Second, even if they were, the availability of citizen preferences and policy adoption/legislator votes does not automatically imply that congruence and thus the degree of representation in an absolute sense can be measured. Rather, since citizens are not generally knowledgeable about many policies (Lupia, 2016) and survey item texts necessarily do not include full policy proposals, citizens' responses to such questions could easily be contaminated systematically by subtle details of question text, directionality of the question and by response sets/biases induced by acquiescence or non-attitude (Beyer and Hänni, 2018). Thereby the measurement of citizen-legislator or citizen-policy congruence is bound to be difficult to achieve even with supposedly well-suited datasets (see also Jessee, 2016).[6]

Thus, while we cannot easily measure redistributive outcomes and preferences on the same scale in a cross-country comparative context, we need to make sure that the measurements we use for redistribution and redistributive preferences match in terms of their content validity. In what follows, we draw on the notion that citizens at the lower end of the income distribution care primarily about redistributive outcomes (that ultimately affect their ability to consume and hence their overall utility) and are rather agnostic about the means through which these are achieved (such as

[6] For the same reasons, counting "policy wins" by groups based on majority cutoffs (Branham et al., 2017) could easily lead to biased measures of (equality of) representation if such response biases are present, even if the bias is equally pronounced across groups.

redistribution through taxes versus redistribution through transfers). Likewise, more affluent citizens that have a low likelihood of requiring for instance unemployment benefits should not care about whether these are financed through mandatory contributions from their wages or through taxation on it. We hence deliberately adopt a broad definition for both, redistributive outcomes and the preferences that different income groups have about them.

3. Redistribution as a policy outcome

To measure redistributive outcomes in a broad fashion, we draw on the Standardized World Income Inequality Database (SWIID, Solt, 2019) for our dependent variable. This dataset represents the most comprehensive source of harmonized measures of income inequality (operationalized via Gini coefficients). It is based on an extensive amount of national and international sources that provide country-specific Gini measures of income inequality based on detailed household-level records, which are classified according to the different common definitions of the Gini coefficient and then used in a comprehensive imputation scheme to standardize these indicators to the definitions employed in the Luxembourg Income Study (LIS). In the end, it provides for country-specific measures of market income inequality (defined as the Gini coefficient before taxes and transfers) and disposable income inequality (i.e. the Gini coefficient after taxes and transfers are accounted for). Together, these two measures allow for a comprehensive measurement of redistributive outcomes as the extent to which income inequality is reduced across all households through government intervention via tax and social transfer policies. More specifically, following Donnelly and Lekofridi (2014), we here use relative redistribution for country *i* in year *t*, defined as:

$$r_{it} = 100 * \frac{G_{market} - G_{disp}}{G_{market}}$$

Where G_{market} and G_{disp} are the market and disposable income Gini coefficients.[7] We use relative rather than absolute redistribution as the latter is more likely to be contaminated by changes in the macro-economic situation. In particular the absolute extent of redistribution might increase markedly during economic downturns when increasing unemployment diminishes many households' market income entirely that is subsequently substituted by some kind of pre-existing benefit scheme,

[7] Due to insufficient data being available for a given country for the imputation process, Solt (2019) does not calculate redistribution for all countries for which a market and disposable income Gini is available. We adhere to that restriction in what follows, although this means that we are lacking data for about 25% of the country-years for which we have survey data available.

without any deliberate change in redistributive policies taking place. Such "automatic stabilizers" (Bartels, 2017) thus rather reflect the changing effects of features built into existing policies.[8]

In comparison to alternative measures such as specific policy settings (e.g. wage replacement rates, top taxation rates) or intermediate policy outcomes such as social spending, this type of broad measurement based on the Gini coefficients has some theoretical advantages. First, Gini coefficients incorporate a large amount of information from the income distribution, but are nevertheless easily comparable across time and countries. Second, they measure the redistributive outcome that citizens concerned with income inequality should care most about compared to policy outputs or potentially ambiguous and intermediate policy results (e.g. non-redistributive social spending). Finally, redistribution meets our stated goal of being agnostic with regard to the means through which a more (or less) equal distribution of incomes is achieved.

Figure 1 displays the evolution of inequality and redistribution which we use in our analyses below. Marked time-trends are absent in the sample, both in terms of market and disposable income inequality (see left-hand panel) as well as in terms of relative redistribution (see right-hand panel). Whereas the former two have risen slowly since the early 1980s, this rise in inequality has not led to an increase in (relative) redistribution. Importantly, within any-given year, there is considerable variation in the extent of redistribution across countries (see left-hand panel), with some country-years displaying only a 10% reduction in inequality through taxes and transfers, whereas others almost cut market income inequality in half.

As discussed above, variability of redistributive outcomes within countries over time is much lower than the overall variation displayed in Figure 1, as policies on which the livelihood of many people depend are unlikely to change radically in the short run. Figure 2 uses relative redistribution centered around the country-specific means over time to demonstrate this. Not only are pronounced time trends absent (left panel), but the within-country standard deviation for all the different countries is relatively low and the proportion of variance explained at the country level (i.e. between countries) is very high. Thus, as discussed above, accounting for the "sticky" nature of redistribution is of key importance in what follows.

[8] In addition to using relative redistribution, we below also control for the effect of such automatic stabilizers by controlling for various macro-economic and demographic features that are bound to increase redistribution (see Section on Moderator and Control variables)

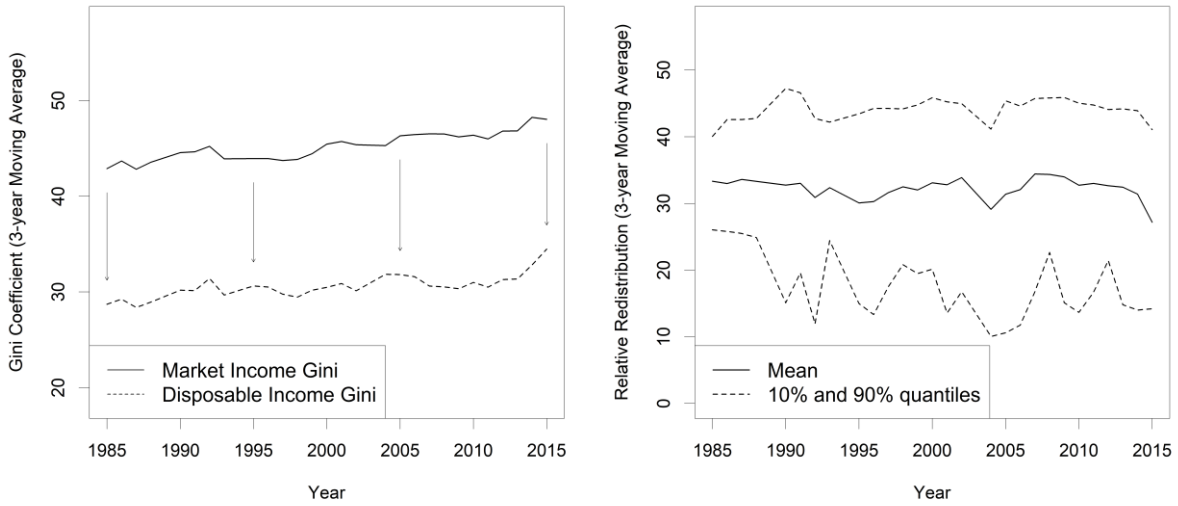


Figure 1 Income Inequality and Redistribution. Figure displays the in-sample evolution of market income and disposable income inequality (left-panel) and relative redistribution (right panel) based on 3-year moving averages. Values based on the sample used in the analysis.

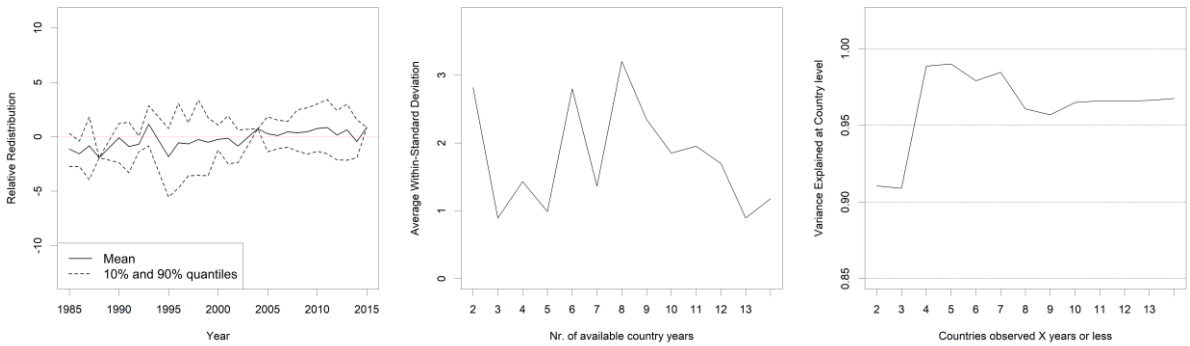


Figure 2 Variability of Redistribution within Countries Left-hand Panel displays the year-by-year average of country-mean centered relative redistribution. Middle panel shows average within-unit standard deviation by panel length. Right panel displays the share of the variance accounted for at the country level by panel length.

4. Measuring group-level Preferences for Redistribution

Measuring citizen preferences for redistribution in a comparable way across time and countries is more challenging than doing the same for redistributive outcomes for several reasons. Our aim is to find a suitable measure of preferences by income group that has the same scale across countries and time. While there is an abundance of surveys capturing support for redistribution and redistributive policies in some fashion, this does not imply a straightforward comparable measurement for it. First, while some survey series such as the International Social Survey Program (ISSP) have consistently asked specific items relating to redistribution in multiple waves/modules, other surveys such as the European Social Survey or the European Values Study have used different, albeit sometimes similar items to capture the respondents' redistribution affinity. Thus, there is no single "gold standard" item for capturing redistribution preferences.[9] Second, even if such a "gold standard" item did exist, the reliability of such single items is typically low and suffers if, for example, the positioning of items within surveys varies or differences are introduced by translation.[10] While it is thus advisable to use multiple indicators, the questionnaire overlap between different surveys series is still too low to use such "bridging" items across surveys as has for instance been done using various waves of the US Cooperative Congressional Election Study (Tausanovitch and Warshaw, 2013). Luckily, recent advances made in the estimation of aggregate-level opinion allow tackling these problems (Caughey et al., 2019; Caughey and Warshaw, 2015; Claassen, 2019; McGann, 2014; Zhou, 2019). Rather than estimating individual-level opinion from survey data and then aggregating it to the national, sub-national or group-level, these approaches generally use survey data to estimate opinions at the group-level directly and employ some form of shrinkage to account for lower subnational or group-level sample size. Caughey and Warshaw (2015) and Caughey et al. (2019) for instance extend the group-level Item Response Theory model for marginal counts of survey responses (Mislevy, 1983) to measure preferences of broad demographic groups nested in geographic clusters over time. The resulting estimates can then be used in a post-stratification step to measure national-level opinion, or used directly if the groups used during estimation correspond to the grouping of interest (Caughey et al., 2019, 8).

[9] Note however, that some authors have used *similar*, albeit not identical items coupled with a binarization scheme to measure redistribution preferences across different survey series such as the ISSP and the European Social Survey .

[10] For example, using bilingual populations, Pérez and Tavits (2019) impressively demonstrate how the (randomized) application of survey questionnaires in languages that differ in whether their grammatical structure require strong gendering or not does influence the elicited attitudes towards gender equality.

In what follows, we employ the latter strategy by estimating group-level opinion for broadly defined income groups. In particular, we set up a simple factor model[11] that instead of simply taking the some country-level aggregate of a single item as an exhaustive measure of preferences estimates a group-level latent preference for redistribution from the mean response Y_{gcjt} of income group *g* in country *c* on survey item *j* that (supposedly) captures redistributive preferences in year *t*[12]:

$$Y_{gcjt} = \alpha_j + \beta_j * \theta_{gct} + e_{gcjt}$$

$$\theta_{gct} = \theta_{gc} + \tau_{gct}$$

$$e_{gcjt} \sim N\left(0, \sigma_j^2\right)$$

$$\tau_{gct} \sim N(0,1)$$

$$\theta_{gc} \sim N\left(0, \sigma_{\theta_{gc}}^2\right)$$

Where α and β are the factor intercepts and loadings respectively.[13] The latter account for the fact that not all of the indicators included in such an estimation exercise will be equally reliable indicators for redistribution preferences. Rather, they could be influenced by nuisance dimensions to a varying degree. In our application, the groups are defined as thirds of the income distribution and are measured using the different income scales provided in different surveys. The country-group random effects θ_{gc} are introduced in order to shrink uncertain estimates for a given country-year for which only few mean responses per income group are available or the overall number of responses for a given income group is very low towards the over-time mean preference of that group.[14] Thus, instead of an individual-level model, we approximate average preferences at the group-level (the level we are interested in) by estimating a single group-level latent trait. We estimate the above model using the Bayesian NUTS algorithm implemented in Stan (Carpenter et al., 2017). Following Caughey et al.

[11] In future iterations of this paper, we plan to use a more complex measurement model that relies on an individual-level response process as in Caughey et al. (2019). Unfortunately, fitting their model proved to be too complex and time-consuming for this initial paper draft, as we have markedly higher number of countries, respondents and items, but each country in our data is observed less often.

[12] Where available, we use survey weights to calculate the mean response Y_{gcjt} in each group.

[13] One might wonder why we do use a linear function approximation to the ordinal survey items rather than an IRT-Type model as in Caughey and Warshaw (2015), Caughey et al. (2019) or McGann (2014). As McGann (2014) shows based on binarized items, the benefit of doing so by invoking a more realistic individual-level response model compared to a linear strategy are limited. In fact, even the simple Dyad-Ratios algorithm used by Stimson (1991) produces scores that are most of the time highly correlated with the more complicated models he proposes. Using a linear model has the advantage of reducing estimation time to minutes/hours rather than several days.

[14] Unlike Caughey et al. (2019) and Claassen (2019) we chose a country-group and time effects instead rather than a dynamic shrinkage structure for the latent trait θ_{gct}. We do so since our survey data covers a considerable number of countries with only two or three observed years that are comparatively far apart time-wise, such that there are few adjacent years on which to draw for the shrinkage. Also, unlike these approaches, our interest does not lie in imputing values for the gaps in the country-group-level time series to generate "smooth" or balanced panels (Claassen, 2019). In our survey data used for estimation, the average country-year is observed every two years (see also the Figure 6 in the Appendix).

