

The Size and Shape of Government: Preferences over Redistributive Tax Policy

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Abstract

This article addresses two gaps in the literature on preferences over redistribution. First, it examines whether theories of redistribution can explain attitudes over taxation as well as spending. Second, since redistribution can be increased by either increases in tax levels, or changes to the tax structure towards more progressivity, do people distinguish between these two kinds of redistributive policy? On the basis of individual level survey data from 17 advanced industrial democracies, we show that both types of tax attitudes vary systematically with self-interest, and independently of one another. In the case of tax levels, however, self-interested is shaped by very different factors than those associated with reducing inequality. Those interested in redistribution attitudes and outcomes must thus pay more attention to the role of tax attitudes, as well as to the difference between preferences over the size versus the shape of government.

Keywords: Political economy, redistribution, taxation, public opinion

JEL classification: P16, H23, H59, H29

1. Introduction

Scholarship in the comparative political economy of inequality has made great strides in understanding variation in social policy spending. Less attention has been paid to the role that revenue systems may play in determining distributive outcomes. This is surprising given the economic equivalence between (negative) taxes and (positive) benefits: distributive goals could be achieved on either side of the government budget. We remedy this neglect by considering why some individuals support higher levels of taxation, and others do not. Attention to tax attitudes fills an empirical gap, and highlights the failure of the existing literature to differentiate between the size and the shape of government as the means for pursuing redistribution. Complex public views on taxation indicate the need for such a distinction: opinions about the size of the tax burden and its structure are distinct. Nevertheless, they align with self-interest in predictable ways.

Redistribution by government is the reduction in inequality achieved between the pre-tax and transfer and post-tax and transfer income distributions. It may seem obvious that tax and transfer policy decisions thus determine redistributive outcomes (Mahler & Jesuit 2006). Yet the study of redistribution preferences has focused either on policy-free attitudes about the government's responsibility for reducing income differences (Cusack, Iversen & Rehm 2005; Rehm 2009), or attitudes towards particular spending policies in isolation (Iversen & Soskice 2001; Rehm 2011; Gingrich & Ansell 2012). The former tend to infer spending policy implications from information about attitudes over inequality reduction, although the change desired could be on the tax side. The latter assume that tax structures remain the same as spending changes. Comparative political economy has paid little attention to the role of taxation (with the exception of Beramendi & Rehm 2012). Meanwhile, comparative studies of tax attitudes have focused on compliance, with little attention to the theoretical framework that redistributive accounts provide.

Redistribution can be achieved by either high levels of government activity, or highly targeted policies: targeted benefits and progressive taxation. In terms of outcomes, the two dimensions have been differentiated. We know that large-sized spending programs tend to do more than the structure of spending or taxation to promote redistribution (Korpi & Palme, 1998; Prasad & Deng 2009). In terms of attitudes, however, no such separation has been investigated. There is no reason to expect public opinion to reflect economic reality, given the difficulty that (many) voters have in linking policies to outcomes (Bartels 2005). The politics of redistribution may be all about structures, even if its economics turns on levels of spending. Equally, governments spend money for many purposes other than redistribution. Thus conflict over the size of government revenues may divide the population along lines other than economic insecurity.

We use data on tax attitudes in 17 countries to investigate attitudes over the size and shape of government. We find that preferences for high tax rates and preferences for progressive tax structures are not very closely related; despite their parallel implications for redistributive outcomes. To understand why this is the case, we examine variation across individuals in views on both dimensions. Considering material interests in both progressivity and large government separately yields different predictions depending on the type of tax attitude in question. Preferences over progressivity broadly speaking conform to what we know about preferences over redistribution. Views on the level of taxation are shaped by a different conflicts in self-interest: the receipt of spending benefits that typically accrue more to middle-income, well-educated, public sector workers.

2. Redistribution Preferences and Tax Attitudes in Comparative Perspective

What impact do material interests play in dictating tax attitudes? Two literatures inform expectations in this regard. First, given the redistributive impact of taxation, those same factors which influence redistribution preferences should help us understand tax policy preferences. Second, certain empirical regularities emerge from the existing literature on tax preferences. This article's triangulation of these two literatures brings the empirical relevance of the revenue side to the former canon, and the theoretical framework of comparative political economy to the latter body of work.

2.1 Spending Preferences: Risk and Redistribution

The literature on government redistribution highlights the importance of material self-interest in shaping preferences, not to the exclusion of other influences, but with the greater confidence in causal direction that results from deriving predictions deductively from objective characteristics (Gingrich & Ansell, 2012). Material conflict over redistributive policy divides individuals primarily along two dimensions, income and risk exposure, which may be correlated to varying degrees in different countries and time-periods (Rehm, Hacker & Schlesinger, 2012).

The differentiation of attitudes over redistribution by income is predicted by analyses of the size of government, typically parameterized by the tax rate chosen under assumptions of proportional taxation (Romer 1975, Meltzer & Richard 1981). However, these economic treatments are not about the revenue side of government, but its overall size: the tax rate is the single choice parameter which dictates both the tax and spending decisions of government. This conflation of the two sides of the budget persists in accounts focusing on spending side policies, which implicitly assume that revenue is raised in economically efficient ways, and policy goals pursued via spending, or explicitly focus on the joint outcomes in inequality reduction (Kenworthy & Pontusson 2005, Iversen & Soskice 2006).

