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Preferences for tax schemes in OECD countries, self-interest and ideology

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Abstract

In this article we analyze preferences for tax schemes, using data on subjective evaluations of the taxes paid by different income groups. We estimate multilevel models to test the effect of socio-economic status and political ideology on individual preferences. We find that both self-interest motivations and political ideology are important factors in explaining preferences for tax schemes. At the national level, it is found that the fiscal burden shapes preferences for tax schemes (especially direct taxation) and it has an interacting effect with both self-interest and ideological variables. At higher levels of direct taxation, probabilities of supporting redistribution toward the poor and the rich become highly polarized along political affiliations. This suggests a mobilization effect. As direct taxation increases, left-wing parties strengthen their ability to mobilize their electorates to pursue further their redistributive interests, while right-wing voters increase their resistance to taxing the rich.

Keywords

Redistribution, taxes, self-interest, political ideology, preferences

Introduction

Accordingly to the saliency of redistributive policies in contemporary politics, during the last decades there has been a great deal of theoretical and empirical research in political economics about preferences for redistribution (Alesina and Giuliano, 2011; Benabou and Tirole, 2006; Harms and Zink, 2003; Moene and Wallerstein, 2003). Following a longstanding tradition, most empirical studies have focused on survey data regarding preferences for overall redistribution. While this approach has provided valuable contributions and established an enduring line of research, it does not pay much attention to the fact that redistribution takes place through welfare policies and taxes. We should expect that distributive conflicts are reflected in both preferences for welfare policies

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and tax schemes. However, in contrast with the burgeoning literature on the causes of preferences for overall redistribution, the preferences for specific mechanisms of redistribution (either through social policies or taxation) have been studied to a much lesser extent. In this paper we argue that the analysis of preferences for redistribution must consider how redistribution takes place ("who gets what" in the redistribution game) for several reasons.

First, saying that the government should reduce differences in income does not tell us very much about the preferred redistributive policies and the mechanisms through which redistribution takes place. More specifically, this approach does not distinguish between redistribution through spending policies and tax schemes. An individual may oppose one particular form of redistribution but be in favor of another. Second, this approach does not take into account the many targeted redistributive policies in contemporary welfare states and how they affect different income groups. Contrary to common assumptions, redistribution does not always go from the rich to the poor. For instance, according to the Director's Law (Stigler, 1970), redistribution might run from the poor and the rich to the middle classes. Third, this approach ignores the side-effects of particular redistributive policies and the fact that one person might be in favor of reducing income differences while, at the same time, he or she may oppose a more redistributive tax because of the negative effects it might have on the economy.

An alternative research strategy is to analyze preferences for specific public policies which have different redistributive implications, including both spending policies and tax schemes. Taking this approach, this paper focuses specifically on the preferences for tax schemes. We propose a theoretical measure of targeted redistribution through taxation (TRT) and test empirically this theoretical model using data from the International Social Survey Programme (ISSP). This measure is built from individual evaluations of the taxes paid by different income groups, in order to know the targeted group to which an individual wants to redistribute through the tax system. Drawing on this measure, several hypotheses about preferences for tax schemes are tested using multilevel models. At the individual level, we analyze whether preferences are explained by self-interest motivations, such as socio-economic status and labor market position, or by political ideology. At the national level, we investigate whether preferences for tax schemes are related to the fiscal burden and inequality.

We find that both self-interest motivations and political ideology are important factors in explaining preferences for tax schemes. At the national level, we find that the fiscal burden shapes preferences for tax schemes (especially through direct taxation) and it has an interacting effect with both self-interest and ideological variables. The rest of the paper is organized as follows. In the next section, we present an overview of the theoretical literature about preferences for redistribution. Then, we discuss our measure of preferences for TRT and introduce the hypotheses. In the fourth section we present the data and the multilevel approach we use to test the hypotheses. The fifth section discusses empirical findings. Finally, there is a closing section containing some conclusions and implications of our results.

Overview of the literature

There are two main approaches to explaining preferences for redistribution. On the one hand, the self-interest approach argues that redistributive preferences depend on individual economic resources (Meltzer and Richard, 1981). The underlying logic is that net beneficiaries of redistributive programs will be favorable to these policies, whereas net contributors will oppose them. On the other hand, the ideological approach states that redistributive preferences are mainly shaped by political beliefs and value orientations at the individual level (Feldman and Zaller, 1992) and cultural factors at the national level (Arts and Gelissen, 2001). Within the first approach, the pioneering work by Meltzer and Richard (1981) argues that individuals try to maximize their expected utility when voting for a tax rate. As a consequence, preferences for redistribution will be ranked

in inverse order of income as higher tax rates will be compensated by greater lump-sum transfers for low incomes. That is, the poor will vote for redistribution as they would be better off after redistribution, while the rich will vote against it as they are net contributors in the redistribution game. The only reason preventing the poor from fully expropriating the rich is the distortionary effect of taxes, as they disincentivize work.

At the aggregate level, Meltzer and Richard (1981) argue that there is a positive relationship between inequality and demand for redistribution and predict that democracy will boost redistribution of income from the rich to the poor, since the median voter is poorer than the average income earner and the difference between the two of them will increase as inequality rises. However, empirical studies have found only mixed support for the median voter hypothesis. Finseraas (2008) finds a positive relationship between inequality and demand for redistribution, while Dallinger (2010) only finds a limited relationship conditional on the welfare regime and Lübker (2007) finds no relationship at all. Moreover, Moene and Wallerstein (2003) find a negative relationship between pre-transfers inequality and public expenditure in major welfare programs.