(2019), we constrain the loading parameters β to be positive and use non-informative or weakly-informative priors during the estimation and estimate the model using six chains with 5000 iterations each, of which 4500 were discarded as warm-up. Using this setup, the model converged easily and provided for a sufficiently large effective number of iterations for posterior inference. In the analysis, we use posterior mean estimates for the country-specific latent variable estimates θ_{gct}.

To obtain the largest possible sample of redistributive preferences, we use this procedure on a survey data set that we compiled by gathering as many comparative surveys as possible. Each of these surveys includes at least a few items broadly related to preferences for redistribution, social spending and redistributive policies, i.e. items that could serve as the *manifest* indicators for what is a complex *latent* orientation. More specifically, we use data from the ISSP (Role of Government modules I-V, Social Inequality Modules I-IV, ISSP-Group, 1986; ISSP-Group, 1989; ISSP-Group, 1992; ISSP-Group, 1994; ISSP-Group, 1999; ISSP-Group, 2002; ISSP-Group, 2008; ISSP-Group, 2018), the World Values Survey (waves 1-6, Inglehart et al., 2014), the European Values Study (waves 1-4, EVS, 2015), the International Social Justice Project 1991 and 1996 (Wegener, 2002), the European Social Survey (ESS, 2002; ESS, 2004; ESS, 2006; ESS, 2008; ESS, 2010; ESS, 2012; ESS, 2014; ESS, 2016), the Post-Communist Publics Studies I and II (Rotman et al., 2004), several waves of Eurobarometers and Candidate Eurobarometers (EB 52.1 1999; EB 56.1 2001; EB 72.1 2009, EB 74.1 2010 and CB 2002.1, EU-Commission, 2012a; EU-Commission, 2012b; EU-Commission, 2012c; EU-Commission, 2013; Commission, 2016) as well the 2008, 2010 and 2012 waves of the Americas Barometer Surveys (LAPOP, 2008; LAPOP, 2010; LAPOP, 2012).

In each of these surveys, we classify respondents as belonging to either the (weighted) in-sample lower income tercile, the middle tercile or the upper income tercile (reflecting low, middle and high incomes in the models discussed above).[15] We then coded all the survey items that potentially tap into respondents' latent preference for redistributive policies and income equality, identified those items asked in the same fashion (same/ almost same question wording and same categories) across different installments of the same survey series and across different survey series. For all items, we

[15] Note that due to the particular income scale used in each survey as well as the weights provided (if any), the in-sample proportions classified as belonging to either income group might differ significantly from terciles. A closer investigation of this is given in the Appendix. Note also that it would have been desirable to account for different implications of the same household income for households of different size by normalizing the household income using e.g. division by the square-root of the number of household members. However, many surveys do not contain detailed household grids. Also, a large number of surveys does not feature continuous or categorical household income questions with actual income bands, but rather relative income questions with self-placements on top- vs. bottom-income scales. This was particularly prevalent for the World Values survey, which also included a lot of samples in which the actual income bands were not available from the survey documentation, the questionnaire pdfs (missing show cards, item categories in the data already aggregated from more numerous questionnaire categories with the aggregation not document) and/or the designated contact persons. Finally, a small number of surveys uses individual rather than household income.

then aligned the directionality for higher values to reflect a preference for higher redistribution, more income equality or higher redistributive spending and aggregate the survey data to the level of income groups using simple (weighted) averages.

Together, the country-specific samples we gathered from these different surveys above cover around 1.5 million respondents from around 120 countries spread across 37 years.[16] The total number of country years covered is 815. In addition, these surveys jointly contain 115 distinct items that we identified as potentially suitable indicators of respondents' preferences for redistribution. While 115 item seems like a very large number, several things can be noted here. First, many of the items covered are relatively similar and differ only slightly in terms of their wording or the number of categories. For example, the different surveys we coded contained eight different variants of an item asking respondents for their agreement to whether incomes should be made more equal (or that the government should make incomes more equal).[17] Likewise, there are five different variants of items asking whether respondents agree that income differences are somehow necessary for individual effort and a prospering economy. Despite these differences in item wording, etc. a respondent favorable of redistribution and aiming for an egalitarian society should agree to all variants of the former set of items and generally show less agreement to all variants of the later item. Thus, the number of concepts invoked in these different items is much lower than their nominal count.

Second, and as discussed above, we deliberately adopted a broad inclusion scheme for the items used in our measurement. Hence, apart from items relating directly to income inequality as a redistributive outcome, we also draw on items asking for respondents' spending preferences in the domains of social welfare, healthcare, retirement pensions, unemployment benefits as well as items

[16] Note that these figures include some subnational entities that we observe multiple times (e.g. Hong Kong), and that are treated as stand-alone country cases in the estimation of the preference variables. Note however, that when samples for such subnational entities for one country were available in the same survey as a larger or the remaining part of that country (e.g. Northern Ireland and Great Britain or East Germany and West Germany after 1990), we integrated these samples into with appropriate weighting to account for their disproportionate sample sizes relative to country population. Likewise, observations of countries that eventually dissolved into two (or more) separate countries (e.g. Czechoslovakia in 1992 and before) are (where possible) treated as separate shortly before the official dissolution already.

[17] These are the following: 10-category self-placement on “Income should be made more equal” vs “There should be greater incentives for individual effort” (EVS and WVS, with a four-category variant used in India); 5-cateogry placement on “The government should take measures to reduce differences in income levels” (ESS and CSES Module IV); 4-category agree-disagree item for “Incomes should be more equal among members of society” (WVS sample in Hong Kong); 4-category response to “On the whole, do you think it should be or should not be the governments responsibility to: Reduce income differences between the rich and poor” (ISSP Role of Government and Post-Communist Publics Study); 5-category agree-disagree scale on “It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes." (ISSP Role of Government and Social Inequality) and a 7-category agree-disagree scale for “The (COUNTRY) government should implement strong policies to reduce income inequality between the rich and the poor. To what extent do you agree or disagree with this statement” (Americas Barometer Surveys).

asking respondents whether they think that providing health care, jobs for the unemployed, housing and education for the poor, etc. is the government's responsibility. Moreover, we cover preferences regarding progressivity of taxation and trade-offs between levels of social benefits and public debt. As a last major group, we include several items about beliefs about the adverse effects of income inequality and normative statements about it (e.g. income inequality considered as being "too high"). This is consistent with our broad dependent variable and the notion of citizens' that care about policy ends (redistributive outcomes) more than about policy means (the myriad of pathways that shape these outcomes).

In what follows, we rely on a subset of these 115 items tapping into redistributive preferences. Namely, we drop items where polarization across income groups was very low on average, items that were observed in less than 10 country years and some items that proved very noisy in the scaling procedure used below. This left us with 68 items and a dataset spanning 1.2 million respondents clustered in 112 countries and 669 country-years, for each of which we observe at least two of the 68 different items. A full list of the 68 items and the years and surveys in which they appear is given in Table 9 in the Appendix.

Of course, for any given survey (and by extension for any given country-year), we only observe a small subset of these 68 items. In addition, there are only relatively few items that are included in multiple surveys, i.e. that could "bridge" across different survey series (e.g. from the Americas Barometers to the predominantly Eastern European Candidate Barometer 2002). This prevents us from using an approach that directly puts individuals from different samples on the same scale based on these common items (cf. Tausanovitch and Warshaw, 2013).[18] This is why a group-level approach following Caughey et al. (2019) is suitable for our data. Namely, as we have aggregated the survey data to group-specific means for each income group (*i.e.* to the level we are primarily interested in), we frequently observe the same income groups (low incomes, middle incomes and high incomes) across two or more surveys that were conducted within a given country in the same year. Hence, at the group level, we have bridging observations (akin to bridging legislators in the study of state legislatures vis-à-vis congress, cf. Shor et al., 2010) whose response patterns allow us to bridge the largely non-overlapping survey-specific questionnaires. Together with the items included in multiple surveys and different waves of the same survey, we can thus establish a common scale for our latent variable. Such group-level bridging observations are relatively common in our data. Out of the 669 country-years covered in our data 146 country-years are covered by two different surveys and 27 are covered by

[18] Note however that we predominantly included survey series conducted repeatedly with an at least partly stable set of survey items, such that bridging items within survey series are quite common and allow the comparison of respondents across years and countries within these subsamples (e.g. Breznau, 2019)

more than two surveys.[19] Figure 3 displays the item-level and group-level bridging relations across the different surveys included and demonstrate that none of these are isolated completely. Rather, each of them displays multiple bridging relationships to the remaining surveys. Together this allows us to measure group-level preferences jointly from the 68 different survey items.

One might wonder whether the diverse set of 68 items can possibly constitute a good measure of redistributive preferences or is rather "hijacked" by nuisance dimensions regarding for instance unrelated concerns about the efficiency of taxation schemes or the economic effects of deficit spending.[20] Cavaillé and Trump (2014) for instance use a wealth of different items to distinguish a "redistribution to"-dimension of welfare and redistribution preferences from a "redistribution from"-dimension, which are empirically only weakly correlated and of which only the latter is polarized by income. However, the survey items included here generally avoid items tapping into the deservingness of welfare recipients, the social distance to them or the reasons for their economic hardship that are used as indicators for the "redistribution to"-dimension.[21] We thus draw mainly on those items for which we can expect polarization by income, a necessary condition to assess (un)equal representation (see above).

On a related note, Caughey et al. (2019) analyse a survey dataset of European countries that relies on many of the same survey series used here. In that data, they distinguish between absolute economic conservativism and relative economic conservativism (or economic policy "mood", as coined by Stimson (1991). This distinction is based on whether an item is asked in absolute terms (e.g. "Government should ensure that the wealth of the country is redistributed in a fair way to all citizens", Eurobarometer 72.1 2009) or relative to the status quo of inequality or policy in the country ("The government should take measures to reduce differences in income levels", European Social Surveys). Supposedly, whereas the latter moves with policy as in the Thermostatic Model of Politics (Wlezien, 1995), the former is more fixed and both should not be used as indicators of the same dimension. We

[19] Note that the sample of 669 country years that we use for the estimation of group-level preferences is much a larger than the around 370 country-years that we are able to analyze subsequently due to missing values on the covariates and especially the independent variable. However, we keep as many country years as possible in the analysis in order to a) have more data available for the estimation of the loading and intercept parameters and b) to maximize the number of bridging observations in the data.

[20] Note however that for instance the ISSP Role of Government items asking whether healthcare, caring for the unemployed, elderly, providing jobs and reducing income differences should be the government's responsibility have been shown to load well on one dimension (Breznau, 2019). Likewise, research based on the US General Social Survey has shown that citizens' spending preferences relative to the status quo (as measured asking for whether "too much" vs. "too little" is spent in a given policy domain) with the exception of defense spending and space programs, generally all load positively on a single dimension (Branham and Jessee, 2017).

[21] Note however that many of the surveys covered include a set of items that Cavaillé and Trump (2014) group as constituting a separate "government role" dimension in the international data. However, that dimension - unlike the "redistribution to"-dimension – is strongly correlated with the redistribution-from dimension.

face this concern in more detail in the Appendix, where provide evidence that despite this possible distinction, in any given survey, a one-dimensional model is typically a reasonable approximation to preferences measured via the items included here, both at the individual and at the group level.[22]

An assumption that should be noted with regard to our estimation strategy based on bridging at the group-level states that for a given income group in a given country-year, the respondents in one survey are equivalent to their counterparts in the respective other surveys in terms of their redistributive preferences. Specifically, in a hypothetical scenario where the former would be observed in the latter survey and vice versa, the response patterns would not be systematically different. In other words, whether a respondent in a the lower income tercile in e.g. Bulgaria in 1999 participates in the 3rd EVS wave, the ISSP Social Inequality round III or the 2nd wave of the Post-Communist Public study is assumed independent of her redistributive preferences.[23]

Figure 4 displays the evolution of our estimated preference variable for each income group over time using 3-year moving averages for our final sample. Consistent with the notion of self-interest playing a key role in the domain of welfare and redistribution (Soroka and Wlezien, 2008), the average preference of the low-income group generally lies above the middle-income group and the high-income group. This pattern does not only hold across countries, but also holds within most countries. As Figure 5 shows, our estimated preferences suggest that in the vast majority of country years, the preferences have the expected ordering from low incomes as the most pro-redistributive to high incomes. In addition, the preferences of the middle-income groups are typically estimated to lie in between both the low and the high income, irrespective of the average redistribution preference of the three groups. Finally, the figure suggests that the preferences of the three groups are correlated substantially, as variation within a country year across groups is lower than variation across the different country years. Correspondingly, the posterior mean estimates of the preferences across the

[22] As a small additional piece of evidence, consider the following two available in the ISSP Social Inequality modules I-IV and the Eurobarometers 52.1,56.2 and the Candidate Eurobarometer survey 2002.1 (a total of 144 samples in 135 country years, approximately 170000 respondents): "It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes" (5 category "Strongly Agree" – "Strongly Disagree" response absolute economic conservativism question in Caughey et al., (2019) and "(The) differences in income in <R COUNTRY> are too large/wide" (5 category "Strongly Agree" – "Strongly Disagree" response, relative economic mood question in Caughey et al. (2019). Now if the distinction between the two were empirically consequential and the latter was indeed influenced by current policy settings/outcomes whereas the former had an "absolute" quality to it, the individual-level correlation between the two would be larger if calculated within countries (where current policy is held constant) versus across countries where the country-specific status quo introduces a nuisance dimension. In fact, the opposite is the case. Whereas the average within-country-year-sample correlation between both items is .47, it increases to .52/.53 when calculated at across all surveys and samples respectively. At a more conceptual level, a respondent that does not see income differences as being "too high" (i.e. does not see a problem) has little reason to call for government action to reduce them.

[23] Note that this assumption does not imply that her survey participation in general is unrelated to participating in the survey, which could still be the case and can be accounted for using weights in the survey data where provided as described in Caughey et al. (2019).

three income groups in Figure 5 move very much in parallel. The correlation between the posterior mean preference estimates across countries for the low- and the high-income group is .94 in our final sample. This is remarkable, given that the factor model used to estimate these preferences does not exploit information about the nesting of income groups within countries. Yet, such correlations are not wholly unlike the correlations of preferences across different specific policy items used in US-based studies of unequal representation (Gilens, 2012) as well as in cross-country comparative analyses relying on single items (Bartels, 2017). Even within countries over time, the (country-)demeaned preference estimates of the high- and the low-income group correlate at .77.