Income matters for attitudes toward the size of government, since even flat-rate spending financed from a linear tax should garner more support from those with lower relative incomes (Romer 1975, Roberts 1977, Meltzer & Richard 1981). Equally, power resources approach to explaining cross-national variation in welfare state generosity hinges upon the relative power of the working class (Esping-Andersen 1990, Huber and Stephens 2001, Korpi 1983) and sociological approaches to welfare state preferences have confirmed the variation in attitudes along class lines (Svallfors 1997). While class and income are not synonymous, the logic of economic insecurity that underpins

working-class demands for social protection is grounded partly in this group's low relative income. Thus economic, political and sociological approaches all maintain that high income individuals are more likely to oppose redistribution. Current empirical work automatically includes controls for income when trying to identify other characteristics' effects (Cusack, Iversen & Rehm 2005; Iversen & Soskice 2001; Gingrich & Ansell, 2012) or income included in more complex syntheses of potential determinants of attitudes (Rehm, Hacker & Schlesinger 2012).

The second piece of the materialist account is that redistributive policy preferences are based in individual risk profiles. Government intervention in the economy has insurance as well as redistributive functions (Barr 2001; Moene & Wallerstein 2001). By compressing after-tax incomes, redistribution (including progressive taxation) smooths income volatility, providing some insurance against shocks (Varian 1980). Furthermore, some policies are explicitly targeted to insure against income and employment risks. Those with higher risks, whether due to specific skills (Iversen & Soskice 2001), high unemployment risk, or actual unemployment (Cusack, Iversen & Rehm 2005, Rehm 2011) are more supportive of redistribution and social policy spending. Insurance motives also help explain the impact of less obviously 'material' characteristics. Scheve and Stasavage (2006) argue that religion provides a substitute form of social insurance to that provided by the welfare state. Consequently, more religious individuals prefer lower levels of government redistribution.

Some exceptions exist to the preoccupation of the redistribution literature with the spending side, or size of government. Snyder and Kramer (1988) seek to explain the stylized fact that marginal income tax rates are increasing with income. However, the solution to their model whereby middle-income groups prefer nonlinear schedules with rapidly increasing marginal rates results from these structures reducing the average tax paid by such groups, for a given revenue target. Increasing marginal rates are employed by the middle class to achieve progressivity over the top of the income range, but less over the bottom half. The key variable determining attitudes is income; and support for progressivity should decrease with income.

Finally, one recent paper deals directly with attitudes over tax structures in the context of redistribution. Using the same data set analyzed in this paper, Jaime-Castillo and Saez Lozano (2010) find evidence that preferences in favor of pro-poor tax policy (a variable which is closely related to the progressivity variable we employ) increase with age, unemployment and exclusion from the labor force; decrease with socio-economic status and self-employment; and exhibit an inverted-U with regard to education level. However, the authors do not include income in their

empirical model. Given that the premise of redistributive policy is to change the income distribution, this seriously undermines the analysis.

2.2 Tax Attitudes: System characteristics and individual level morale

In contrast to the theoretical focus on redistribution in these analyses of spending preferences, the dominant approach in studies of tax attitudes addresses citizens' voluntary compliance with tax payments in the absence of heavy-handed coercion (Daunton 2001). 'Tax morale' reflects ideas about the morality and fairness of taxation. Levels of acceptance of taxation are not the same as acceptance of different levels of taxation, but tax levels have been argued to influence tax morale. More importantly, if perceptions of fairness support different levels and types of taxation, they will affect redistributive outcomes. The expectations we have about tax attitudes therefore take this existing work into account, while paying attention to the limitations of its predictions given the different outcome variable.

One of the most widely considered questions in the comparative literature is whether the structure of taxation affects its legitimacy. The more visible forms of taxation usually associated with higher progressivity have been argued to be responsible for anti-tax 'backlash' (Hibbs & Madsen 1981; Prasad 2005; Wilensky 1975, 2002). Equally, some individual level evidence points to tax levels, and increases, as undermining tax morale (Peñas & Peñas 2010); though this may be due to modernization of the system rather than the level or increase itself (Martin 2008).

However, anti-tax attitudes have roots in many non-tax places (Peters 1991, p. 180). In some cases even tax protests do not even straightforwardly reflect anti-tax attitudes (Martin & Gabay, forthcoming). Economic theory suggests progressivity should increase tax morale among inequality-averse populations, and there is some empirical evidence of this (Doerrenberg & Peichl, 2010). Both versions of the causal story from progressivity to morale (whether pointing to increases or decreases) suffer from potential reverse causation. Public attitudes may shape tax structures. This problem is exacerbated by the weakness of the cross-sectional relationships between structures and preferences when country-cases are considered over time. Changes in tax structure over time do not appear to lead to changes in discontent (Hadenius, 1985).

Cross-national comparisons indicate a relationship between tax acceptance and trust in government. Some studies even equate the two (Peters 1991). Higher trust increases pro-tax attitudes, across individuals (Alm & Torgler 2007) and within countries over time (Hetherington 2005; Alt, Preston & Sibietta 2010). Lower trust predicts acceptance of tax fraud (Marien and Hooghe, 2005). Svallfors

(2002) finds that support for government intervention in the economy is predicted by higher political trust in Sweden, Australia and the United States. For tax policy more specifically, he finds a positive effect on tax acceptance, but this analysis is limited to the Swedish case.