In line with the self-interest approach, a longstanding tradition of sociological studies argues that preferences for redistribution are shaped by social class, since people belonging to the same social stratum are supposed to share a common interest, which eventually would be reflected in preferences for social policies (Kangas, 1997). As a consequence, lower classes will be more supportive of redistribution than the upper classes. Empirical research has shown that manual and skilled workers, as well as routine non-manual workers, are consistently more supportive of redistribution than the service classes and self-employed (Kumlin and Svallfors, 2007; Linos and West, 2003; Svallfors, 1997).

At the same time, special groups of the population are expected to be more supportive of redistribution because they receive targeted benefits or they are dependent on welfare programs (Hasenfeld and Rafferty, 1989). These include old-age pensioners (Jæger, 2006) and the unemployed (Owens and Pedulla, 2014). Empirical studies have found also that women are more supportive of redistribution, since women are more dependent on welfare services either because they tend to have more precarious positions than men in the labor market or because they are employed in the public sector more often than men (Svallfors, 1997). Furthermore, individuals employed in the public sector are more likely supporters of redistribution, as their employment conditions depend on the redistributive programs of the welfare state and they might feel more sympathetic to the recipients of welfare programs (Edlund, 2003; Svallfors, 1997).

In spite of the predominance of the self-interest approach in the literature on redistribution, empirical results are not always in line with theoretical expectations (Sears and Funk, 1990). The ideological approach argues that attitudes toward redistribution cannot be explained by self-interest, but by values and political orientations (Feldman and Zaller, 1992). Comparative and single-country studies have found a significant effect for the left–right continuum (Arts and Gelissen, 2001), party identification (Edlund, 1999; Jæger, 2006), egalitarian ideology (Blekesaune and Quadagno, 2003), solidarity principles (Arts and Gelissen, 2001), deservingness criteria (Van Oorschot, 2006) and post-materialist values (Gelissen, 2000).

Furthermore, empirical studies show that preferences for welfare policies are consistent internally and related to other political attitudes (Gelissen, 2000). Jacoby (1994) pointed out that individuals sustain coherent opinions toward public spending in social programs according to their preferences regarding freedom and equality. This is because the political debate about distributive policies is driven by ideology, which causes a framing effect: while left-wing parties focus on the distributive impact of public spending, conservative parties focus on the negative impact of public spending on the economy (Jacoby, 2000). In a similar vein, Hetherington (2005) argues that basic political values, such as political trust, have a significant impact on individual preferences for

redistribution. Thus, people will be more willing to make sacrifices for society (such as paying taxes) when they have a great deal of trust in political institutions. Moreover, the influence of political values will be stronger in the case of preferences for redistributive policies than in other areas of public policy making.

Following this approach, attitudes toward welfare policies are supposed to be correlated with principles of solidarity, which are deeply rooted in cultural traditions and institutional settings (Arts and Gelissen, 2001). More specifically, different welfare regimes are inspired by different principles of solidarity, giving rise to different attitudes toward redistribution among the population. Thus, demand for redistribution will be higher in social-democratic regimes than in liberal regimes, while conservative regimes should fall in between (Arts and Gelissen, 2001). In a similar vein, Van Oorschot (2006) argues that support for redistributive policies is affected by the sense of deservingness. This means that the public makes important distinctions in supporting redistributive spending that affects different groups. In western welfare states, the elderly, and the sick and disabled are perceived as the most deserving groups, while less priority is given to public spending in favor of other groups, such as needy families or the unemployed.

Preferences for tax schemes

We should expect that there is a relationship between fiscal structures (the mix of direct and indirect taxation) and the demand for redistribution (Coughlin, 1980). Hibbs and Madsen (1981) argued that the combination of highly "visible" direct taxation and a high level of public services is the combination most vulnerable to fiscal revolts and mobilizations against the welfare state. However, the determinants of fiscal preferences at the individual level have been scarcely studied in the literature. For instance, Edlund (2000, 2003) analyzes tax preferences in Sweden, showing that perceptions about the fairness of the tax system and preferences for taxes are related to socioeconomic status. He finds that preferences for tax progressivity are dominant among the manual workers, employees in the public sector, women and the elderly, while the upper service class displays the strongest resistance to progressive taxation (Edlund, 2003). Furthermore, the public reacts in predictable ways to tax reforms by increasing the demand for fiscal progressivity when marginal income tax rates are lowered (Edlund, 1999, 2000).

From a comparative perspective, Bernasconi (2006) analyzes people's satisfaction with the tax system using data from the ISSP. In her study, satisfaction is measured according to the degree of perceived redistribution of the tax system, which is derived from the amount of taxes paid by each income group. The most satisfied turn out to be the highest and the median income groups, while the poor are unsatisfied because they perceive too little redistribution and the rich are unsatisfied because they perceive too much redistribution. In addition, ideology is also significant in explaining the pattern of satisfaction with the tax system. We follow a similar approach to Bernasconi's definition of satisfaction with the tax system. In the same way, we concentrate on the evaluation of the redistributive effects of taxes rather than on a general measure of desired progressivity or an evaluation of the fairness of the fiscal system. However, instead of focusing on the satisfaction with the consequences of the tax system, we analyze how individuals want to redistribute the tax burden in relation to the actual distribution of taxes (the status quo).