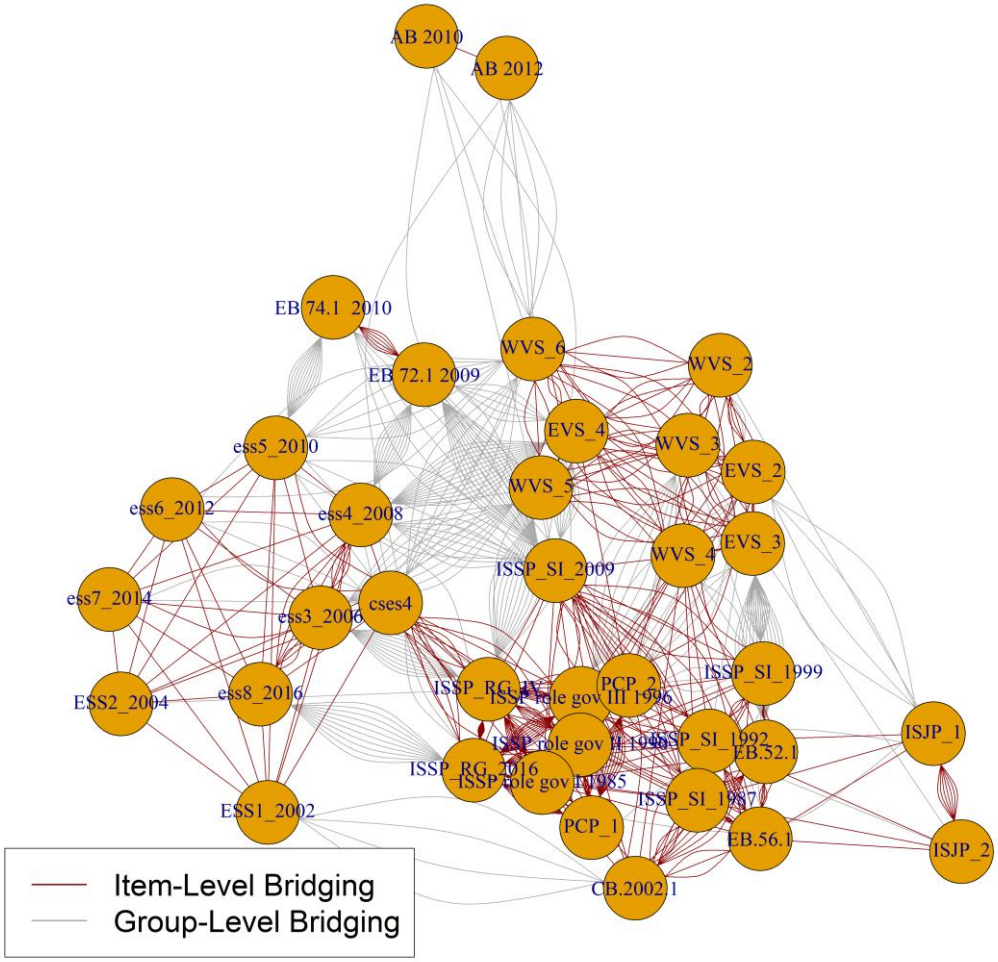


Figure 3 Bridging relations between survey series. Each node represents a survey (series) and the lines different bridging connections between them. Red lines denote bridging via items that are included in both surveys, gray lines indicate group-level bridging occurrences, i.e. country-years where the three income groups are observed in two different surveys.

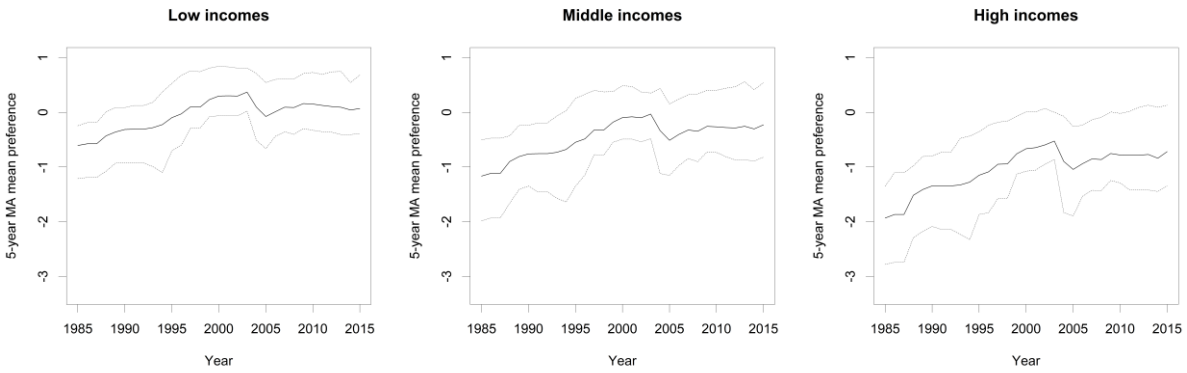


Figure 4 5-year moving averages of income-group specific preferences in final sample. Dotted lines represent the 10 and 90 percent quantiles.

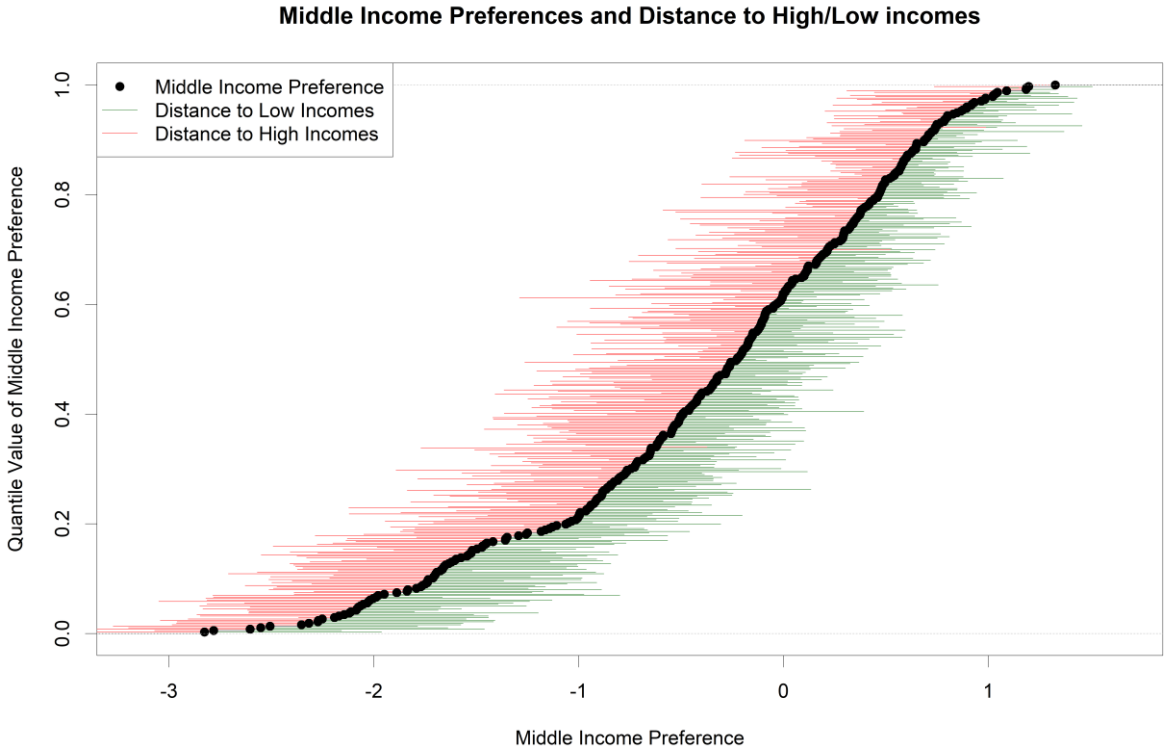


Figure 5 Estimated mean preference of the middle income group (x-axis) by quantile value (y-axis). The black dots denote the posterior mean estimate for the middle income preference in our survey, whereas the red (green) horizontal lines lead from these points to the preference estimate for the high (low) income group for that specific country-year.

5. Moderators and Control Variables

Testing the hypotheses postulated above requires additional data besides our aggregated country-year-income group specific measure of redistribution preferences. In particular, the hypotheses capture conditions under which responsiveness is supposedly more or less equal. We therefore supplement our data with additional data sources for each of the moderating factors described above. In addition, we need to control for important automatic stabilizers (Bartels, 2017) and the mechanistic effects they exert on policies, while simultaneously potentially affecting respondent preferences (Elkjær and Iversen, 2019). These are described here in turn. Table 1 gives an overview of the values of these variables for the 376 country-years for which we have values for relative redistribution, preference estimates and the covariates discussed in what follows.[24] In addition, Table 5 in the Appendix lists all the 40 countries covered in our analysis together with the years for which we have preference measures available in them.[25]

Electoral turnout

As a measure of electoral participation, we use data on turnout in the previous national election among the voting age population from the IDEA turnout database (IDEA, 2018).[26]

Union density

To measure labor union strength, we use standardized measures of trade union participation at the country-year level from the ICTWSS union database (Visser, 2016) and from the OECD for country-years too recent to be covered by the former. We use the union density rate variable, which is defined as net union membership as a proportion of wage earners in employment. As the aforementioned datasets comprise data from both administrative and survey sources, we prioritize using the former but nonetheless make use of the latter when it is the only one available, which naturally results in small breaks in the series for certain countries. The remaining missing values are

[24] Note that three out of the four of the mechanisms discussed are closely tied the workings of electoral democracies. Correspondingly, we drop country-years that are rated "partly free" or "non-free" by the Freedom House Organization, using their "Country and Territory Ratings and Statuses 1973-2018", downloaded from https://freedomhouse.org/content/freedom-world-data-and-resources on 21/05/2019.

[25] Note that sample size used in each of the models below varies between 374 and 376, as for each model, we exclude very influential cases that have a value of Cooks D greater than 1. These are Bulgaria 1997, which experienced hyperinflation above 1000% and Brazil in 1991.

[26] Where necessary, states that were established via secession from an existing state or dissolution from such a state, the aggregate turnout figure from the original state was used. This affects for instance Serbia and Montenegro, which constituted the Federal Republic of Yugoslavia and the Federal Union of Serbia and Montenegro before 2003, but are already observed separately in 1996 and 2001.

then linearly interpolated between the first and the last observation available for a given country. Considering the slow-moving nature of union density rates, we are confident that this constitutes a reasonable strategy to obtain a value for our country-years of interest.[27]

Government partisanship

Previous research in the United States has found that while low-income interests in general are less well represented, responsiveness of Republican legislators is even more tilted towards the preferences of constituents with high incomes compared to their counterparts from the Democratic party (Bartels, 2008; Stegmueller and Becher, 2019). To test for this possibility using our data, we record the ideology of the head of government's party as either Left or non-Left. The former denotes all Communist/Socialist, Social Democratic and Ecologist parties, i.e. the parties that are typically left of the respective political center in a given country-year and for which worker interests should be more salient, both in terms of being re-elected by their core constituents and in terms of their more normative commitments. The corresponding data is obtained from the ParlGov database (Döring and Manow, 2018).[28]

Government debt

Government debt is measured as general government debt as a share of GDP. Data is mainly taken from the IMF Global Debt Database (Mbaye et al., 2018). Missing values are replaced with figures from the IMF Historical Public Debt data (Abbas et al., 2010; Abbas et al., 2011) or with values from the variables debt and debt_hist from Comparative Political Dataset (Armingeon and Engler, 2018).

Control variables

An important set of controls consists of a set of variables capturing the state of the economy. On the one hand, the state of the economy and government revenues determines the discretion of

[27] Naturally, the same rate of union participation (or union density) defined this way could imply very different relative strength of unions in different countries (depending on the relative size of the labor force, the politicization of labor forces and the role unions play in centralized bargaining and other governance structures). Thereby, any (moderating) effect of union density would only be very imprecisely estimated. Despite the aforementioned differences, the expectations is that as union membership rises (or falls) within a given country, interests of low and lower middle income households feature more prominently in the political discussion and thus by extension possibly also in policy making. Thus, this concern will be less prevalent in the models controlling for country fixed effects.

[28] Where necessary, the data was complemented with data derived from party families coded in the Comparative Manifestos Project (Volkens et al., 2018) and the Heads of Government database (Brambor and Stjernquist, 2017; Brambor and Lindvall, 2018). A small number of country-years were coded manually from party labels. Note that preliminary analyses based on a more detailed ideological classification of governments as measured using cabinet shares of left parties in the CPDS (Armingeon and Engler, 2018), which reduces the sample size due to missings, does not change the results presented below.

the government in shaping the income distribution. On the other hand, many of the variables described in the following capture so-called "automatic stabilizers" (Bartels, 2017) such as unemployment rates that tend to increase redistribution towards the lower end of the income distribution without changes in policy by the virtue of existing benefit programs (such as unemployment insurance) simply having to cover more individuals. In addition, the state of the economy might simultaneously influence policy-makers' and citizens' preferences for redistributive action. In particular, more affluent citizens and governments have been suggested to react with anti-cyclical or Keynesian spending (preferences) to economic downturns, whereas the less affluent are said to favor austerity politics during economic busts, thereby potentially creating a spurious correlation between preferences of the affluent and policy-making (Elkjær and Iversen, 2019). Including a broad set of indicators of the state of the economy should mitigate the dangers of such spurious relationships.

The corresponding year- and country-specific macro-economic variables were mostly obtained using the World Bank data API via the R package wbstats (Piburn, 2018) as well as specific databases provided via the data API of the International Monetary Fund (IMF).[29] In particular, we include measures of consumer price inflation, the unemployment rate[30], real GDP growth (in %) and the old age dependency ratio of the population, defined as the proportion of the dependents per 100 working age individuals in the population. Together, these should largely reflect both automatic stabilizers and the state of the economy more generally.

[29] Where possible, missings in these datasets were replaced with values of the corresponding (or closely comparable) variables from the Comparative Political Data (CPDS, Armingeon and Engler, 2018) and the Penn World Tables (Feenstra et al., 2015).

[30] Where available, the ILO estimate of the unemployment provided by the World Bank is used. Remaining missings are reduced by using national estimates, IMF estimates (International Financial Statistics database), data from the CPDS or from the IMF World Economic Outlook for October 2018.