Other individual-level characteristics have also been found to influence tax morale. Older individuals are more likely to have high tax morale, as are women, churchgoers, and those who are married; the self-employed have lower morale (Alm & Torgler 2007; Lago-Peñas & Lago-Peñas 2010). These patterns in compliance are explained by adherence to norms of morality and susceptibility to social pressure. The translation of this logic to preferences over the level of taxation is awkward. It reflects adherence to the law, and not views on what that law should be. In some cases, such as religiosity, these predictions conflict with those based in redistributive self-interest. Here, the latter seem to have more theoretical relevance to opinions over both tax levels and progressivity.

3. Self-Interested Variation in Two Types of Tax Attitude

We follow the literature on redistribution preferences and prioritize material self-interest in thinking about tax preferences. However, we consider both the size and structure of tax policy separately. The conceptual distinction between the level of taxation and its distribution across incomes is not difficult to grasp. Indeed, on the spending side of the welfare state, the long-standing 'paradox of redistribution' speaks to an analogous distinction: welfare states which target spending programs to the poor do less redistribution because their levels are so much lower than universal regimes (Korpi & Palme 1998). On the tax side, the *prima facie* case for a distinction is highlighted by popular appeals simultaneously claiming that taxes are too high, and that the rich get away too lightly. The intriguing empirical pattern whereby larger welfare states tend to rely on more regressive tax systems also points in the direction of separating the two elements, despite their common potential as redistributive tools (Beramendi & Rueda 2006, Cusack & Beramendi 2006, Kato 2004).

More concretely, the benefits of higher overall tax rates accrue to individuals in proportion to their net gains under the status quo. This depends on both the structure of taxation and of spending (Beramendi & Rehm 2012). In the absence of any indications to the contrary, we must assume that preferences over levels take the structure of costs and benefits as given. In contrast, when dealing with preferences over tax structures constant-revenue assumptions have been made more explicit, at least in theoretical treatments.

The comparative political economy literature emphasizes redistribution from rich to poor, categories defined in terms of income. This tracks the concept of progressivity closely. It also clearly justifies the expectation that income will have a negative effect on support for progressivity. From an insurance perspective, the size of government clearly includes many spending policies that do nothing to smooth income: defense spending, research and development subsidies, spending on the arts, environment and possibly even education spring to mind. Equally, insurance against risks other than labor market risks, such as those provided by government spending on health, should not differentiate individuals' preferences according to their economic risks. Progressive revenue structures, do provide such an income smoothing function, by taking a higher share from individuals in a good (high income) state, and less from those in a bad state. Extra tax payments made by the rich are thus analogous to an insurance premium; while lower burdens for the poor a (relative) payout from the state. Thus the literature on redistribution provides theoretical expectations for preferences over progressivity. Its arguments are less compelling for considering tax levels.

What then, does explain preferences over tax levels? In the literature outside that on redistribution, demographic characteristics such as gender, age, marital status and religiosity were highlighted, but with little theoretical rationale. How does the size of government speak to material self-interest? Even for income, the story is more complicated than in the case of progressivity. Higher income typically leads to higher tax payments (although overall tax systems are less progressive than often assumed based on systems of income taxation (Prasad & Deng 2009). Based on the tax side, higher income should lead to a preference for lower taxation. But spending programs, as well as tax structures themselves, shape tax preferences. Benefits have been shown to influence views of tax fairness even as tax expenditures do not (Mettler, 2011). Beneficiaries of public spending are more likely to support the taxes that finance it.

On the spending side, there is a good deal of evidence that middle income groups may benefit the most from government spending, particularly the public provision of goods also available privately (Epple & Romano, 1996; Stigler, 1970; Le Grand, 1982; Moll & Pamp, 2008; Feld & Schnellenbach, 2007). This makes sense in the context of simple median voter models, but also in more sophisticated accounts whereby vote maximizing parties compete for voters with differing degrees of loyalty. With the assumption that voters in the middle of the income distribution are more likely to be such 'swing' voters, targeting benefits to this group has the greatest electoral payoff to politicians (Dixit & Londregan 1996, 1998). Both theory and empirical evidence on the distribution of spending benefits thus suggest an inverted-U regarding the willingness to support

high overall tax levels. If a lack of disposable income leads to a disproportionate impact of decreasing take-home cash (rather than government services provided) this will reinforce the non-linearity.

A second characteristic indicating a direct benefit is public employment: those who receive their income out of the public budget should be more supportive of high taxation. Similarly, though perhaps less directly, one large component of public spending in most of the countries considered here is the public education system. To the extent that those who are more highly educated have come through this public system, higher education should lead to support for taxation. For those still in school, this effect should be even greater. Note that this is particularly interesting given the opposite effect that we expect education to have in determining progressivity preferences, as it is likely to reduce risk and increase lifetime income (Rueda & Idema 2012). We expect similar effects for age: the elderly (who benefit from health and pensions spending) should be more supportive of high tax levels. Beneficiaries of public health systems should also have higher tax morale, but there is no way to tap this variable in the empirical analyses.