Before presenting our hypothesis, we first define a metric to measure the group to which one particular individual wants to redistribute through the tax system. For this purpose, let assume that society is divided into three income groups: low (l), middle (m) and high (h). Total taxes paid by group j are denoted by t_j, which includes wage deductions, income tax, taxes on goods and services and all other taxes. A change in taxes paid by group j is denoted by T_j. Hence, T_j may be either positive (meaning an increase in the taxes paid by group j) or negative (meaning a decrease in the taxes

paid by group *j*). Let us now suppose that citizens must vote over the policy space vector T = $\{T_l, T_m, T_h\}$. The 3-tuple choice made by typical voter *i* can be described by any of the following orderings: (1) $T_{li} = T_{mi} = T_{hi}$; (2) $T_{li} < T_{mi} < T_{hi}$; (3) $T_{li} < T_{mi} = T_{hi}$; (4) $T_{li} = T_{mi} < T_{hi}$; (5) $T_{li} > T_{mi} < T_{hi}$; (6) $T_{li} > T_{mi} > T_{hi}$; (7) $T_{li} = T_{mi} > T_{hi}$; (8) $T_{li} > T_{mi} = T_{hi}$; and (9) $T_{li} < T_{mi} > T_{hi}$.

The set of nine orderings fully describes preferences regarding the distribution of taxes across income groups, since we are not interested in the value of T_{hi} itself, but in the relative position of each income group in a particular ordering. Thus, we use this set of orderings to define our measure of "preferences for TRT." Ordering (1) reflects the preference for the status quo, since no group will be better off in the redistribution game. This does not imply maintenance of the same tax level. Under ordering (1), taxes may be increased or decreased for all three groups at the same time, but none is privileged (i.e. no redistribution in the tax burden takes place). We refer to this ordering as "pro-status quo" preference. Orderings (2) and (3) reflect a preference for increasing the welfare of the low-income group, since the increase in taxes for this group has to be lower than the increase for the middle and high-income groups. We refer to both orderings as "pro-poor" preference. For the same reason, we denote ordering (5) as "pro-middle class" preference, and refer to orderings (6) and (7) as "pro-rich" preference.

Orderings (4), (8) and (9) are somewhat different from the rest, since each contains two groups that gain from the change at the expense of the other group. First, consider orderings (4) and (8). Ordering (4) reflects a preference for low and middle-income groups over the high-income group, while ordering (8) reflects a preference for middle and high-income groups. However, because of the direction of the differences we have decided to include ordering (4) in the "pro-poor" preference and ordering (8) in the "pro-rich" preference. While this decision might obscure some differences between orderings, we must make this decision in order to simplify our metric and to allow for empirical tractability. On the other hand, ordering (9) is not linear, since the two winner groups are at the extremes of the income ladder, while an increase in taxes is preferred for the middle-income group. Given that this ordering cannot be subsumed under any of the previous categories, we will refer to this ordering as the "pro-extremes" preference. Taking all things together, we can now write our TRT metric using a set of conditional expressions that covers the whole preference space:

(1) Status quo: iff $T_{li} = T_{mi} = T_{hi}$
(2) Pro-poor: iff $T_{li} \leq T_{mi}$ and $T_{li} < T_{hi}$
(3) Pro-middle class: iff $T_{li} > T_{mi}$ and $T_{mi} < T_{hi}$
(4) Pro-rich: iff $T_{li} > T_{hi}$ and $T_{mi} \geq T_{hi}$
(5) Pro-extremes: iff $T_{li} < T_{mi}$ and $T_{mi} > T_{hi}$

Preference (1) is that of the voters who are in favor of the status quo; preference (2) is that of the voters who want to redistribute to the poor; preference (3) is that of the voters who want to redistribute to the middle-income group from the extremes of the income ladder; preference (4) is that of the voters who want to redistribute to the rich; and preference (5) is that of the voters who want to redistribute from the middle-income group to the extremes. From the theoretical discussion above, we can derive some hypotheses about the factors explaining these preferences. We consider the following hypotheses at the individual level:

Hypothesis 1.1: According to the self-interest approach, preferences for tax schemes will be linked to socio-economic status at the individual level. As socio-economic status increases, pro-poor preferences will decrease and pro-middle class and pro-rich preferences will increase.
Hypothesis 1.2: According to the self-interest approach, preferences for tax schemes will depend on position in the labor market at the individual level. Unemployment, low education

and other disadvantages in the labor market will affect pro-poor preferences positively and pro-middle class and pro-rich preferences negatively.

Hypothesis 1.3: According to the ideological approach, preferences for tax schemes will be linked to political affiliation at the individual level. As we move from the left to the right, pro-poor preferences will decrease and pro-middle class and pro-rich preferences will increase.

Hypothesis 1.4: According to the ideological approach, preferences for tax schemes will correlate with political mobilization. Union membership will affect pro-poor preferences positively and pro-middle class and pro-rich preferences negatively.