Table 1 Descriptive Statistics for Variables included in the Analysis. Figures calculated based on the final sample of country-years included in the analysis

Variable	Mean	SD	Within Country SD	25%	75%	Min	Max
Low Income Pref.	0.052	0.778	0.273	-0.428	0.652	-2.158	1.511
Middle Income Pref.	-0.366	0.891	0.283	-0.888	0.342	-2.827	1.327
High Income Pref.	-0.918	1.006	0.290	-1.504	-0.114	-3.641	1.171
Relative Redistribution	32.612	10.742	2.107	26.600	40.625	-1.300	50.200
CPI Inflation	8.475	59.397	54.717	1.520	4.391	-4.478	1058.374
Unemployment rate	8.494	4.664	2.689	5.313	10.299	0.800	30.896
GDP growth	2.050	3.508	3.308	0.729	4.005	-14.814	10.800
Old age Dependency Ratio	21.902	4.959	2.294	18.670	25.185	6.541	39.583
Market Income Gini	45.529	5.320	1.947	42.275	48.700	32.300	68.600
Turnout	67.699	13.282	6.696	58.660	77.950	34.740	94.400
Union Density	31.090	18.756	6.593	17.270	39.553	6.531	87.420
Debt	55.490	36.940	21.414	31.209	70.215	4.487	289.554
Left Government	0.359	0.480	0.406	0.000	1.000	0.000	1.000

6. Preliminary results

We present the results of our baseline specification in the first three columns of Table 2. Models (1) and (2) are baseline specifications that as covariates include either the levels of automatic stabilizers (and change over a two-year period) plus the levels of the proposed moderating variables (Model 1) or drop these proposed moderating variables, but include the lagged level or relative redistribution. Model (3) includes the proposed moderators as well as lagged policy levels. All three models suggest a degree of unequal responsiveness, but the estimated patterns differ markedly from our expectations formulated above. Instead of a dominance of high-income interests, the coefficient estimate for the preferences of the higher incomes is very small in absolute terms and far from approaching statistical significance. Instead, the coefficient for estimated group-level preferences of the middle-income group is positive, much higher and statistically significant. Instead of a dominance of the affluent in policy-making, this would suggest that middle incomes are actually decisive in shaping policy outcomes, as suggested by Elkjær and Iversen (2019). This type of pattern casts doubt on our basic proposition of unequal representation that disproportionately favors the more affluent and is in direct opposition to findings from the US (Gilens and Page, 2014)

Turning to the results for the preferences of the lower-income groups, matters are even more puzzling. The estimated coefficient is negative in all three models and significant in Model (2). This suggests that when preferences of the lower-income groups are more favorable of redistribution, relative redistribution in the following two years actually goes down. A similar finding has been labelled "perverse" representation in previous research (Bartels, 2017). While this would imply that lower incomes are indeed under-represented in terms of policy outcomes not changing in their desired direction (i.e. some form of unequal representation), this result does not support our theoretical perspective in any way. When the preferences of those with average incomes and the more affluent are accounted for, why would legislators purposefully produce policy outcomes that are in opposition to what lower income citizens want? Rational politicians, be they office-seeking or policy-seeking, cannot be expected to display such behavior even in the presence of the potential informational and institutional constraints described above.

Caution is required given this rather unexpected result. Could it be an artifact produced by our strategy of modelling changes in policy as opposed to levels? In particular, Elkjær and Iversen (2019) suggest that if those at the top and those at the bottom of the income distribution react differently to economic outcomes, different model specifications might produce very different results in terms of the (in)equality in responsiveness to the preferences of different income groups. To mitigate these concerns, we replicate the basic model specifications under two alternative specifications. Models (1) to (3) presented in Table 6 in the Appendix mirror Models (1) and (2) in Table 2 but use the level of

relative redistribution two years after the preferences were measured. The first column in that table controls only for the levels of all the automatic stabilizers and the proposed moderators. Under that specification, high-income positions more favorable of redistributive policies are associated with a significant reduction in the predicted extent of relative redistribution two years later. This puzzling finding, however can easily be explained by keeping in mind that the vast majority of variation in relative redistribution (and to a lesser extent the preference for redistributive policies) tends to occur between rather than within countries (see above). We thus interpret this finding to imply that in countries that are persistently more redistributive, those with higher incomes are less favorable of (additional) redistribution, as also suggested by Elkjær and Iversen (2019). However, once we include lagged levels of relative redistribution as a control variable to account for the persistent and slow-moving nature of redistributive policies, we essentially replicate the patterns found under the models of changes in redistribution. Irrespective of whether we include our proposed moderators or not (Model 3 vs Model 2), the coefficients suggest that redistributive outcomes respond to the preferences of the middle income group, do not respond to the preference of those with high incomes and perversely respond to the lower incomes.[31]

As a third model specification, consider the results in Table 7 the Appendix, that predict relative redistribution at t+2 accounting for country fixed effects and thus only using within-variation of the variables of interest. The standard errors in this specification are much larger and none of the group-level preference variables in Model (1) and Model (2) that mirror their counterparts from Table 2 attain statistical significance at conventional levels. Yet, these models still feature an unexpected negative sign for the coefficient corresponding to preferences of the lower income terciles, which can thus not simply be taken as a mere peculiarity of a the model specification employed.

In sum, the puzzling result of a seemingly perverse representation of lower incomes does not seem to simply result from the details of the model specification used in Table 2. Can our proposed moderating variables help us understand this seemingly perverse representation of the lower income groups? Models (4) to (7) sequentially add interaction terms of the three preferences variables with each proposed moderator to our baseline specification. Given that the results are hard to explain from the raw coefficients, Table 3 presents the marginal slopes redistributive preferences at different levels of the moderating variables. We define high (low) levels of the moderators as one standard deviation above (below) the mean for the respective variable. For most of the different scenarios constructed that way, the standard errors are relatively large and systematic patterns are difficult to find for

[31] Note that Elkjaer and Iversen (2019) caution against a model including a lagged dependent variable, but suggest that it would lead to coefficient estimates suggesting unequal responsiveness in favor of the middle class, which is clearly not the case in our results.

Table 2 OLS Models of Change in Relative Redistribution from t to t+2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	.066	.322	.171	.157	.232	.047	.169
	(.263)	(.226)	(.306)	(.288)	(.336)	(.323)	(.292)
Low Income Pref.	-.452	-.788**	-.436	-.493*	-.557*	-.727**	-.442
	(.282)	(.308)	(.284)	(.278)	(.315)	(.338)	(.283)
Middle Income Pref.	.567**	.790**	.574**	.616**	.659**	1.180***	.605**
	(.259)	(.308)	(.254)	(.256)	(.268)	(.328)	(.250)
High Income Pref.	.0001	-.095	-.026	-.027	.016	-.424*	-.051
	(.223)	(.223)	(.219)	(.213)	(.228)	(.239)	(.220)
Relative Redistribution		-.001	-.004	-.003	-.003	-.004	-.005
		(.005)	(.006)	(.006)	(.006)	(.006)	(.006)
Turnout	-.123		-.117	-.003	-.107	-.109	-.138*
	(.075)		(.074)	(.171)	(.077)	(.068)	(.074)
Union Density	-.003		.008	.022	.177	.023	.011
	(.061)		(.060)	(.059)	(.203)	(.056)	(.060)
Debt	.111*		.109	.089	.080	.104	.230*
	(.067)		(.070)	(.089)	(.083)	(.064)	(.121)
Left Government	-.017		-.014	.015	.001	.385	-.018
	(.118)		(.119)	(.123)	(.123)	(.393)	(.121)
Turnout x Low Income Pref.				.262			
				(.358)			
Turnout x Middle Income Pref.				-.589			
				(.421)			
Turnout x High Income Pref.				.367*			
				(.208)			
Union Density x Low Income Pref.					.004		
					(.256)		
Union Density x Middle Income Pref.					-.112		
					(.285)		
Union Density x High Income Pref.					.196		
					(.183)		
Debt x Low Income Pref.							.199
							(.322)
Debt x Middle Income Pref.							-.479
							(.315)
Debt x High Income Pref.							.363**
							(.148)
Left Government x Low Income Pref.						.589	
						(.629)	
Left Government x Middle Income Pref.						-1.455***	
						(.553)	
Left Government x High Income Pref.						1.043**	
						(.465)	
N	374	376	374	374	374	374	374
R^2	.256	.020	.257	.266	.263	.282	.268
Adjusted R^2	.221	.007	.220	.222	.219	.239	.225

*p < .1; **p < .05; ***p < .01

Panel-Clustered standard errors based on Arellano (1987) in parentheses. Dependent Variable is Change in Relative Redistribution. Values rounded to the third integer. Non-binary covariates standardized and mean-centered. Controls not shown: Consumer Price Inflation, Unemployment, GDP growth, Old age dependency ratio and Market Income Inequality and their respective changes.

any of the three income groups. However, none of the scenarios suggest that redistributive outcomes eventually become positively responsive to lower incomes and thus mitigate the perverse representation of lower incomes. For the turnout variables and unlike in previous studies (Peters and Ensink, 2015), responsiveness to low-income interests is not estimated to change systematically by the levels of overall turnout. Looking at all three income groups jointly in the high-turnout scenario (i.e. the scenario under which we expect a most equal representation according to our above hypothesis), redistributive outcomes are not estimated to respond to any of the three income groups.

Turning to the unionization rate, this proposed moderator likewise does not "explain away" perverse representation or even mitigates it as in Stegmueller and Becher (2019). Across the scenarios considered, the negative responsiveness coefficient for the low-income group barely changes, as does the relatively large positive coefficient for the middle-income group. Whereas the estimate for the high-income group changes somewhat, that change is in the opposite of the expected direction, thereby again not providing support for our hypothesis based on unionization.

The only pattern somewhat conforming to our expectations regarding low-income preferences is observed for the government ideology variable. Whereas perverse representation of the low-income groups is estimated to be present under non-left governments (as evidenced by the negative and significant marginal coefficient), the coefficient under left-wing heads of governments is substantially closer to zero and insignificant. However, the marginal coefficient is still negative and the results do not suggest positive representation of the lower incomes. In addition, left-wing heads of governments are associated with less representation of the middle class, but do not seem to systematically affect the responsiveness to high-income citizens. While not reaching significance at the 5% level under both non-Left and Left governments, the signs of the coefficients seemingly replicate the findings of Hayes (2013) and Rigby and Wright (2013) for the US in that the responsiveness coefficient for high income interest is positive under Left-governments, but negative under non-left governments.

As for the debt variable, we again see little systematic patterns and marginal coefficients for both, the low-income group and the high-income group are insignificant irrespective of the debt levels considered. The only some somewhat more systematic pattern in that model seems to be that policy is suggested to be responsive to the middle class under the low debt and the average debt scenario, but not anymore once debt as share of GDP rises to high levels. This would be consistent with legislators that are increasingly constrained by high debts and are thus not able to conform to the wishes of average income earners. Nevertheless, the patterns do not suggest that representation is

Table 3 Marginal Coefficients by levels of Moderating variable In for models of change in Relative Redistribution

Conditioning Variable	Level	Low Income Pref.	Middle Income Pref.	High Income Pref.
Turnout	Low	-0.755	1.205	-0.394
		(-1.662;0.152)	(0.2;2.21)	(-0.881;0.093)
	Mean	-0.493	0.616	-0.027
		(-1.039;0.053)	(0.113;1.119)	(-0.445;0.392)
	High	-0.231	0.026	0.341
		(-1.107;0.645)	(-0.904;0.957)	(-0.328;1.01)
Union Density	Low	-0.561	0.77	-0.179
		(-1.425;0.303)	(-0.059;1.599)	(-0.818;0.46)
	Mean	-0.557	0.659	0.016
		(-1.177;0.063)	(0.131;1.186)	(-0.433;0.466)
	High	-0.553	0.547	0.212
		(-1.281;0.175)	(-0.158;1.251)	(-0.291;0.715)
Debt	Low	-0.641	1.083	-0.414
		(-1.557;0.275)	(0.256;1.91)	(-0.936;0.108)
	Mean	-0.442	0.605	-0.051
		(-1;0.115)	(0.113;1.097)	(-0.484;0.381)
	High	-0.243	0.126	0.312
		(-1.007;0.521)	(-0.628;0.881)	(-0.208;0.831)
Left Government	Non-Left Government	-0.727	1.18	-0.424
		(-1.391;-0.062)	(0.534;1.826)	(-0.893;0.046)
	Left Government	-0.138	-0.275	0.62
		(-1.132;0.857)	(-1.099;0.549)	(-0.189;1.428)

Displays marginal coefficients for the preferences for each income group (columns) computed by levels of the interaction variables (rows). 95% confidence interval in parentheses. Low and High refer to levels of one standard deviation above and below the mean, respectively. All entries rounded to the third integer.

most equal or even favors low-income groups in contexts where debt is low. In fact, the coefficient estimated for that group is negative in that scenario and is even the largest out of the three considered.

In sum, our results are difficult to interpret and reconcile with previous research as well as our theoretical expectations. Not only do many of the model specifications considered here suggest implausible "perverse" representation, but also do none of our proposed moderators behave as expected for all income groups. In addition, the findings are not generally robust to different model specifications and the models accounting for country fixed effects in particular do not suggest strong levels of overall responsiveness (be it equal or unequal) or variation thereof within countries over time.

While the latter two points could be attributed to a low power given the modest sample size and the slow-moving nature of our dependent and independent variables, the former still remains puzzling. To probe the results further, we suggest two additional assessments. First, Table 4 replicates our baseline specifications in differences, in levels and in levels with fixed effects from Table 2, Table 6 and Table 7 but replaces the dependent variable with social spending as a share of GDP[32], a dependent variable used also elsewhere (Peters and Ensink, 2015; Bartels, 2017; Elkjær and Iversen, 2019). In terms of high versus middle incomes, these models replicate a result closer to previous findings regarding unequal representation, with a positive coefficient for the high-income group in Models (1) and (2). Yet, the same is not suggested under Model (3) that accounts for fixed effects. Most importantly, however, the negative coefficient suggesting perverse representation of lower incomes persists (and attains significance in Model (2)). Overall, using this alternative dependent variable does a) not lead to results that are more stable across specifications and b) not mitigate the implausible negative coefficients for the low-income group in any of the three models.