The two somewhat disparate literatures summarized in Section 2 highlight different logics of preferences over taxation, but agree that trust in government should predispose individuals towards progressive, high-tax views. In this regard separating the size from the shape of redistribution again seems critical. It is logical that the less people trust government, the fewer resources they wish to make available to it, and thus that low trust predicts preferences for low tax levels. Similarly, the belief that others are paying their share should bolster support for high taxes (Daunton, 2001; Edlund, 1999). But these represent a wish to limit governments' scope, and not be the victim of free riding. It is not clear what impact trust ought to have on preferences over progressivity, once we consider structure distinct from tax levels. Changing the structure of taxation to penalize the rich could imply either more or less discretion for politicians. Alternatively, a lack of trust in government might signal a lack of faith in politicians as agents of the ordinary taxpayer against economic elites, leading to a desire for greater progressivity.

The existing literature typically does little to distinguish between attitudes towards the level of taxation, and preferences about its structure. That is the contribution of this theoretical section. In the context of redistribution preferences, this distinction is important. Responses about levels consistent with anti-tax sentiment might indicate a desire for more progressivity, via the taxation of other, higher, income groups. Pro-redistribution, or pro-spending attitudes are equally complicated.

The former gives no information as to how this redistribution be best achieved; the latter need not have any redistributive implications without specifying the associated revenue-side changes.

To summarize: there are good theoretical reasons that people may have different attitudes towards high tax levels and progressive tax structures. Based on material self-interest we expect preferences for progressive structures to be more likely among those same groups found to favor redistribution: lower income, lower education groups; and those facing greater economic risk. We expect preferences for the highest levels of taxation among middle income groups, students and the more highly educated, older people and public employees. Political and social trust should increase support for high levels of taxation, but their effects on views on progressivity are unclear.

We end with a brief note on a theoretical approach which we exclude here. Much of the comparative tax literature investigates the impact of cross-national characteristics on attitudes, particularly tax culture. Other characteristics highlighted in comparative context also operate at the level of national systems. These include income inequality, the level and structure of taxation, and recent reforms (Martin 2008). For the research question in hand, however, we are interested in variation across individuals. Cross-national variation, except as it emerges from the distribution of individual characteristics across countries, is not a focus of the theoretical account. This means that such systemic characteristics are important primarily as a potential source of bias, rather than substantive interest. The primary importance of this literature is to highlight the importance of accounting for national variation in tax outcomes in the empirical investigation, pointing to the inclusion fixed effects in the empirical models.

4. Data and Empirical Analysis

We investigate these predictions using individual level data from the International Social Survey Programme (ISSP), using the 2006 Role of Government survey from (ISSP Research Group, 2006). This provides cross-nationally comparable data on attitudes in 33 countries. However, to avoid excessive concept-stretching, and maintain comparability, we limit my analysis to the advanced industrial countries within the dataset. Given some missing responses, the sample available for analysis comprises over 15500 respondents in 17 countries.¹ The ISSP data provide some of the best information on individual preferences towards questions of government policy, including on taxation, that make it ideal for the cross-national investigation of tax attitudes.

We use questions about the level of taxation on three different groups to create an innovative measure of progressivity preferences. Each respondent is asked to rate taxes on high, middle, and

low income groups². We collapse five response categories to three, combining 'much too high' and 'too high' responses (and similarly for 'too low'). This helps reduce measurement error that might be induced by respondents having different understandings of the how much constitutes 'much' too high. The directional contrasts are likely to be more reliable (Rehm 2011). Second, it reduces the number of potential combinations and makes it easier to identify progressive responses among them.

We create a binary measure of progressive preferences, with a value of 1 indicating more progressive preferences (thinking that the rich are taxed relatively too lightly). Progressive preferences are those where the relative assessment of taxes paid decreases with income across the three groups.³ This has a major advantage over the simpler use of respondents' attitudes towards taxes on the rich, as the latter fails to capture as pro-progressive respondents who think that taxes on lower income groups are much too high, while those on the rich are about right. The implied tax preference of such a response is for progressively structured cuts. Nevertheless, we analyze attitudes toward high-income groups' taxes as a robustness check. We prefer the progressive preference dummy which captures all profiles with a bias towards poorer income groups (Jaime-Castillo & Sáez-Lozano).

To measure attitudes towards the overall tax burden we take the average numeric value of tax attitudes across all of the income groups. The 'much too high' response is coded to equal 1, and 'much too low' equal to 5; so that increases in the average tax variable indicate a greater willingness to accept higher taxation. As an alternative measure of attitudes towards general tax levels, we also consider attitudes towards each individual's own tax burden. Own-tax attitudes are calculated by assigning to respondents whose income falls in the first two income septiles their attitude towards taxes for those with low incomes; assigning the attitude towards middle income taxes to those whose income falls in the middle three septiles. For those in the top two income categories, their evaluation of levels of tax on high income groups are used to characterize their own-tax attitudes. This measure allows for a check lest the salient aspect of taxation for preferences be radically pocketbook-oriented.

4.1 Two Dimensions of Tax Policy Preferences

The first theoretical claim made above was that preferences over overall tax levels and opinions towards tax structure are distinct, in contrast to the association implied by taking them together to focus on redistribution. Before analyzing the determinants of tax attitudes, we investigate this claim.

In short, there is a relationship between the two variables; those who express preferences for progressivity are typically more tax-acceptant. However, the effect is small and weak enough that we can learn a good deal from investigating the preferences of those who are 'off-diagonal' cases.