We also consider some additional hypotheses at the national level:

Hypothesis 2.1: Inequality will affect preferences for tax schemes at the national level. As inequality increases, pro-poor preferences will increase and pro-middle class and pro-rich preferences will decrease.

Hypothesis 2.2: Given the redistributive effect of taxes, taxation will affect preferences for tax schemes at the national level. As the amount of taxes increases, pro-poor preferences will decrease and pro-middle class and pro-rich preferences will increase, especially in the case of direct taxation.

Data and methods

Data and variables

To measure preferences for tax schemes, we rely on data from the ISSP "Role of Government" (2006) (ISSP Research Group, 2008). In this survey respondents were asked about their opinion regarding the amount of taxes paid by different income groups: "Generally, how would you describe taxes in [R's Country] today? (We mean all taxes together, including wage deductions, income tax, taxes on goods and services and all the rest). First, for those with high incomes, are taxes …?"; "Next, for those with middle incomes, are taxes…?"; "Lastly, for those with low incomes, are taxes …?". The ordered categorical responses for the three items were: (1) "much too high," (2) "too high," (3) "about right," (4) "too low," and (5) "much too low."

Using these three items, we create a dependent categorical variable. Following the notation introduced in the previous section, our measure of targeted distribution takes value 0 (status quo preference) for a particular individual when $T_{li} = T_{mi} = T_{hi}$, irrespective of the value of any of the three variables. It takes value 1 (pro-poor preference) when $T_{li} \leq T_{mi}$ and $T_{li} < T_{hi}$. It takes value 2 (pro-middle class preference) when $T_{li} > T_{mi}$ and $T_{mi} < T_{hi}$. And it takes value 3 (pro-rich preference) when $T_{li} > T_{hi}$ and $T_{mi} \geq T_{hi.}$[1] Those who prefer the status quo are those who think that the actual tax system does not have a bias against any particular group. Those who have preferences for one particular group are those who think that this income group pay too much in taxes compared to the other income groups.

Two types of explanatory variables have been included in the analysis at the individual level: socio-economic status and political ideology. Socio-economic status is measured through the International Socio-Economic Index of Occupational Status (ISEI) scores as proposed by Ganzeboom and Treiman (1996). The ISEI is conceived as measuring the characteristics of occupations that translate a person's education into income. The index is computed using a causal model that links occupational status, education and income, controlling for age. Estimated coefficients are then used as weights to compute scores for each occupation in the ISCO88 classification. Additional socio-economic controls include: socio-economic status, gender (0 = "Male," and 1 = "Female"), age and age squared, education level (0 = "No formal education," 1 = "Primary School," 2 = "Secondary School," and 3 = "University"), work status (1 = "Employed," 2 = "Unemployed,"

and 3 = "Not in the labor force"), and self-employed (0 = "No" and 1 = "Yes"). One additional variable related to the self-interest approach has been included: whether the person works in the private or the public sector (0 = "Private sector" and 1 = "Public sector"), as the legitimacy of redistributive schemes is fostered by producing benefits in the form of public employment (Edlund, 2003).

Political ideology reflects individual political affiliation. Following Jæger (2006), in order to minimize the potential endogeneity bias, we measure political ideology by identification with particular parties. However, the way political ideology is measured in the database varies across countries. While for most of the countries, political ideology is derived from the party to which an individual feels closest, in some other countries ideology is computed as self-placement on a left–right scale (Spain and Slovenia) or a conservatism–liberalism scale (South Korea and New Zealand). For the latter cases, we derived a measure of political affiliation based upon the party to which the individual feel closest, so we have an uniform ideological scale (1 = "Far left, etc.," 2 "Left, center left," 3 "Center, liberal," 4 "Right, conservative," 5 "Far right, etc.," 6 "Other, no specification," and 7 "No party preference"). In order to have a continuous scale, only values from 1 to 5 are taken. We consider also the role of trade union membership (0 = "Non-member" and 1 = "Member"), since union membership is expected to raise class-connected interests (Kumlin and Svallfors, 2007).

National variables include market inequality, direct taxation and indirect taxation. Market inequality is measured as inequality in the distribution of income (before taxes and transfers) using the Gini index (Solt, 2009). Direct taxation is the sum of taxes on incomes, profits, capital gains and payrolls taxes (including Social Security contributions) as a percentage of the GDP. Indirect taxation is the sum of taxes on goods and services as a percentage of the GDP. As stated above, preferences for more redistributive tax schemes are expected to be more intense in contexts of high inequality (Meltzer and Richard, 1981). It is also expected that preferences for tax schemes will be affected by the fiscal burden and the balance between direct and indirect taxation (Hibbs and Madsen, 1981). A descriptive analysis of the variables included in the analysis is provided in Table 1.

Methods

Given that the dependent variable is categorical, we used multinomial logistic regression to estimate the effect of explanatory variables. However, since individuals are nested within countries, we used multilevel techniques to estimate the models (Goldstein, 2003). For a categorical variable, with M categories, we have M-1 equations at the individual level, as follows:

$$\eta_{mij} = \log\left(\frac{\pi_{mij}}{\pi_{0ij}}\right) = \beta_{0mj} + \sum_{q=1}^{Q} \beta_{qmj} X_{qij} \tag{1}$$

where in our model there are M=4 categories of response, η_{mij} represents the odds ratio of category m for individual i within country j, which is a function of the Q individual level predictors, X_{qij}, and β_{qmj} are the coefficients to be estimated. As individuals are nested within countries, β_{0mj} may vary across countries. Thus, we can rewrite the intercept as a function of a random term U_{0mj} and the national level predictors inequality (G), direct taxation (IT) and direct taxation (DT):

$$\beta_{0mj} = \gamma_{00m} + \gamma_{01m} G_j + \gamma_{02m} IT_j + \gamma_{03m} DT_j + U_{0mj} \tag{2}$$

Table 1. Descriptive statistics.