A second point we are going to be considering in the near future is the issue of measurement error. Our measurement strategy and similar strategies specifically aim to mitigate problems of potentially noisy measurement strategies relying on single indicators (Jackman, 2009). Nevertheless, given the extraordinarily high correlations of the preference variables in our model, correlated measurement error in the variables could be a problem. As discussed by Achen (1985), Gilens (2012, 253-258), Gilens and Page (2014, Supplementary Appendix) and Bartels (2017, 47), correlated measurement errors in conjunction with highly correlated regressors may introduce inferential problems besides the well-known attenuation bias induced by single mismeasured regressors. In particular, Achen (1985) demonstrates how such configurations can introduce estimation bias in which the coefficient of the mismeasured regressor that is least strongly related to the outcome of interest

[32] Data are obtained from the IMF Data API from the database on general Government Expenditure by Function of Government and - consistent with our broadly defined independent variables – consists of the sum of social spending, spending on health and spending on housing (as a share of GDP).

can easily switch signs and become substantial in size with the resulting erroneous sign. This would suggest an underrepresentation of low incomes, but not actually "perverse" representation of low-income preferences. To account for such correlated measurement errors, Gilens and Page (2014) exploit a particularity of their data and correct their policy preference estimates. They show how their estimated opinion-policy links change substantially as a result. In particular, the models without correction suggest precisely the "perverse" representation of average incomes, but "only" the absence of representation of these incomes when their correction is applied. This suggests that accounting for measurement error might also have a profound effect in this application. While Dagenais and Dagenais (1997) suggest an instrumental variables strategy based on higher-order moments of the regressors to face these problems under certain assumptions, no established go-to solutions exist to our knowledge.[33] Future iterations of this study will clearly have to deal with these problems in detail. Before that is done, drawing a conclusion with regard to the relative responsiveness to low incomes as well as its determinants across countries and time is difficult. For now, we hope for valuable feedback that will help to improve the various aspects of this study.

7. Conclusion (to follow)

[33] Their strategy is suitable only for jointly non-normal variables and requires many instruments to be used for our already relatively moderate data.

Table 4 Models of Government Social Spending as a share of GDP

	(1)	(2)	(3)
Low Income Pref.	-.484	-.685*	-.288
	(.339)	(.380)	(.698)
Middle Income Pref.	-.072	-.567	-.194
	(.411)	(.539)	(.598)
High Income Pref.	.427	1.165***	.062
	(.340)	(.426)	(.478)
Relative Redistribution	-.066***	.942***	
	(.026)	(.031)	
Turnout	.310***	.346***	-.036
	(.099)	(.114)	(.229)
Union Density	-.090	-.173	.436
	(.129)	(.139)	(.739)
Debt	-.362***	-.434**	.809***
	(.134)	(.182)	(.258)
Left Government	.165	.439**	.257
	(.173)	(.205)	(.257)
N	304	305	305
R^2	.534	.923	.520
Adjusted R^2	.504	.919	.432

*p < .1; **p < .05; ***p < .01

Panel-Clustered standard errors based on Arellano (1987) in parentheses. Dependent Variable in Model (1) is 2-year Change in Social Spending as a share of GDP, Models (2) and (3) both use Social Spending as share of GDP at t+2. Model (3) controls for country-fixed effects via the within-transformation. All models control for fixed effects unobserved heterogeneity. Values rounded to the third integer. Non-binary covariates standardized and mean-centered. Controls not shown: Consumer Price Inflation, Unemployment, GDP growth, Old age dependency ratio and Market Income Inequality.

Appendices

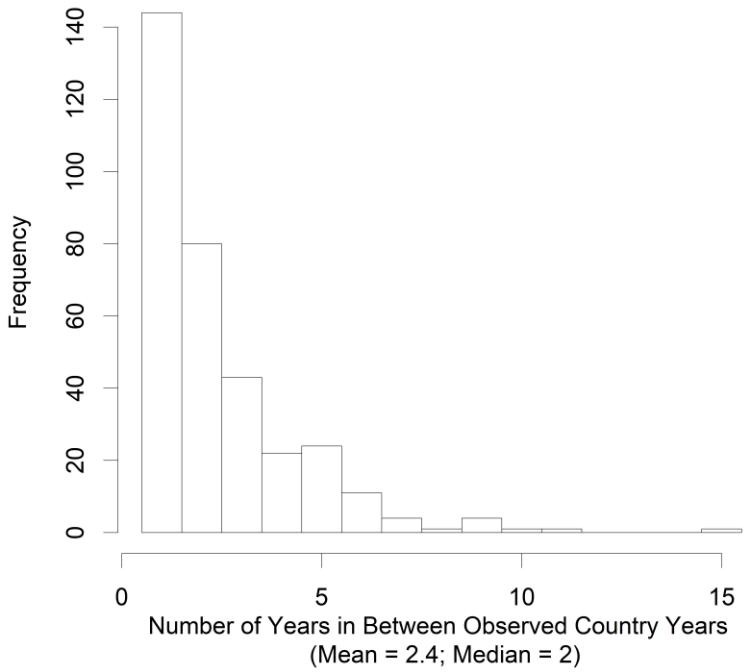


Figure 6 Time Series Gaps. Figure displays the average number of years in between subsequent observations of the same year in the final sample used in the analysis.

Table 5 List of Countries and Years covered in the final analysis

Country	Years covered
Argentina	1991; 1995; 1999; 2010; 2012
Australia	1986; 1987; 1990; 1993; 1995; 1996; 2000; 2005; 2007; 2010; 2012; 2013
Austria	1986; 1988; 1990; 1993; 1999; 2000; 2001; 2007; 2008; 2009; 2010; 2011; 2013
Belgium	1990; 1999; 2001; 2006; 2008; 2009; 2010; 2011; 2012
Brazil	1991; 2006; 2014
Bulgaria	1993; 1996; 1997; 1999; 2002; 2006; 2008; 2009; 2010; 2011; 2013
Canada	1990; 1992; 1996; 2000; 2006; 2011
Chile	1990; 1996; 2000; 2006; 2009; 2011
Czechia	1995; 1996; 1998; 1999; 2001; 2002; 2006; 2008; 2009; 2010; 2011; 2013
Denmark	1990; 1999; 2001; 2006; 2008; 2009; 2010; 2013
Estonia	1996; 1999; 2001; 2002; 2008; 2009; 2010; 2011; 2012
Finland	1990; 1996; 1999; 2000; 2001; 2005; 2006; 2008; 2009; 2010; 2012
France	1990; 1997; 1999; 2001; 2006; 2008; 2009; 2010; 2012; 2013
Germany	1985; 1987; 1990; 1991; 1992; 1996; 1997; 1999; 2000; 2001; 2006; 2008; 2009; 2010; 2012; 2013
Greece	1999; 2001; 2008; 2009; 2010; 2011; 2013
Hungary	1996; 1998; 1999; 2002; 2006; 2008; 2009; 2010; 2012
Iceland	1999; 2009; 2010; 2012; 2013
Ireland	1990; 1991; 1996; 1999; 2001; 2005; 2007; 2008; 2009; 2010; 2011; 2013
Israel	1991; 1996; 1999; 2001; 2007; 2008; 2009; 2011; 2012; 2013
Italy	1985; 1987; 1990; 1992; 1996; 1999; 2001; 2005; 2009; 2010; 2011; 2013
Japan	1990; 1991; 1995; 1996; 1999; 2000; 2005; 2006; 2009; 2010; 2013
Korea, South	1990; 1996; 2001; 2005; 2006; 2009; 2010
Latvia	1996; 1998; 1999; 2002; 2007; 2008; 2009; 2010; 2011; 2014
Lithuania	1997; 1999; 2001; 2002; 2008; 2009; 2010; 2011; 2013
Luxembourg	1999; 2001; 2008; 2009; 2010
Mexico	2000; 2005
Netherlands	1987; 1990; 1991; 1996; 1999; 2001; 2006; 2008; 2009; 2010; 2012
New Zealand	1992; 1997; 1998; 1999; 2004; 2006; 2009; 2011
Norway	1990; 1992; 1996; 1999; 2001; 2006; 2007; 2008; 2010; 2012; 2013
Poland	1997; 1999; 2000; 2002; 2005; 2006; 2008; 2009; 2010; 2011; 2012
Portugal	1990; 1999; 2001; 2006; 2007; 2008; 2009; 2010; 2013
Romania	1998; 1999; 2002; 2005; 2008; 2009; 2010; 2012; 2014
Slovakia	1998; 1999; 2001; 2002; 2007; 2008; 2009; 2010; 2012
Slovenia	1995; 1998; 1999; 2002; 2005; 2006; 2008; 2009; 2010; 2011; 2012
South Africa	2001; 2006; 2009; 2013
Spain	1990; 1995; 1996; 1999; 2000; 2001; 2006; 2007; 2008; 2009; 2010; 2011; 2013
Sweden	1990; 1991; 1996; 1999; 2001; 2006; 2008; 2009; 2010; 2011; 2012; 2014
Switzerland	1987; 1996; 1998; 1999; 2006; 2007; 2008; 2010; 2011; 2012
United Kingdom	1985; 1987; 1990; 1991; 1992; 1996; 1999; 2001; 2005; 2006; 2008; 2009; 2010; 2012; 2015
United States	1985; 1987; 1990; 1991; 1992; 1995; 1996; 1999; 2000; 2006; 2010; 2011; 2012

Table 6 OLS models of Levels of Relative Redistribution at t+2

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Constant	26.892***	.322	.245	.217	.314	.095	.186
	(3.154)	(.226)	(.258)	(.241)	(.300)	(.296)	(.264)
Low Income Pref.	3.157	-.788**	-.799**	-.826**	-.874**	-1.122***	-.780**
	(5.187)	(.308)	(.350)	(.343)	(.373)	(.424)	(.349)
Middle Income Pref.	2.801	.790**	.833***	.848***	.883***	1.515***	.875***
	(4.496)	(.308)	(.322)	(.324)	(.339)	(.451)	(.328)
High Income Pref.	-6.772**	-.095	-.060	-.054	-.012	-.507*	-.112
	(3.014)	(.223)	(.236)	(.219)	(.247)	(.275)	(.235)
Relative Redistribution		.999***	1.002***	1.004***	1.003***	1.003***	1.002***
		(.005)	(.007)	(.007)	(.007)	(.007)	(.008)
Turnout	1.380		-.103	.181	-.097	-.094	-.108
	(.995)		(.081)	(.179)	(.087)	(.074)	(.085)
Union Density	2.643***		-.028	-.019	.285	-.007	-.022
	(1.008)		(.076)	(.073)	(.248)	(.072)	(.075)
Debt	-1.103		-.021	-.051	-.037	-.028	.272*
	(1.047)		(.068)	(.083)	(.097)	(.069)	(.154)
Left Government	.793		.042	.050	.058	.448	.045
	(1.167)		(.110)	(.112)	(.116)	(.412)	(.116)
Turnout x Low Income Pref.				-.100			
				(.394)			
Turnout x Middle Income Pref.				-.261			
				(.452)			
Turnout x High Income Pref.				.387			
				(.239)			
Union Density x Low Income Pref.					-.271		
					(.335)		
Union Density x Middle Income Pref.					.016		
					(.357)		
Union Density x High Income Pref.					.288		
					(.207)		
Debt x Low Income Pref.							.103
							(.418)
Debt x Middle Income Pref.							-.817*
							(.445)
Debt x High Income Pref.							.682***
							(.202)
Left Government x Low Income Pref.						.699	
						(.756)	
Left Government x Middle Income Pref.						-1.631**	
						(.728)	
Left Government x High Income Pref.						1.129**	
						(.491)	
N	375	376	376	376	376	376	376
R^2	.424	.992	.992	.992	.992	.992	.992
Adjusted R^2	.405	.992	.992	.992	.992	.992	.992

*p < .1; **p < .05; ***p < .01

Panel-Clustered standard errors based on Arellano (1987) in parentheses. Dependent Variable is Lead of Relative Redistribution. Values rounded to the third integer. Non-binary covariates standardized and mean-centered. Controls not shown: Consumer Price Inflation, Unemployment, GDP growth, Old age dependency ratio and Market Income Inequality.

Table 7 Models of Relative Redistribution at t+2 accounting for Fixed Effects using Within-Estimation

	(1)	(2)	(3)	(4)	(5)	(6)
Low Income Pref.	-.803	-1.157	-.786	-.322	-.602	-.820
	(.687)	(.796)	(.646)	(.685)	(.840)	(.749)
Middle Income Pref.	-.284	-.800	-.325	-.729	-1.132	-.291
	(.714)	(.836)	(.660)	(.702)	(.875)	(.769)
High Income Pref.	.123	.977	.130	.168	.639	.119
	(.650)	(.916)	(.645)	(.645)	(.815)	(.670)
Turnout	.339		-.008	.358	.345	.347
	(.389)		(.657)	(.397)	(.385)	(.391)
Union Density	.072		.060	.056	.079	.014
	(1.013)		(1.017)	(1.336)	(1.034)	(1.058)
Debt	.670**		.757**	.842**	.683**	.910
	(.314)		(.341)	(.364)	(.324)	(.592)
Left Government	.533*		.535*	.459	.390	.536*
	(.294)		(.304)	(.285)	(.988)	(.303)
Turnout x Low Income Pref.			.286			
			(.712)			
Turnout x Middle Income Pref.			-.410			
			(.892)			
Turnout x High Income Pref.			-.279			
			(.689)			
Union Density x Low Income Pref.				-.834		
				(.560)		
Union Density x Middle Income Pref.				.317		
				(.700)		
Union Density x High Income Pref.				-.303		
				(.786)		
Debt x Low Income Pref.						-.103
						(.784)
Debt x Middle Income Pref.						-.215
						(.815)
Debt x High Income Pref.						.413
						(.619)
Left Government x Low Income Pref.					-.807	
					(1.414)	
Left Government x Middle Income Pref.					2.197	
					(1.456)	
Left Government x High Income Pref.					-1.069	
					(1.143)	
N	375	376	375	375	375	375
R^2	.281	.025	.292	.301	.289	.283
Adjusted R^2	.168	-.098	.173	.183	.169	.162

*p < .1; **p < .05; ***p < .01

Panel-Clustered standard errors based on Arellano (1987) in parentheses. Dependent Variable is Lead of Relative Redistribution. All models control for fixed effects unobserved heterogeneity. Values rounded to the third integer. Non-binary covariates standardized and mean-centered. Controls not shown: Consumer Price Inflation, Unemployment, GDP growth, Old age dependency ratio and Market Income Inequality.