The simple correlation between progressive tax preferences and acceptance of higher tax levels is 0.33. However, since the progressivity variable is a binary variable, a better way to consider the relationship between the two variables is by comparing mean values of high tax support among those with progressive and non-progressive attitudes. Using this strategy, there are statistically significant differences in average preferences: those with progressive preferences have tax-level preferences 0.4 points higher. However, this may be an artefact of the way that both variables are constructed from the three tax questions. That is, those who respond that all taxes are too high, or all too low, do not express progressive preferences. Excluding the 'LLL' and 'HHH' preference categories reverses the relationship between levels- and structure- attitudes. Excluding these extreme groups, those with progressive preferences over the distribution have level preferences 0.07 points lower than those not expressing progressive attitudes. Both of these differences are statistically significant at conventional levels.

More importantly, though, the effects are weak. Among all respondents progressive tax preferences explain less than ten percent of the variation in preferences over levels. To show this in a more intuitive way, we divide respondents into two groups according to their tax level preferences at the median value⁴. We can then cross-tabulate this variable with the indicator for progressive preferences. Table 1 does exactly this (it includes the extreme LLL and HHH respondents). Recall that redistribution will be increased by both progressivity and higher taxes, so conflict over redistribution defines the diagonal cells 'not progressive-too high' and 'progressive-too low'. Yet these categories contain under half of the survey respondents (48.3%). The largest share of the population espouse both progressive preferences and a desire for lower overall taxation (38.9%), while thirteen percent of respondents think that taxes are about right or too low, and report no desire to move towards more pro-poor structures.

[Insert table 1 here

Table 1. Two Dimensions of Tax Attitudes: Preferences over Tax Levels and Progressivity.
Source: Authors' calculations based on ISSP (2006).]

The table reinforces that while there may be slight differences between those with progressive preferences and those without in terms of their support for high tax levels, these differences are

quite small (a 59:41 too low: too high split, as opposed to 62:38). They are swamped by the magnitude of the share of respondents who fall into categories-- pro-progressivity with low levels, or the opposite-- that typical accounts conflating the size of government revenues with their shape neglect entirely. As we will see below, self-interest is at play along both dimensions, but because of their different implications for spending levels and distribution, the determinants of these material interest diverge.

Moreover, the implications of overall preferences for redistributive policy point in opposite directions, depending on whether we focus on tax levels or tax structures. Considering the totals in Table 1, a clear majority favors greater progressivity (66 percent of respondents)-- that is, more redistribution. At the same time, nearly 60 percent of respondents see tax levels overall as too high. Focusing only on the size of government would seem to reveal majority opposition to redistribution. Indeed, the modal respondent holds these views which conflict in redistributive terms. Understanding the determinants of preferences along the two dimensions can help us understand these differences, and point to what attitudes over redistribution may be telling us in policy terms.

4.2 Determinants of Tax Attitudes

Accordingly, in this section we consider the material determinants of tax policy preferences, following the expectations outlined in Section 3. Since the outcome variables of interest differ in their type, we use different specifications across outcomes. We model overall average tax morale as continuous, while own-tax morale and the ordered version of attitudes towards taxes on high incomes are modeled using ordinal logit. We use binomial logit models for the binary version of the latter outcome, and progressive preferences. All of the specifications presented here include fixed effects for the respondent's country. As well as capturing cross-national variance in tax and spending policy and economic outlook, this battery of dummies goes some way towards assuaging the criticism that the preferences measured by the survey are not 'pure' preferences, but rather measure dissatisfaction with the status quo. Differences between countries in this status quo should be captured by the fixed effects. The fixed effects specification also means that (for example) results for trust levels are not driven by the fact that some (highly progressive) countries also have high levels of trust; but rather that the effect of individual attitudes is identified by within-country variation. The independent variables of interest are measured as follows, mimicking Rehm (2011) as far as possible.

Income in the ISSP is problematic, as its measurement is not exactly comparable across countries. Country questionnaires differ in the reference time period as well as how finely they differentiate

income. However, income is clearly too important in terms of material interests in government activity to omit the variable without causing serious bias. Further, the importance of income in redistributive preferences is grounded in the relative position of different individuals: those who pay more to the system than they receive. Thus the relevant income measure uses seven income groups of approximately equal size within countries. We use the family income measure in the ISSP, rather than individual income (Kenworthy & Pontusson, 2005). To capture the non-linear effects of income mooted above, and in particular the possibility of an inverse U shape for tax morale, we also include the squared value of income⁵.

Public sector employment is measured by a dummy variable indicating sector of employment (with quasi-public employment coded as public). We follow Rehm (2011) and Iversen & Soskice (2001) in measuring education by highest degree attained in three categories. We include a dummy variable for female, and age measured in years. We also employ Rehm's (2011) treatment of labor force status, differentiating the unemployed, students, retired, and those not in the labor force from those who are employed using a set of indicator variables.

The three metrics of labor market risk follow Cusack, Iversen and Rehm, (2005). We measure skill specificity as in Iversen and Soskice (2001) to capture the risk of specific-investment obsolescence. Unemployment risks are captured by the occupational unemployment rate (Rehm 2009, 2011) as well as by the labor force status variable of realized unemployment. The potential insurance function of religion is captured by a continuous variable measuring the frequency of attendance at religious services.

We measure political trust using a question asking whether politicians try to keep their promises⁶. Using an alternative question about the trustworthiness of civil servants yields similar but weaker results. Social trust is measured by a question gauging agreement with the statement "If you are not too careful, other people will take advantage of you"⁷.