Variable	Mean	Std. Dev.	Min.	Max.
Female	0.487	0.500	0	1
Age	48.615	15.560	16	97
Education level				
Primary education	0.324	0.468	0	1
Secondary education	0.423	0.494	0	1
University	0.212	0.409	0	1
ISEI	45.382	17.002	16	90
Work status				
Unemployed	0.033	0.177	0	1
Not in the labor force	0.288	0.453	0	1
Self-employed	0.125	0.331	0	1
Public worker	0.309	0.462	0	1
Ideology	2.897	1.018	1	5
Union member	0.254	0.435	0	1
Gini index	43.039	4.434	34.360	54.477
Direct taxation (% GDP)	22.393	5.903	8.860	34.460
Indirect taxation (% of GDP)	10.699	2.963	4.598	16.272

ISEI: International Socio-Economic Index of Occupational Status.
Source: ISSP Research Group (2008).

The base model is a random intercept model. Thus, we assume that the effect for each variable is fixed across countries, but there is a random effect accounting for variance of responses across countries. In a further step, we estimate a random-slopes model in which we allow the coefficient for ISEI and political ideology to vary across countries, using cross-level interactions between these two variables and direct taxation. At the same time, we assume that errors do not correlate across responses and countries. Taking equations (1) and (2) together and rearranging the right-hand term, we can write the M-1 equations of our baseline model as:

$$\log\left(\frac{\pi_{mij}}{\pi_{0ij}}\right) = \gamma_{00m} + \sum_{q=1}^{Q}\beta_{qmj}X_{qij} + \gamma_{01m}G_j + \gamma_{02m}IT_j + \gamma_{03m}DT_j + U_{0mj} \tag{3}$$

Estimation of multilevel models with categorical outcomes involves significant computational problems. There are two main approaches to solve this issue: penalized quasi-likelihood (PQL) and marginal quasi-likelihood methods (MQL) (Goldstein, 2003) and methods of numerical integration (Rabe-Hesketh et al., 2005). While quasi-likelihood methods are less computationally demanding, QL estimates are negatively biased if large variance components are present or if the distribution of the response variable departs from normality. Thus, we use the Adaptive Gaussian Quadrature approximation of the maximum likelihood, as proposed by Rabe-Hesketh et al. (2005). Estimates are obtained using the GLAMM routine in Stata.

Findings and discussion

We begin the discussion with the descriptive analysis of the dependent variable across countries, reported in Table 2. Most people in every country prefer for the tax system to increase

Table 2. Preferences for targeted redistribution through taxation by country.

	Status quo	Pro-poor	Pro-middle	Pro-rich
Australia	30.09	51.34	7.20	11.36
Canada	21.22	52.98	15.76	10.05
Chile	14.27	72.07	7.91	5.74
Czech Republic	22.38	63.88	4.36	9.38
Denmark	29.60	53.47	2.82	14.11
Finland	16.79	71.18	4.66	7.37
France	12.04	56.73	21.47	9.76
Germany	11.54	77.20	6.45	4.80
Hungary	11.01	72.59	6.88	9.52
Ireland	17.21	63.85	9.20	9.74
Japan	14.09	70.44	6.67	8.79
South Korea	5.91	81.08	8.80	4.20
Netherlands	17.53	64.93	9.05	8.48
New Zealand	29.26	39.33	12.12	19.29
Norway	19.31	72.34	3.37	4.97
Poland	14.47	81.35	1.48	2.69
Portugal	18.17	76.75	3.80	1.29
Slovenia	11.14	82.90	2.47	3.49
Spain	17.86	73.18	4.77	4.18
Sweden	24.49	67.10	2.31	6.10
Switzerland	11.76	73.79	10.90	3.56
United Kingdom	24.94	59.90	5.51	9.65
United States	15.20	60.94	15.86	8.00

Source: ISSP Research Group (2008).

redistribution toward the poor, but the data also reflects striking differences across countries. The distribution of preferences is related, to some extent, to the configuration of public sectors across Organization for Economic Cooperation and Development (OECD) countries. There is a pattern of high fiscal burden (especially direct taxation) and high social spending and redistribution, which is typical of the social-democratic welfare states in northern Europe. These countries are characterized by a relatively high preference for the status quo, which is compatible with a moderate support of redistribution toward the poor (with the exception of Denmark, in which pro-poor preferences are among the lowest in the sample and pro-rich preferences are among the highest).