Dimensionality of the Survey data

In this section we face the concern of different dimensionalities of redistributive preferences. Using individual-level survey data from all surveys that contain at least six different items from the 68 items we determined as potentially suitable indicators based on our broad conceptualization of redistributive preferences, we can empirically show that employing a one-dimensional scale is a reasonable approach for our analysis. In particular, the black lines Figure 7 takes the 19 different surveys identified this way, pools the respondents from each country-year in each of these surveys and plots the eigenvalues obtained after fitting a (uni-dimensional) factor analysis model to the data. Following the famous Kaiser criterion by extracting only those factors with an eigenvalue larger than one, i.e. factors that contain *more* information than the average item (Kaiser, 1960) suggests all nineteen surveys to be reasonably approximated by a one-dimensional structure. The eigenvalues of additional factors drop beneath this cut-off point after the first factor and the eigenvalue of the second factor typically lies markedly below the cutoff (see second column of es at the group level (see text)

Table 8). Increasing complexity by adding additional factors would thus only marginally increase the explanatory power of our model.

Yet, the exercise below also shows the problems of using admittedly broad definitions and relying on sets of items not a priori designed to measure a certain concept. In many surveys, the value of the first factor is not much above 1 and a single factor seldomly captures the variation across all items available in a given survey. However, our scaling model is estimated using the individual-level survey data aggregated to group-level means, where the evidence for unidimensionality is stronger. In particular, the red lines in Figure 7 show the eigenvalues for the same factor analysis applied to group-level means after stratifying each sample by gender (2 categories), age (<25,25-64,65+, not available in all surveys) and the three income groups we use above. We restrict ourselves to surveys with more than 100 resulting group-level observations. As can be seen, for all the surveys analysed this way, the eigenvalue of the first factor lies considerably above the first factor's eigenvalue obtained at the individual-level. The eigenvalue of the second factor, in contrast, is again similarly low, thus providing additional evidence, that the unidimensional model is often reasonable approximation, as also suggested by Caughey and Warshaw (2019, Supplementary Appendix) for their different dimensions.

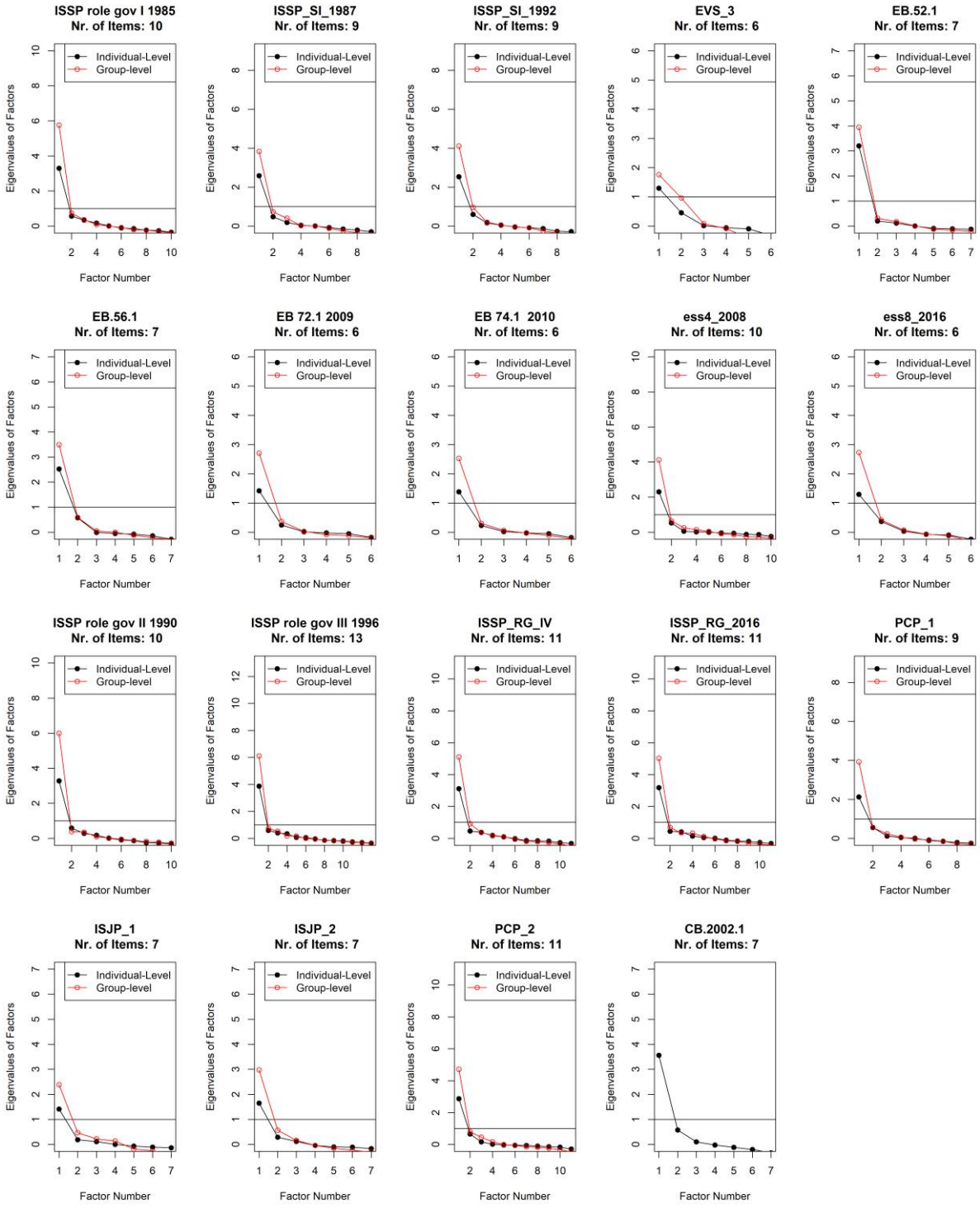


Figure 7 Screeplots obtained after applying factor-analysis to the survey subsets for surveys with more than 5 items. ISSP role gov refers to the ISSP role of government modules, ISSP_SI refers to the ISSP Social Inequality modules, EVS to the European Values Study, EB to Eurobarometer Surveys, ESS to the European Social Survey, ISJP to the International Social Justice Project, PCP to the Post-Communist Publics Study and CB the Candidate Barometer Surveys. Black Lines denote results at the individual level, Red Lines at the group level (see text)

Table 8 Eigenvalues of the first five factors. Surveys showed include only those with at least six items

	1	2	3	4	5
ISSP role gov I 1985	3.294	0.574	0.334	0.167	0.013
ISSP_SI_1987	2.560	0.477	0.187	0.066	-0.009
ISSP_SI_1992	2.516	0.589	0.166	0.048	-0.036
EVS_3	1.299	0.460	0.018	-0.057	-0.093
EB.52.1	3.205	0.204	0.121	-0.001	-0.091
EB.56.1	2.529	0.570	-0.012	-0.054	-0.080
EB 72.1 2009	1.422	0.242	0.011	-0.025	-0.053
EB 74.1 2010	1.379	0.231	0.019	-0.020	-0.051
ess4_2008	2.309	0.524	0.059	0.023	-0.002
ess8_2016	1.295	0.371	0.036	-0.071	-0.092
ISSP role gov II 1990	3.282	0.588	0.286	0.177	0.009
ISSP role gov III 1996	3.865	0.596	0.408	0.333	0.072
ISSP_RG_IV	3.120	0.457	0.376	0.169	0.092
ISSP_RG_2016	3.182	0.440	0.402	0.147	0.048
PCP_1	2.121	0.560	0.116	0.039	0.010
ISJP_1	1.418	0.186	0.116	0.005	-0.068
ISJP_2	1.647	0.293	0.117	-0.042	-0.096
PCP_2	2.871	0.661	0.164	0.015	-0.034
CB.2002.1	3.563	0.575	0.101	-0.023	-0.118

In-sample distribution of respondents by income groups

As noted above, our strategy of classifying individuals as belonging to either the lower income tercile, the middle tercile or the higher income tercile may generate distributions that do not reflect perfect tercile proportions. The following plots provide descriptions of the in-sample distribution of our three income groups for all country-year-survey samples, with four different color mappings for Survey Series, the presence or absence of weights for the sample, the type of income question that was asked to the respondents, and finally the number of income categories. What appears most clearly is that our in-sample data is generally skewed towards Low-income respondents and away from high-income respondents. If one focuses on the 20% line on all three axes, one sees that only one country-survey observation contains exactly 20% of Low-income respondents, while the ones that contain less than 20% of Middle-income and High-income respondents are much more numerous. Figure shows that the extent of that situation varies across survey series, with some of them, such as ISSP, being overall close to the “center”, whereas others display much stronger dispersion.

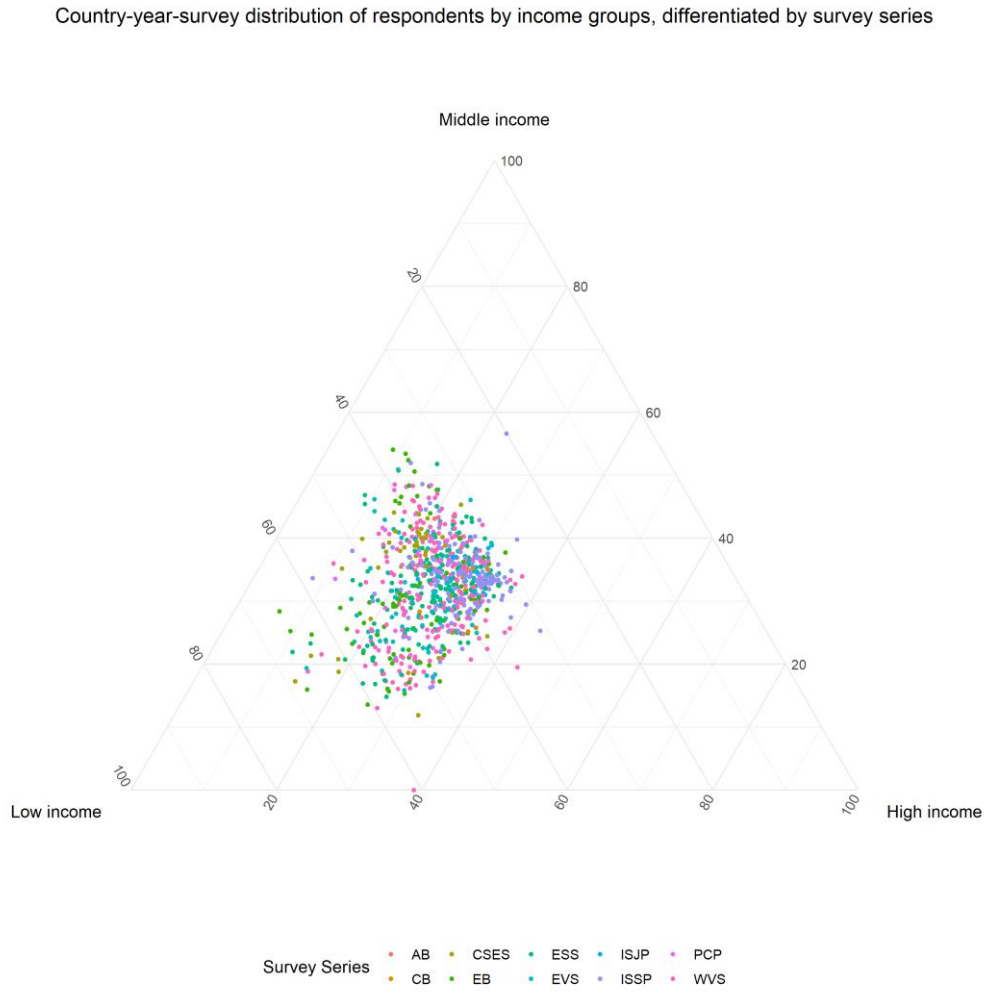
There are at least two potential explanation for that situation: for one, as weights were used to create our three income groups when provided, it is possible that Low-income respondents were generally oversampled compared to middle and high-income respondents. This is indeed suggested by the larger average size of the Low-income group across all country-year-survey samples, but is however not supported by the weights themselves, as these average to a value close to one for all three income groups. Figure further suggests that good and bad income group partitions can be found in both weighted and unweighted samples. A more likely candidate for this situation is the number of income categories in which respondents could place themselves, and especially how well these mapped onto the actual income distribution of the respondent's country. As we proceeded to move up the income distribution from the bottom income category to the 33rd percentile in order to shape the Low-income group of respondents for all country-survey samples, we frequently encountered cases where the category that contained the respondent corresponding to the in-sample 33% quantile of incomes was very large, forcing us to make decisions regarding the size of L and M. As a large number of the surveys we use to estimate preferences by income group do not include a monetary measure of income that can be normalized by the square root of the number of people living in the household (thus necessarily generating a smoother distribution), we had to make do with this imperfect group partition.

Regarding the latter point, the color mapping by survey series already demonstrated that some surveys are seemingly of higher quality in this regard. In particular, the points corresponding to the ISSP surveys are on average much closer to the "center" of the figure, which corresponds to the ideal situation of equally sized income groups within a given sample. The strong dispersion of ESS country samples despite the survey using ten to twelve income categories is for example very telling of the fact that the

heavily normalized income bands used in their surveys match the income distribution of certain (richer) countries much better than that of other (poorer) ones. This is made obvious in Figure as well as Figure , where we can see that certain ESS country-samples end up with a very large Low-income groups despite the large number of categories; this is in fact due to the *effective* number of income categories being much lower, with certain categories towards the bottom housing too many respondents. An extreme case of this occurs in the Azerbaijan WVS 2011 sample, where more than a third of the respondents end up in a category that spans across the first two income terciles; this sample was thus split between a low-income group and a high-income group.[34]

Finally, Figure displays the same plot with color mapping for the type of income question, it is pretty clear that the cluster closest to the center is dominated by income questions that at least refer to a monetary value, whereas the non-monetary income question displays much greater dispersion.

Figure 8 Distribution of in-sample proportions of generated income terciles by Survey



[34] Note that this sample is not part of our analysis due to missing values on covariates other than estimated preferences.