Note that the theoretical questions of primary concern relate to the impact of economic self-interest on tax attitudes along the two tax policy issues. As such, we do not include as explanatory variables survey responses to attitudinal items other than social and political trust, nor partisanship. This is to avoid the potential for reverse causation that is likely if tax attitudes influence party choice or other attitudinal variables; and to avoid post-treatment bias given that the objective characteristics examined here are likely to affect party choice and other ideological variables. Including left-right

ideology, however, while unsurprisingly predictive of tax attitudes, does not alter any of the substantive conclusions drawn here.⁸

4.2.1 Results: Preferences over Tax Levels

Models 1 to 4 in Table 2 provide evidence on the characteristics shaping attitudes towards tax levels. Model 1 is the preferred model and the basis of the following discussion, while Model 3 adds attitudes over progressivity to the right-hand side of the equation to further probe the claim that the two dimensions are distinct. Model 5 turns the continuous variable to a binary outcome (where a value of 1 indicates the respondent does not believe taxes are too high) for comparison of effect sizes to the other models. Model 6 uses the 'own tax' measure.

Self-interested motivations are expected to broadly correspond to the contours of beneficiaries of maintaining spending levels. The middle class, public sector employees, and the better educated are expected to be more willing to support large government on this basis. Note that this has little to do with redistribution as typically conceived of as a transfer of resources from rich to poor, and in contrast, the effects of variables associated with redistribution preferences-- low skill and low income, as well as high risk exposure-- are not expected to affect this dimension of tax policy preferences.

[Insert table 2 here

Table 2. The Determinants of Individual Tax Policy Preferences.

Source: Authors' calculations based on ISSP (2006). Standard errors (clustered by country) in parentheses. * indicates $p < 0.05$.]

The results across the models indicate that there are significant non-linear effects of income septile across each of the tax preference variables. The overall effect of income combines the quadratic term and the main effect, and is more easily interpreted in predicted probability terms. Figure 1 displays the predicted value of support for high tax levels by income group. The non-linear effect of income is such that both high and low income groups have similar, lower, support for high levels. Middle income groups are the most sanguine about a heavy overall tax burden, in line with the expectations outlined here but in contrast to the expectations that would emerge from redistribution-focused accounts, where support for tax levels should decline monotonically with income.

[Insert figure 1 here

Figure 1. The Effect of Income on Attitudes Towards Tax Levels.]

Again, for education, the correspondence to a benefits-received account is in direct opposition to the expectations that redistribution-oriented accounts would predict, as demands for redistribution should decrease with the greater opportunities and income stability associated with higher education levels. In fact, higher education is consistently associated with greater support for higher tax levels. The benefit-driven account of support for high tax aggregate burdens gets further support from the effects of both public sector employment and education (including current status as a student), which are positively signed and statistically significant. These beneficiaries of tax-financed spending have higher tax morale by .07 points for each extra degree qualification; by 0.05 if they work in the public sector, or 0.14 for current students. These changes represent between between 7 and 22 percent of a standard deviation change. The effect sizes may appear small, but the smallest of them is comparable to the largest estimated effects of changing income by one septile (from the first to second septile the relevant change is 0.05 points; from sixth to highest, 0.057). Older respondents, too, are consistently supportive of higher levels of taxation.

The insurance logic for high taxes receives little support. The explicit measures of risk seem to have little impact on preferences over tax levels. Neither specific skills nor high occupational unemployment rates have any effect on support for high taxation. Those for whom unemployment risk is realized also do not view levels of taxation differently to those who are employed.

The variables derived from the cross-national comparative literature also generally perform as expected; in ways consistent with self-interest. In contrast to an interpretation emphasizing the confidence in government, however, social trust appears to be substantively more important in determining preferences over tax levels than does political trust. This is consistent with the self-interested desire of all respondents, however much they benefit from tax-financed spending, not to be a 'sucker' paying taxes while others free ride. Nevertheless, support for high taxes among those who do not credit MPs with trying to keep their promises is around 0.05 points lower than those who strongly agree with the statement. We find no effect of religiosity or marital status on tax level preferences, but given the difference between this dependent variable and the logic of moral obligation that underpinned these expectations with regard to morale, this is unsurprising. Interestingly, women indicate less support for higher tax levels than men.

Overall the theoretical expectations about tax levels are supported in the data. In particular, while preferences over the level of taxation accord with self-interest, as in the case of public sector workers' preferences, they correspond poorly with what we know about redistribution. Despite the

role played by larger government revenues in reducing inequality, we find no evidence that an insurance-based logic of government intervention in the economy has any impact on preferences over overall tax levels. Further, income and education are implicated in views about aggregate tax levels in a very different way than redistribution preferences would allow: rather than a logic of redistribution from rich to poor, the pattern of preferences demonstrates more of an 'ends against the middle' logic, and the more highly educated are generally more supportive of high tax levels.

Note that all of these results remain almost identical with the introduction of progressive attitudes as a control in Model 2. That is, while those who indicate support for progressivity typically support higher levels of taxation, the dimensions of self-interest which differentiate individuals retain their importance. There are small changes to the coefficients on income (which translate to a slight flattening of the relationship displayed in Figure 1). The impact of political trust becomes statistically significant with the inclusion of the progressivity preference variable, but its effect in this specification is not statistically different from the estimate in the original model; its relationship with attitudes remains weaker than that of social trust.