There is an opposite pattern of low fiscal burden and low social spending (producing low redistribution), which is most typical of the Anglo-Saxon democracies, and many countries in southern and eastern Europe. However, the distribution of preferences is quite different among these two groups. Anglo-Saxon democracies (Australia, New Zealand and United Kingdom) are among the countries where the support for the status quo is strongest, while they display (in comparative terms) low support for redistributing toward the poor, and high support for redistributing toward the middle-income group (United States and Canada) and the rich (Australia and New Zealand). In contrast, countries from southern (Spain and Portugal) and eastern (Poland and Slovenia) Europe are among the strongest supporters of redistributing toward the poor and the lowest supporters of redistributing toward the rich. Lastly, countries from continental Europe show important variation. In Germany there is strong support for redistributing toward the poor and low support for the status quo, while in France pro-poor preferences are relatively low and pro-rich and especially pro-middle class preferences are very high.

The key question is how these differences in preferences for tax schemes can be explained by self-interest motivations and political ideology and how the effect of these motivations varies across different contexts. To answer this question, we will now discuss the results of our multivariate analysis. Table 3 shows the results of two multilevel multinomial logistic regressions. The dependent variable is preference for tax schemes: pro-poor, pro-middle class and pro-rich, and the reference category is the preference for status quo. Model 1 includes all the individual and national explanatory variables. Model 2 adds two interaction terms between socio-economic status and direct taxation and between political ideology and direct taxation, in order to know whether the conflict over tax schemes is affected by direct taxation, as suggested by Hibbs and Madsen (1981).

According to our estimates from Models 1 and 2, the hypothesis about the impact of socio-economic status on preferences (Hypothesis 1.1) is confirmed by the data. Socio-economic status (as measured by ISEI scores) has a strong and significant effect on preferences. The probability of supporting pro-poor redistribution through the tax system decreases as socio-economic status increases, while the probabilities of supporting redistribution toward middle and high-income groups increase. Consistent with the self-interest approach, more affluent individuals prefer to decrease the tax burden of the middle and high-income groups and increase that of the low-income group. In contrast, less affluent individuals prefer to increase the taxes paid by the middle and high-income groups and reduce the share paid by the poor. Also consistent with the literature on class and preferences for redistribution (Kumlin and Svallfors, 2007), the self-employed oppose increasing redistribution toward the poor.

The hypothesis about the impact of educational and labor market disadvantages on preferences (Hypothesis 1.2) is confirmed, although some categories have a non-significant effect. Being unemployed increases the probability of supporting a change in the tax system to redistribute toward the poor and decrease the probability of supporting redistribution toward the middle-income group, but it has no significant effect on the probability of supporting redistribution toward the rich. At the same time, being out of the labor market increases the probability of demanding redistribution toward the poor, although it also increases the probability of supporting redistribution toward the rich (however, this effect is only significant at $p<0.10$). Finally, regarding the effect of education, those who have primary and secondary education support an increase in redistribution toward the poor. In addition, those having secondary education also support increasing redistribution toward the middle incomes and those who have a college degree support increasing redistribution toward the rich.

In line with expectations, public employees show a higher probability of supporting redistribution toward the poor and the middle-income group, and a lower probability of supporting redistribution toward the rich. The pro-middle class preference is consistent with self-interest motivations, since we can assume that the income of the average public employee is within the category of middle incomes. Following Svallfors (1997), the preference for redistributing toward the poor might be explained by the close links to recipients of welfare programs, either as clients, patients or welfare dependents. The other socio-economic variables included in the model (gender and age) have a limited effect. There are no significant differences by gender, and the relationship between age and pro-poor and pro-middle class preferences shows an inverted U-shaped curve, since the effect of age is positive and the effect of age squared is negative in both cases. That implies that support for redistribution to the poor and the middle class is the greatest during middle age, although pro-rich preferences do not seem to be affected by age.

Our estimates also confirm that political ideology has an impact in shaping preferences for tax schemes (Hypothesis 1.3). Political affiliations appear to be polarized around the distributive consequences of the tax system. Those who identify with left-wing parties want to redistribute toward the poor while those who identify with the right-wing want to redistribute toward the rich, while

Table 3. Preferences for targeted redistribution through taxation. Multilevel multinomial logistic regression.

	Model 1			Model 2		
	Pro-poor	Pro-middle	Pro-rich	Pro-poor	Pro-middle	Pro-rich
Fixed part						
Individual variables						
Female	0.075*	0.026	–0.031	0.066	0.024	–0.022
	(0.045)	(0.071)	(0.071)	(0.045)	(0.072)	(0.071)
Age	0.029***	0.052***	0.011	0.029***	0.052***	0.011
	(0.009)	(0.014)	(0.014)	(0.009)	(0.014)	(0.014)
Age squared	–0.000*	–0.000***	–0.000	–0.000*	–0.000***	–0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Primary education	0.432***	0.195	–0.264	0.380***	0.183	–0.174
	(0.118)	(0.211)	(0.211)	(0.120)	(0.212)	(0.213)
Secondary education	0.387***	0.390*	0.196	0.356***	0.389*	0.277
	(0.119)	(0.210)	(0.208)	(0.120)	(0.211)	(0.211)
University	0.229*	0.183	0.440**	0.194	0.181	0.527**
	(0.130)	(0.225)	(0.222)	(0.131)	(0.227)	(0.224)
ISEI	–0.013***	0.007***	0.004*	–0.010***	0.010***	0.006**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.003)	(0.003)
Unemployed	0.332**	–0.999***	–0.149	0.339**	–1.004***	–0.159
	(0.136)	(0.329)	(0.243)	(0.137)	(0.330)	(0.243)
Not in the labor force	0.131**	–0.136	0.199*	0.115*	–0.149	0.202*
	(0.065)	(0.106)	(0.104)	(0.065)	(0.106)	(0.104)
Self-employed	–0.204***	–0.154	0.096	–0.198***	–0.152	0.109
	(0.068)	(0.109)	(0.100)	(0.068)	(0.109)	(0.100)
Public worker	0.132**	0.237***	–0.260***	0.117**	0.233***	–0.237***
	(0.054)	(0.085)	(0.088)	(0.054)	(0.085)	(0.088)
Ideology	–0.272***	–0.050	0.236***	–0.272***	–0.039	0.233***
	(0.022)	(0.036)	(0.036)	(0.030)	(0.041)	(0.041)
Union member	0.161***	–0.050	–0.049	0.150**	–0.052	–0.062
	(0.059)	(0.094)	(0.093)	(0.059)	(0.094)	(0.092)
Constant	3.274***	–0.746	–0.170	–0.069	–2.513***	–1.160***