Figure 9 Distribution of in-sample proportions of generated income terciles by Survey Weight availability

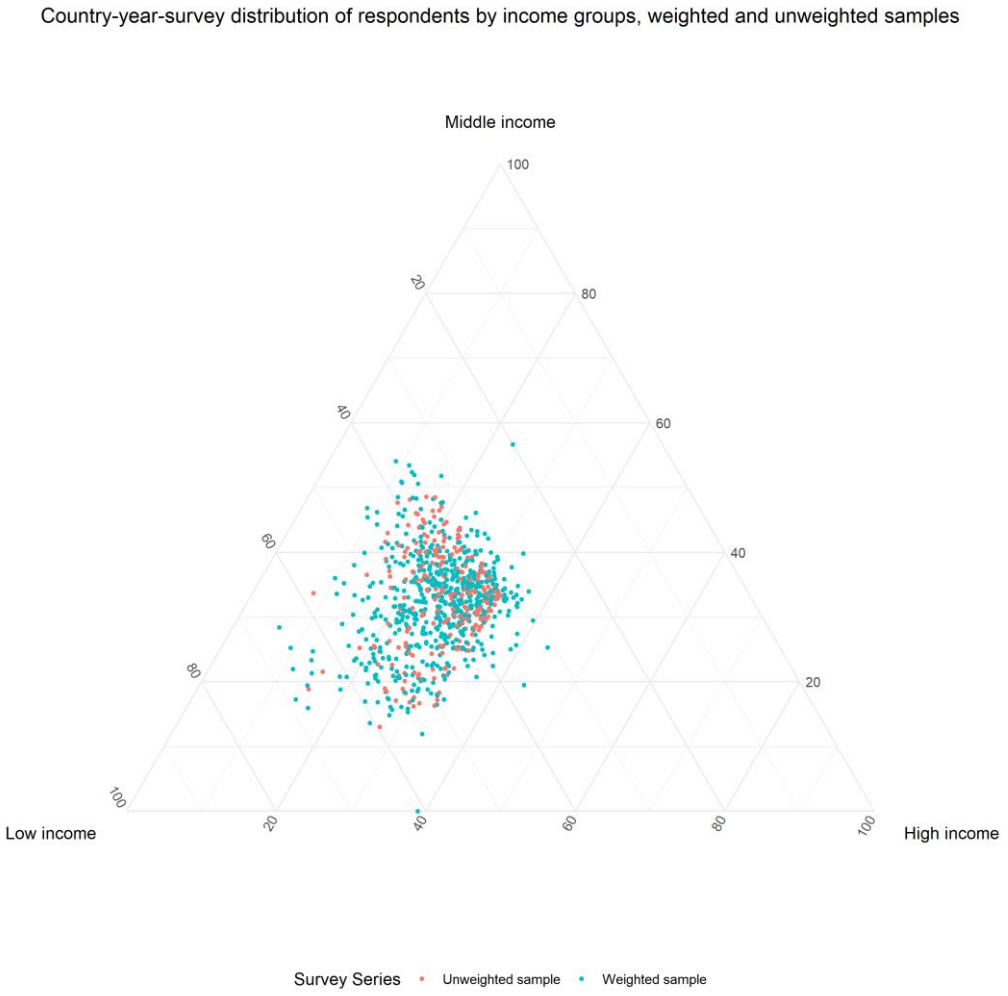


Figure 10 Distribution of in-sample proportions of generated income terciles by income question categories

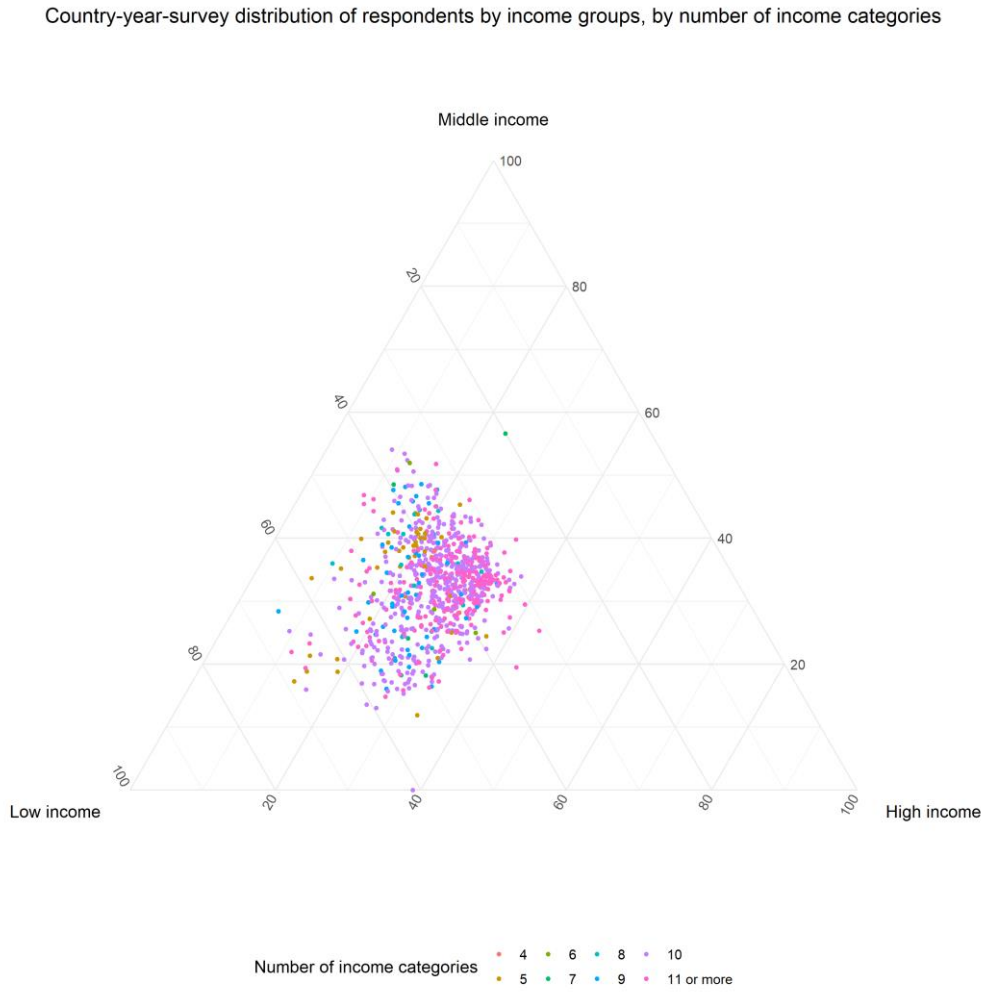


Figure 11 Distribution of in-sample proportions of generated income terciles by Type of income question

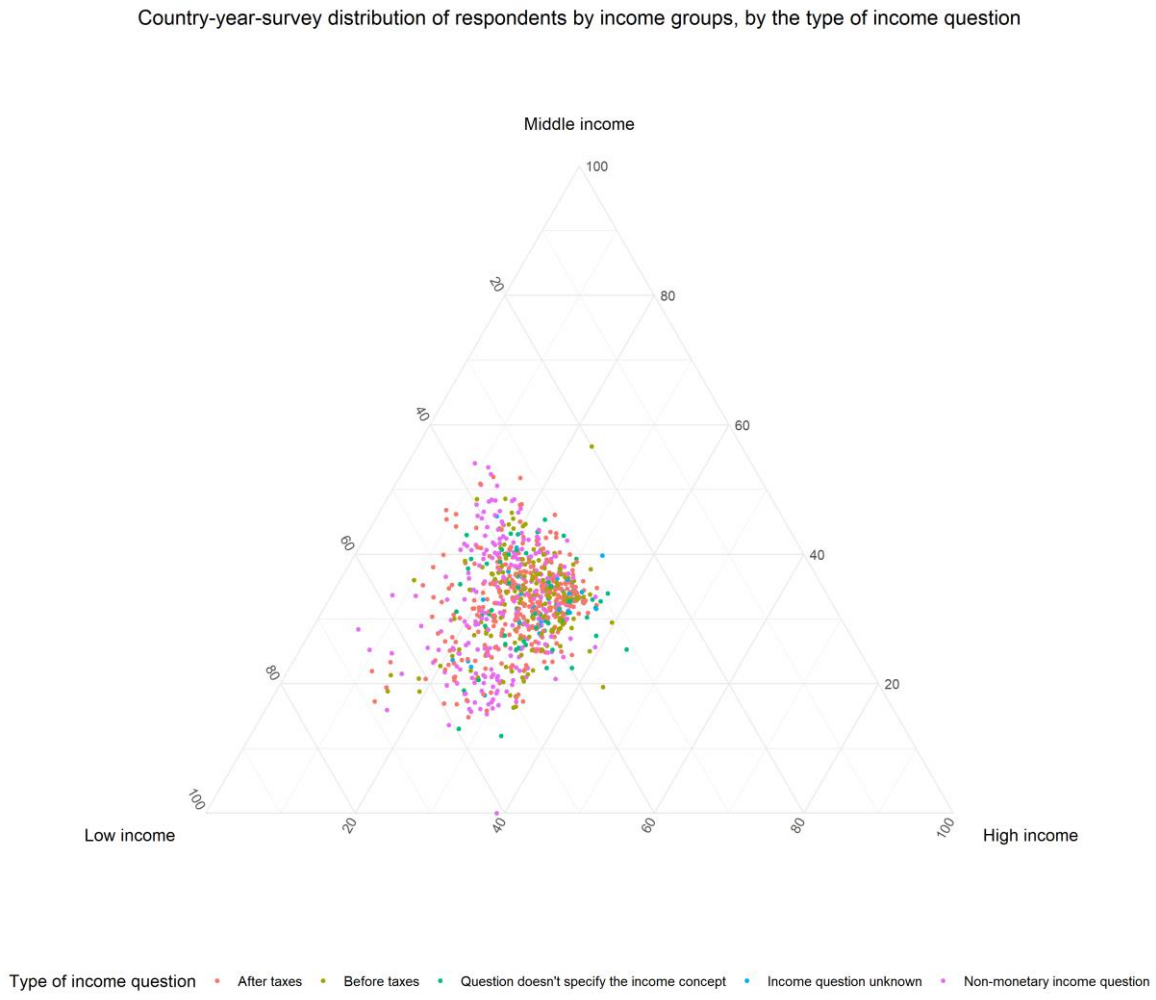


Table 9 List of items and Included in the group-level latent variable scaling model

Item	Description	Survey	Year
equal_more.equal.4	Placement on "Income should be made more equal" versus "There should be greater incentives for individual effort" (or similar, 10 categories)	WVS_5, WVS_3, WVS_4, EVS_4, WVS_6, WVS_2, EVS_2, EVS_3	1989, 1990, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016
equal_more.equal.0	The government should take measures to reduce differences in income levels (5 categories)	ess6_2012, cses4, ess3_2006, ess4_2008, ess5_2010, ess8_2016, ESS1_2002, ESS2_2004, ess7_2014	2002, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017
equal_more.equal.1	It is reponsibility of the government to reduce the differences in income between people with high incomes and those with low incomes. (5 categories)	ISSP_SI_2009, ISSP role gov I 1985, ISSP_SI_1987, ISSP_SI_1992, EB.52.1, ISSP_SI_1999, EB.56.1, ISSP role gov II 1990, ISSP role gov III 1996, CB.2002.1, WVS_4	1985, 1986, 1987, 1988, 1990, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2008, 2009, 2010, 2011
equal_more.equal.5	On the whole, do you think it should be or should not be the governments responsibility to: Reduce income differences between the rich and poor (4 categories)	ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016, PCP_1, PCP_2	1985, 1986, 1990, 1991, 1992, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2005, 2006, 2007, 2008, 2016, 2017, 2018
equal_egality.v.freedom	Which of these two statements comes closest to your own opinion? A. I find that both freedom and equality are important. But if I were to choose one or the other, I would consider personal freedom more important, that is, everyone can live in freedom and develop without hinderance. B. Certainly both freedom and equality are important. But if I were to choose one or the other, I would consider equality more important, that is, that nobody is underprivileged and that social class differences are not so strong.	EVS_4, WVS_2, EVS_2, EVS_3, PCP_2	1989, 1990, 1991, 1992, 1993, 1998, 1999, 2000, 2001, 2008, 2009
equal_should.egalitarian	And now, could you please tell me which type of society this country you think this country SHOULD aim to be in the future. For each pair of statements, would you prefer being closer to the first or to the second alternative? 1) an egalitarian society where gap between rich and poor is small, regardless of achievement 2) a competitive society, where wealth is distributed according to one's achievements?	WVS_4	2000, 2001, 2002, 2003
equal_unemployment.essential	Please tell me for each of the following things how essential you think it is as a characteristic of democracy. Use this scale where 1 means “not at all an essential characteristic of democracy” and 10 means it definitely is “an essential characteristic of democracy”: People receive state aid for unemployment.	WVS_5, WVS_6	2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016
equal_welfare.vs.debt	Suppose the level of taxation in country stays the same as it is now. Should the government: 0 = spend less than now on social services, so that the national deficit or debt can be reduced 1 = spend the same amount as now on social services even if this means the national deficit or debt stays as it is	ISSP role gov III 1996	1995, 1996, 1997, 1998
equal_basic.income	Please show how much you agree or disagree with this statement. The government should provide everyone with a guaranteed basic income (5 categories)	ISSP_SI_1987, ISSP_SI_1992, EB.56.1	1987, 1988, 1991, 1992, 1993, 2001