Respondents' attitudes toward their own income group's level of taxation provides a second angle for considering government revenue levels. Here again, there is little to support the theoretical mechanisms highlighted in the literature on redistributive preferences (results are in Model 6 in Table 2). Higher education levels remain associated with tax acceptance, and the impact of income on views of one's own tax burden is actually to increase support for high tax levels. In accordance with self-interest, few people at any income level think their own taxes too low. However, in the first income septile over half the predicted outcomes rate their own taxes as 'much too high', and another two fifths 'too high'. By the middle income category, these probabilities combined have fallen to 0.66; and under half of the richest income groups see taxes on high incomes as too high. Thus those with high incomes are less likely to say that taxes on high incomes are too low. But they are more likely to do so than middle income respondents are to say that taxes on middle incomes are too low (and mutatis mutandis for low income respondents). This is again hard to square with an interpretation of tax levels as representing redistribution.⁹ Unemployment leads to more hostility towards one's own tax burden (in contrast to its lack of effect on attitudes toward aggregate levels) but in the absence of any effects for any of the other risk variables, it is hard to interpret this as evidence of the insurance motive for redistribution.

4.2.2 Results: Preferences over Progressivity

The final three columns of Table 2 address preferences over progressivity, and show somewhat different results. The effect of income does exhibit an inverted-U shape, but it is dominated by the decline of support for progressivity at high income levels (see Figure 2). Between the first and third income septile there is an increase in the probability of giving a progressive response profile of around five percentage points. The corresponding decline moving up from the fifth to the top income septile is a 28 point change. High incomes massively decrease the chance of supporting progressive tax structures, again confirming the clearest a priori expectation. This pattern also holds if we consider the simple metric of attitudes towards taxes on the rich (Model 7). The relationship between support for progressivity and income is consistent with a redistributive interpretation, despite the fact that in actuality, more progressive tax systems occur in countries that redistribute income less (Prasad & Deng, 2009).

[Insert figure 2 here

Figure 2. The Effect of Income on Preferences over Tax Progressivity.]

Education levels are associated with less support for progressive taxation. Although in Model 5 the estimate does not reach conventional levels of significance, its direction is in line with its typical characterization as another proxy for lower risks (Rehm 2011), or greater permanent income (Idema & Rueda, 2012). Similarly, students' preferences over progressivity are no different from those who are employed. The insurance role of redistribution potentially played by progressive tax structures is further reflected to some degree in the data on unemployment risks. Specifically, higher occupational unemployment rates predispose respondents to advocate progressive taxation. However, the effect of realized unemployment, while it is positive, is so imprecisely estimated that it is statistically indistinguishable from zero, and specific skills appear to have (fairly precisely estimated) no effect.

Including measures of trust in the analysis of preferences over tax structure serves to test the intuition from time-series accounts that as government is trusted less in general, it is equally trusted less to redistribute income (Alt, Preston & Sibieta, 2010). In contrast to this expectation, political trust is consistently, strongly, and negatively associated with progressive tax preferences. That is, those who do not believe politicians can be trusted are more likely to want to see higher taxes on the rich, relative to other income groups. The coefficient of 0.1 in Model 2 translates to a shift of two percentage points in the predicted probability of giving a progressive response (with other values at their median and mean levels as in the income simulations)-- or a 10 percentage point change across the full range of political trust. Thus the idea that low trust in government reduces the demand for

redistributive policies is not quite accurate: low political trust diminishes the demand to see large government (or high tax levels) but actually increases demands for the structures of taxation to reflect a pro-poor (or anti-rich) orientation. This again highlights the importance of separating the two dimensions of redistributive policies, as lack of trust in government cannot be taken to imply calls for a retreat from redistribution-- at least as far as that can be achieved by changes in the structure of government finance without increases in its size.

As with preferences over levels, attitudes towards progressivity are only marginally altered by the inclusion of views over the other dimension of tax policy in the analysis. The inverted-U shape with regard to income is again flattened somewhat, such that in Model 6 there is no real difference between individuals in the bottom four income septiles. The effect of education increases in absolute size, reaching conventional levels of statistical significance, but not statistically differentiable from its baseline estimate; the same is true for the effect of gender. There is one substantive change across specifications. Social trust becomes a significant predictor of attitudes towards progressivity, with lower-trust individuals more likely to advocate progressive structures. It seems low social trust leads to fears that the rich, rather than that the poor, are playing others for 'suckers'.

The final column of Table 2 uses attitudes towards taxes on those with high incomes as the indicator of progressive preferences. The results are identical to those using the preferred measure. Thus in terms of the effects of income and education, attitudes towards progressivity look similar to preferences over redistribution. Despite the insurance role that progressive structures can play in smoothing income, we find only weak support for risk-based determinants of preferences, although occupational unemployment rates do exert a significant effect. This may reflect the less direct insurance provided by income leveling compared to social policy programs, but again reveals differences between different redistributive tools in the public mind.

In summary: preferences over taxation are affected by individual characteristics in ways that are predictable, but not entirely in accordance with attitudes over redistribution, and there are differences across the two types of tax attitudes. Support for high taxes is higher among those who benefit from spending, but this translates not to the poor, but rather to middle income groups, and the more educated (as well as public employees). Insurance motivations seem to play some role in preferences over progressivity, but not government size; indeed preferences over the structure of taxation seem to accord better with demands based on redistribution and insurance, despite the focus in the literature on the scale of spending in this regard. Finally, political trust has opposite

effects on preferences over the size and shape of government, as far as redistributive impact goes. Low trust leads to an unwillingness to accept higher levels of taxation, but increases support for progressive structures.