(Continued)

Table 3. (Continued)

	Model 1			Model 2		
	Pro-poor	Pro-middle	Pro-rich	Pro-poor	Pro-middle	Pro-rich
	(0.906)	(1.013)	(1.002)	(0.233)	(0.395)	(0.378)
National variables						
Gini index	–0.021	0.005	–0.034*	–0.014	0.011	–0.031**
	(0.019)	(0.020)	(0.020)	(0.011)	(0.013)	(0.013)
Direct taxation	–0.055***	–0.049***	–0.029	–0.051***	–0.045***	–0.035***
	(0.017)	(0.018)	(0.018)	(0.010)	(0.012)	(0.012)
Indirect taxation	0.015	–0.098***	0.033	0.020	–0.097***	0.025
	(0.034)	(0.036)	(0.036)	(0.019)	(0.022)	(0.023)
Cross-level interactions						
ISEI * direct taxation				–0.003***	–0.002***	–0.001*
				(0.000)	(0.001)	(0.001)
Ideology * direct taxation				–0.008*	0.007	0.019***
				(0.005)	(0.007)	(0.007)
Random part						
Variance (constant)	0.157	0.157	0.157	0.152	0.152	0.152
	(0.040)	(0.040)	(0.040)	(0.044)	(0.044)	(0.044)
Variance (ISEI)				0.259	0.259	0.259
				(0.045)	(0.045)	(0.045)
Variance (ideology)				0.275	0.275	0.275
				(0.055)	(0.055)	(0.055)
Observations	15,357	15,357	15,357	15,357	15,357	15,357
Countries	23	23	23	23	23	23
Log-likelihood	–14342.713	–14342.713	–14342.713	–14380.865	–14380.865	–14380.865

Notes: ***, **, and * indicate significance level at 1%, 5%, and 10%, respectively. Standard errors in brackets. "Status quo" is the reference category.
ISEI: International Socio-Economic Index of Occupational Status.
Source: ISSP Research Group (2008).

political affiliation has no significant effect on pro-middle class preferences. Political mobilization also has an impact on preferences for tax schemes in the expected direction (Hypothesis 1.4), as unions tend to promote class-connected interests and identities (Kumlin and Svallfors, 2007). Union membership increases the probability of supporting redistribution toward the poor and its sign is negative (although non-significant) for redistribution to the high and middle-income groups.

National variables included in the analysis also have a significant impact on preferences for redistribution. The direction of the influence is mainly in line with the hypotheses, although some important qualifications must be made. As predicted, preferences for redistribution to the rich decrease as market inequality increases (Hypothesis 2.1), but the effect of market inequality on preferences for redistribution toward the poor and the middle-income group is far from significant. As contended by Meltzer and Richard (1981), the willingness to increase the taxes paid by the high-income group increases at high levels of inequality, although there is no evidence that the demand to reduce the taxes for the poor and the middle class increases simultaneously.

The fiscal burden also has an impact on preferences for redistribution (Hypothesis 2.2). The effect of direct taxation on pro-poor, pro-middle class and pro-rich preferences is negative,[2] meaning that an increase in taxes on income, profits and payroll taxes reduces the probability of supporting redistribution to every income group, which implies a higher support for the status quo (the reference category). This indicates that, at high levels of direct taxation, no-one wants to increase the taxes paid by one particular group, given that every group is already paying a significant amount of taxes. The effect of indirect taxation is similar. As taxes on goods and services increase, the probability of supporting redistribution toward the middle-income group decreases, while the effect on pro-poor and pro-rich preferences is far from significant. Following the same logic, as indirect taxation increases, support of the status quo increases. The effect on pro-poor and pro-rich preferences might not be significant in that case, because of the lower visibility of indirect taxation, as contended by Hibbs and Madsen (1981).