equal_gov.resp.minimum	Please tell me how much you agree or disagree with each statement. The government should guarantee everyone a minimum standard of living. (5 categories)	ISJP_1, ISJP_2	1991, 1992, 1995, 1996
equal_gov.resp.maximum	Please tell me how much you agree or disagree with each statement. The government should place an upper limit on the amount of money any one person can make. (5 categories)	ISJP_1, ISJP_2	1991, 1992, 1995, 1996
equal_same.share.everyone	Please tell me how much you agree with this statement. The fairest way of distributing wealth and income would be to give everyone equal shares. (5 categories)	ISJP_1, ISJP_2	1991, 1992, 1995, 1996
equal_redistr.meet.needs	Please tell me how much you agree with this statement. The most important thing is that people get what they need, even if this means allocating money from those who have earned more than they need. (5 categories)	ISJP_1, ISJP_2	1991, 1992, 1995, 1996
equal_inc.diff.acceptable	Please say how much you agree or disagree with each of the following statements. Large differences in people's incomes are acceptable to properly reward differences in talents and efforts. (5 categories)	ess4_2008, ess8_2016	2008, 2009, 2011, 2016, 2017
equal_inc.diff.besmall	Please say how much you agree or disagree with each of the following statements. For a society to be fair, differences in people's standard of living should be small. (5 categories)	ess4_2008, ess8_2016	2008, 2009, 2011, 2016, 2017
equal_gov.resp.paid.sick	Please tell me on a score of 0-10 how much responsibility you think governments should have. 0 means it should not be governments responsibility at all and 10 means it should be entirely governments responsibility. Provide paid leave from work for people who temporarily have to care for sick family members? (11 categories)	ess4_2008	2008, 2009, 2011
equal_tax.equality	Think of two people, one earning twice as much as the other. Which of the three statements on this card comes closest to how you think they should be taxed? 0 = pay same share of earnings in tax 1 = higher earner pay higher share of earnings in tax 2 = pay same amount of money in tax	ess4_2008	2008, 2009, 2011
equal_unempl.benefits.incomedepend	Some people say that higher earners should get more benefit when they are temporarily unemployed because they paid more in tax, whilst others think that lower earners should get more because they are in greater need. Using this card, please tell me which of the three statements you agree with most? 0 = higher earners should get more in benefit. 1 = high and low earners same amount benefit 2 = lower earners should get more in benefit	ess4_2008	2008, 2009, 2011
equal_benefits.too.low	Using this card, please say how much you agree or disagree with each of the following statements about people in [country]. There are insufficient benefits in [country] to help the people who are in real need. (5 categories)	ess4_2008	2008, 2009, 2011
equal_gov.pov.prevent	Please tell me how much you agree with the following statement. 'The government should do more to prevent people falling into poverty'. (5 categories)	ess5_2010	2010, 2011, 2013
equal_imp.gov.reduce.inc.diff	And still thinking generally rather than about [country], how important do you think it is for democracy in general... ...that the government takes measures to reduce differences in income levels? (11 categories)	ess6_2012	2012, 2013
equal_welfare.vs.training	Now imagine there is a fixed amount of money that can be spent on tackling unemployment. Would you be against or in favour of the government spending more on education and training programs for the unemployed at the cost of reducing unemployment benefit? (4 categories)	ess8_2016	2016, 2017
equal_inc.diff.acceptable2	Considering the money people earn from their work, do you think that there should be 0 = large differences 1 = some differences 2 = no differences	PCP_1, PCP_2	1990, 1991, 1998, 1999, 2000, 2001
equal_gov.resp.healthcare2	Which of the following statements do you agree with more? 1 - Citizens should pay for their own medical care and medicine. 2 - The government should cover the costs of cizitens medical care and medicine.	PCP_1, PCP_2	1990, 1991, 1992, 1998, 1999, 2000, 2001
equal_gov.resp.provide2	Which of the following statements do you agree with more? 1 - Instead of depending so much on the government, people should learn to take care of themselves. 2 - The government doesn't do enough to protect people from economic difficulties.	PCP_1, PCP_2	1990, 1991, 1992, 1998, 1999, 2000, 2001

equal_inequality.widens	Please tell me to what extent you agree or disagree with each of the following statements. In (NATIONALITY) society, the rich get richer and the poor get poorer (5 categories)	EB.52.1, EB.56.1, CB.2002.1	1999, 2001, 2002
equal_inc.diff.bad.society	Please tell me to what extent you agree or disagree with each of the following statements. Wide differences in income are not good for (NATIONALITY) society (5 categories)	EB.52.1, CB.2002.1	1999, 2002
equal_gov.guarantee.equal.opportun	Please tell me to what extent you agree or disagree with each of the following statements. The government has to guarantee the same opportunities (education, health, etc.) for everyone (5 categories)	EB.52.1, CB.2002.1	1999, 2002
equal_spend.more.welfare	Please tell me to what extent you agree or disagree with each of the following statements. The government should spend more on social welfare (5 categories)	EB.52.1, CB.2002.1	1999, 2002
equal_poor.insufficient.support	Please tell me to what extent you agree or disagree with each of the following statements. There is not enough government support for poor or socially excluded people (5 categories)	EB.52.1, CB.2002.1	1999, 2002
equal_wealth.fair.redist	For each of the following statements, please tell me whether you agree or disagree. The Government should ensure that the wealth of the country is redistributed in a fair way to all citizens. (4 categories)	EB 72.1 2009, EB 74.1 2010	2009, 2010
equal_high.inc.tax.poverty	For each of the following statements, please telle me whether you agree or disagree. People who are well-off should pay higher taxes so the Government has more means to fight poverty (4 categories)	EB 72.1 2009, EB 74.1 2010	2009, 2010
equal_gov.resp.provide.1	Individuals should take more responsibility for providing for themselves vs The state should take more responsibility to ensure that everyone is provided for (10 categories)	WVS_5, WVS_3, WVS_4, EVS_4, WVS_6, WVS_2, EVS_2, EVS_3	1989, 1990, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2016
equal_gov.resp.provide.2	And which of these two statements comes closest to your view? 1. The Government should take more responsibility to ensure that everyone is provided for 2. It depends (SPONTANEOUS) 3. People should take more responsibility to provide for themselves (3 categories)	EB 72.1 2009, EB 74.1 2010	2009, 2010
equal_gov.resp.oldage.1	On the whole, do you think it should be or should not be the governments responsibility to: provide a decent standard of living for the old (4 categories)	ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016, PCP_1, PCP_2	1985, 1986, 1990, 1991, 1992, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2005, 2006, 2007, 2008, 2016, 2017, 2018
equal_gov.resp.oldage.3	Now Id like you to tell me your views on various issues. How would you place your views on this scale? Each individual shoul be responsible for arranging his or her own pension vs the state should be responsible for everyone's pension (10 categories)	EVS_3	1999, 2000, 2001
equal_gov.resp.oldage.2	Please tell me on a scale of 0-10 how much responsibility you think governments should have. 0 means it should not be governments' responsibility at all and 10 means it should be entirely governments' responsibility. Ensure a reasonable standard of living for the old? (11 categories)	ess3_2006, ess4_2008, ess8_2016	2006, 2007, 2008, 2009, 2011, 2016, 2017
equal_gov.resp.housing.2	How would you place your views on this scale? The individual should be responsible for arranging his or her own housing vs the state should be responsible for everyone's housing (10 categories)	EVS_3	1999, 2000, 2001
equal_gov.resp.housing.5	How much do you agree with the following statement? The government should provide decent housing for all who cannot afford it (5 categories)	EB.56.1	2001
equal_gov.resp.housing.1	On the whole, do you think it should be or not be the governments responsibility to provide decent housing for those who cant afford it? (4 categories)	ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016	1995, 1996, 1997, 1998, 2005, 2006, 2007, 2008, 2016, 2017, 2018
equal_inc.diff.imp.1	In order to be considered just, what should a society provide? Please tell me for each statement if it is important or unimportant to you. Eliminating big inequalities in income between citizens (5 categories)	EVS_3	1999, 2000, 2001

equal_inc.diff.imp.2	Please put the items on this card into three groups according to their importance in life. In the first group, please put the most important items, into the second the rather important ones and into the third group those, which are not important): "There should be no big income differences" (PCP) (3 categories)	PCP_2	1998, 1999, 2000, 2001
equal_tax.progressive.2	Do you think that people with high incomes should pay a larger share of their income in taxes than those with low incomes, the same share or a smaller share (5 categories)	ISSP_SI_2009, ISSP_SI_1987, ISSP_SI_1992, ISSP_SI_1999	1987, 1988, 1991, 1992, 1993, 1998, 1999, 2000, 2001, 2008, 2009, 2010, 2011
equal_tax.progressive.1	Some people think those with high income should pay a larger proportion (percentage) of their earnings in taxes than those who earn low incomes. Other people think that those with high income and those with low inocme should pay the same proportion (percentage) of their earning in taxes. Do yo tink those with high incomes should pay a much smaller-much larger proportion (5 categories)	ISSP role gov I 1985, ISSP role gov II 1990	1985, 1986, 1990, 1991
equal_gov.resp.job.6	The (COUNTRY) govenrment, more than the private sector, should be primarily responsible for creating jobs. To what extent do you agree or disagree with this statement?	AB 2010, AB 2012	2010, 2012
equal_gov.resp.job.1	On the whole, do you think it should be or should not be the governments responsibility to: Provide a job for everyone who wants one (4 categories)	ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016, PCP_1, PCP_2	1985, 1986, 1990, 1991, 1992, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2005, 2006, 2007, 2008, 2016, 2017, 2018
equal_gov.resp.job.3	Please tell me how much you agree or disagree with each statement. The government should provide a job for everyone who wants one. (5 categories)	ISSP_SI_1987, ISSP_SI_1992, EB.56.1, ISJP_1, ISJP_2	1987, 1988, 1991, 1992, 1993, 1995, 1996, 2001
equal_gov.resp.job.5	People think differently on what steps should be taken to help solving social and economic problems in (OUR COUNTRY). I'm going to read you two contradictory statements on this topic. Please tell me which one comes closest to your view. 1. It is primarily up to the Government to provide jobs for the unemployed 2. It depends (SPONTANEOUS) 3. Providing jobs should rest primarily on private companies and markets in general	EB 72.1 2009, EB 74.1 2010	2009, 2010
equal_gov.resp.job.2	Please tell me on a score of 0-10 how much responsibility you think governments should have. 0 means it should not be governments' responsibility at all and 10 means it should be entirely governments' responsibility. To ensure a job for everyone who wants one? (11 categories)	ess4_2008	2008, 2009, 2011
equal_gov.resp.healthcare.1	On the whole, do you think it should be or should not be the governments responsibility to: provide health care for the sick (4 categories)	ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016, PCP_1, PCP_2	1985, 1986, 1990, 1991, 1992, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2005, 2006, 2007, 2008, 2016, 2017, 2018
equal_gov.resp.unemployed.3	Please show how much you agree or disagree with each of the following statements: The government should provide a decent standard of living for the unemployed (5 categories)	ISSP_SI_2009, ISSP_SI_1987, ISSP_SI_1992, EB.56.1	1987, 1988, 1991, 1992, 1993, 2001, 2008, 2009, 2010, 2011
equal_gov.resp.unemployed.1	On the whole, do you think it should be or should not be the governments responsibility to: provide a decent standard of living for the unemployed (4 categories)	ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016, PCP_1, PCP_2	1985, 1986, 1990, 1991, 1992, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2005, 2006, 2007, 2008, 2016, 2017, 2018
equal_gov.resp.unemployed.2	please tell me on a score of 0-10 how much responsibility you think governments should have. 0 means it should not be governments' responsibility at all and 10 means it should be entirely governments' responsibility. To ensure a reasonable standard of living for the unemployed? (11 categories)	ess4_2008, ess8_2016	2008, 2009, 2011, 2016, 2017
equal_gov.resp.educ.poor.1	Please show how much you agree or disagree with this statement. The government should provide more chances for children from poor families to go to university (5 categories)	ISSP_SI_1987, ISSP_SI_1992	1987, 1988, 1991, 1992, 1993
equal_gov.resp.educ.poor.2	On the whole, do you think it should be or not be the governments responsibility to give financial help to university students from low-income families (4 categories)	ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016	1995, 1996, 1997, 1998, 2005, 2006, 2007, 2008, 2016, 2017, 2018

equal_inc.diff.necessary.3	Some people earn a lot of money while others do not earn very much at all. In order to get people to work hard, do you think large differences in pay are necessary or not necessary? (4 categories)	ISSP_SI_1987, ISSP_SI_1992	1987, 1988, 1991, 1992, 1993
equal_inc.diff.necessary.4	For each of the following statements, please tell me whether you agree or disagree: Income inequalities are necessary for economic development (4 categories)	EB 72.1 2009, EB 74.1 2010	2009, 2010
equal_trickle.down.1	Tell me to what extent you agree or disagree with this statement: It is all right if businessmen make good profits because everyone benefits in the end. (5 categories)	ISJP_1, ISJP_2	1991, 1992, 1995, 1996
equal_inc.diff.too.high.2	Please show how much you agree or disagree with each statement. Differences in income in country are too large. (5 categories)	ISSP_SI_2009, ISSP_SI_1987, ISSP_SI_1992, EB.52.1, ISSP_SI_1999, EB.56.1, CB.2002.1	1987, 1988, 1991, 1992, 1993, 1998, 1999, 2000, 2001, 2002, 2008, 2009, 2010, 2011
equal_inc.diff.too.high.3	For each of the following statements, please tell me whether you agree or disagree. Nowadays in (OUR COUNTRY) income differences between people are far too large. (4 categories)	EB 72.1 2009, EB 74.1 2010	2009, 2010
equal_inc.diff.too.high.1	What do you think about the difference in incomes people have in COUNTRY [EG,WG: in your part of COUNTRY]? Are the differences much too large, somewhat too large, about right, somewhat too small, or much too small? (5 vategories)	ISJP_1, ISJP_2	1991, 1992, 1995, 1996
equal_gov.resp.maximum2.1	Which of the following statements do you agree with more? 1 - There should be no limits on the amount of money one is able to earn. 2 - It is necessary to place limits on the amount of money that one can earn (2 categories)	PCP_1	1990, 1991, 1992
equal_gov.resp.maximum2.2	Which of the following statements do you agree with more? 1 - There should be no limits on the amount of money one is able to earn. 2 - It is necessary to place limits on the amount of money that one can earn (3 categories)	PCP_2	1998, 1999, 2000, 2001
tax_rich.person	Generally, how would you describe taxes in country? (We mean all taxes together, including national insurance/social security), income tax, VAT/Sales tax and all the rest.) First, for those with high incomes, are taxes too high or too low? (5 categories)	ISSP_SI_2009, ISSP_SI_1987, ISSP_SI_1992, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016	1987, 1988, 1991, 1992, 1993, 1995, 1996, 1997, 1998, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2016, 2017, 2018
spending_health	Listed below are various areas of government spening. Please show whether you would like to see more or less government spening in each area. Remember that if you say "much more", it might require a tax increase to pay for it. More or less government spending for: health (5 categories)	cses4, ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016	1985, 1986, 1990, 1991, 1995, 1996, 1997, 1998, 2005, 2006, 2007, 2008, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
spending_unemployment	Listed below are various areas of government spening. Please show whether you would like to see more or less government spening in each area. Remember that if you say "much more", it might require a tax increase to pay for it. More or less government spending for: unemployment benefits (5 categories)	ISSP role gov I 1985, cses4, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016	1985, 1986, 1990, 1991, 1995, 1996, 1997, 1998, 2005, 2006, 2007, 2008, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
spending_pension	Listed below are various areas of government spening. Please show whether you would like to see more or less government spening in each area. Remember that if you say "much more", it might require a tax increase to pay for it. More or less government spending for: old age pensions (5 categories)	cses4, ISSP role gov I 1985, ISSP role gov II 1990, ISSP role gov III 1996, ISSP_RG_IV, ISSP_RG_2016	1985, 1986, 1990, 1991, 1995, 1996, 1997, 1998, 2005, 2006, 2007, 2008, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018
spending_welfare	Thinking about public expenditure on WELFARE BENEFITS, should there be much more than now, somewhat more than now, the same as now, somewhat less than now, or much less than now? (5 categories)	cses4	2011, 2012, 2013, 2014, 2015, 2016

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