The determinants of preferences act in opposite ways on two elements of policy that should increase redistribution (higher levels and higher progressivity). This calls the idea that people think about redistribution in a straightforward way into question. Individuals have preferences over policy tools not adequately considered in the literature on inequality and redistribution. This is particularly interesting when we consider that cross-nationally, higher social spending is a much better predictor of redistribution than progressivity: in terms of preferences it is progressivity that behaves more like redistribution with regards to material covariates (income, education, and to some degree, risk).

5. Conclusions

The study of redistribution, understood as the equalization of incomes by government intervention, rightly looms large in the comparative political economy of advanced economies. Governments have been faced with large increases in inequality in the past half century. However, they have no policy tool called 'redistribution'. Rather they can choose the levels and structures of spending programs public finance to achieve their distributive goals (among others). In considering public attitudes towards redistribution, these twin contrasts-- between tax and spending policies, and between the size and shape of government-- are too frequently elided. This paper points to the importance of taking both distinctions seriously. First, it represents an empirical contribution in the form of a focus on tax policy preferences, relatively neglected in analyses of redistributive attitudes. Second, it points to the divergence between the size and structure of government. There is a difference between the distributive implications of preferences over tax levels (often seen as too high) and preferences over structures (perceived as not progressive enough).

On the first of these two distinctions, the combination of an exclusive focus on tax attitudes here sits uneasily with the claim that both taxes and spending are important facets of distributive politics. An alternative approach would consider net benefits accruing to individuals from the totality of government activity (Beramendi and Rehm, 2012). However, preferences over taxation are important in their own right: they may have an independent impact on political choices. Self-interested voters perhaps should care about the reduced form net benefits, but information is limited, and voters may have a limited understanding of it (Bartels 2005, Downs 1960). The politics of taxation can have its own dynamics, with distributive implications. Understanding the

independent contours of tax policy preferences is an important complement to analyses that focus on overall distributive costs and benefits, rather than a substitute. How the two interact, and whether this is the same for tax policies as for spending is an exciting avenue for further research, but one which cannot proceed before we have a better baseline understanding of how people think about taxation.

The distinction between attitudes over tax levels and tax progressivity, and their relationship with individual's economic characteristics point to the latter as much more closely tied to the political economy understanding of preferences towards redistribution. Theories of income and risk exposure fare much better as predictors of preferences over tax structure than tax level. On tax levels, respondents' attitudes remain predictable in terms of material self-interest, but these motives appear to be more closely linked to benefits of government expenditure that are not directly linked to the reduction of economic inequality. Middle income groups are relatively supportive of higher tax levels, in line with expectations about the beneficiaries of spending policies in democratic systems. Similarly those who benefit from spending on public employment, and those who have gained through public education systems, are more sympathetic to the revenue claims of government in the aggregate.

The implications of this study are far reaching. Existing research on public attitudes towards redistribution is undermined by its inattention to the existence of tax attitudes that are both complex and irreducible to preferences over spending. The coexistence (within individuals) of anti-tax, progressive attitudes, in particular, implies that preferences over redistributive outcomes may have complex policy implications. The growth of government may not be desired, while a reallocation of tax burdens can be used to achieve greater equality. However, this 'radical' preference profile runs directly counter to what we know about economically feasible redistribution, where the combination of highly redistributive, large welfare states and broadly based, regressive taxation appears to provide a 'free lunch' in terms of growth (Lindert 2004). Progressive-tax based redistributive systems may not.

More speculatively, the distinction between progressivity and size of government in public opinion would seem to have important implications for a big puzzle in comparative political economy; why regressive taxation tends to go hand in hand with high-spending welfare states. An important avenue for future research that is opened up by considering these two dimensions of attitudes separately is that governments of different countries may be tailoring their tax-welfare mix to nationally variable patterns in public opinion on the two dimensions. This question is beyond the

scope of this paper, but cannot be posed without the unpacking of 'preferences over redistribution' provided here.

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¹ Australia, Canada, Denmark, Finland, France, Germany, Ireland, Japan, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, Great Britain and the United States,

² See Supplementary Material for the full question text.

³ There are $3^3 = 27$ potential response profiles of the type 'H, H, L', for example, which indicates responding that taxes on low and middle income groups are too high, and those on high incomes too low. The following triples thus represent progressive responses: HHL, HHR, HRL, HRR, HLL, RRL, RLL.

⁴ Because of its construction, a large share of respondents (20%) are located at the median value, thus this splits the sample 40:60 rather than in half.

⁵ Models that use the seven income groups as factor levels yield substantively similar results.

⁶ Please...show how much you agree or disagree with each of the following statements. 'People we elect as MPs try to keep the promises they have made during the election'. (1) Strongly disagree; (2) disagree; (3) Neither agree nor disagree; (4) Agree; (5) Strongly agree.

⁷ The answer categories are as for the political trust variable; we recode them so that high values are indicative of trust rather than distrust.

⁸ See Table A2 in the Supplementary Material.

⁹ An alternative interpretation is that the highest income groups show the least self-interested attitudes. However, this is in conflict with the prevailing understanding of how information differentials allow different income groups to understand and pursue their material interests (Iversen & Soskice 2011; Bartels 2005).