Estimates from Model 1 suggest that support for redistribution toward one particular group through the tax system tends to decrease as the fiscal burden increases. However, that raises the question of whether the socio-economic and political conflicts around the redistributive effects of the tax system tend to increase (or decrease) as the fiscal burden changes. To address this issue, we will now focus on the interaction terms between direct taxation and ISEI and political ideology in Model 2. These interaction terms reveal that direct taxation has a significant impact on the effect of both ISEI and ideology. The negative sign of the interaction term between direct taxation and ISEI in pro-poor preferences indicates that the support for redistributing toward the poor becomes more polarized between low and high socio-economic status, as direct taxation increases (since the sign of ISEI is negative in pro-poor preferences). In contrast, the negative sign of the interaction term in pro-rich and pro-middle class preferences indicates that differences between low and high status decrease as direct taxation increases (since the sign of ISEI is positive in pro-rich and pro-middle class preferences).

Altogether, these findings indicate that at high levels of direct taxation, individuals with high socio-economic status display increasing resistance toward redistributing to the poor, but the low socio-economic status groups do no expand their demand of taxing further the middle and high-income groups. The political conflict around tax schemes evolves in a more polarized way. The negative sign of the interaction term between direct taxation and political ideology in pro-poor preferences and the positive sign in pro-rich preferences indicate that both pro-poor and pro-rich preferences become more polarized around political affiliations as direct taxation increases. Those who identify themselves with right-wing parties increase their resistance to redistributing toward the poor as direct taxation increases, but the left-wing voters increase their support for further taxation of the rich.

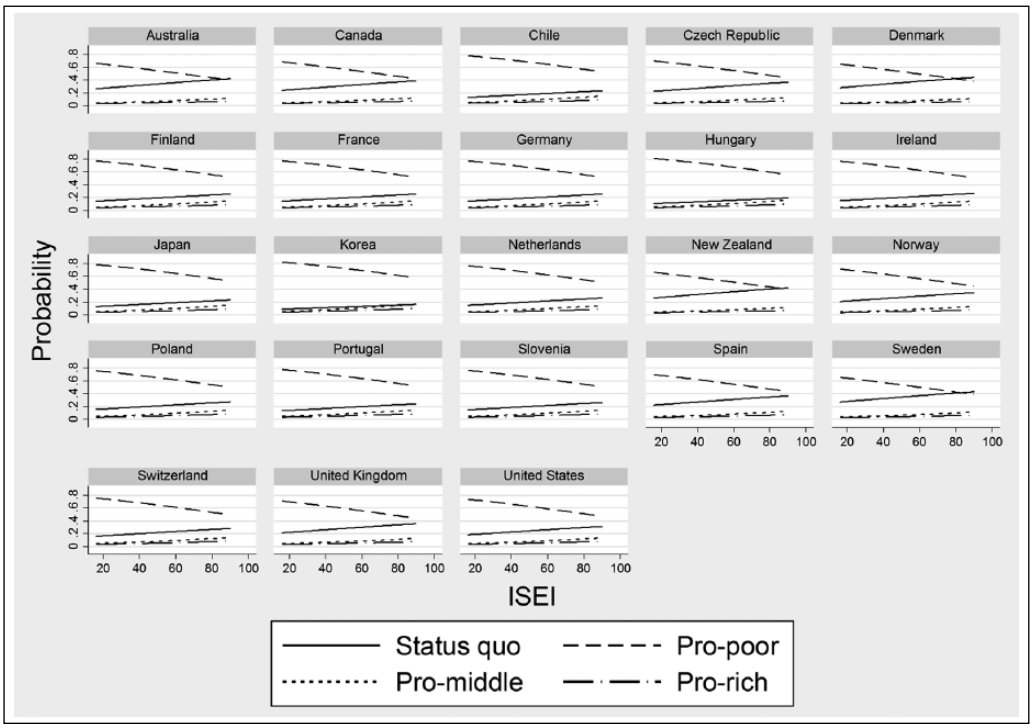

Figure 1. Simulated preferences for redistribution by ISEI for each country.
Note: Probabilities for each category of the dependent variable have been simulated using estimates from Model 2 reported in Table 3.
ISEI: International Socio-Economic Index of Occupational Status.
Source: ISSP Research Group (2008).

To have a more detailed understanding of the dynamics of the preferences for tax schemes, we used the estimates from Model 2 in Table 3 to simulate the probabilities of supporting each preference at different levels of the variables of interest (ISEI and political ideology). The probabilities are computed for a male, with primary education, working as an employee in the private sector and not a member of a trade union, while holding all the continuous variables at their means. Predicted probabilities by country for different values of ISEI are depicted in Figure 1. On average, the probability of supporting redistribution toward the poor decreases 0.18 from the lowest to the highest value in ISEI scores (from 0.65 for a farm laborer or a cleaner in offices, hotels and other establishments to 0.47 for a judge). On the opposite side, support for the status quo increases from 0.27 to 0.33 for the same values of ISEI, and support for redistributing toward the middle and high-income groups increases from 0.04 to 0.13 and from 0.03 to 0.07, respectively.

Figure 2 depicts probabilities by country for each preference for different political affiliations (from the far left to the far right). On average, the probability of supporting redistribution toward the poor decreases 0.26 from the far left (0.78) to the far right (0.52), while support for the status quo increases from 0.14 to 0.27 for the same categories and the probability of pro-rich preference multiplies by a factor of 5 (increasing from 0.02 to 0.11). The analysis of probabilities confirms a high polarization of preferences for tax schemes around socio-economic statuses and political affiliations. It also shows that the intensity of redistributive conflicts varies substantially across countries. In countries where direct taxation is high (such as Denmark or Sweden), the differences

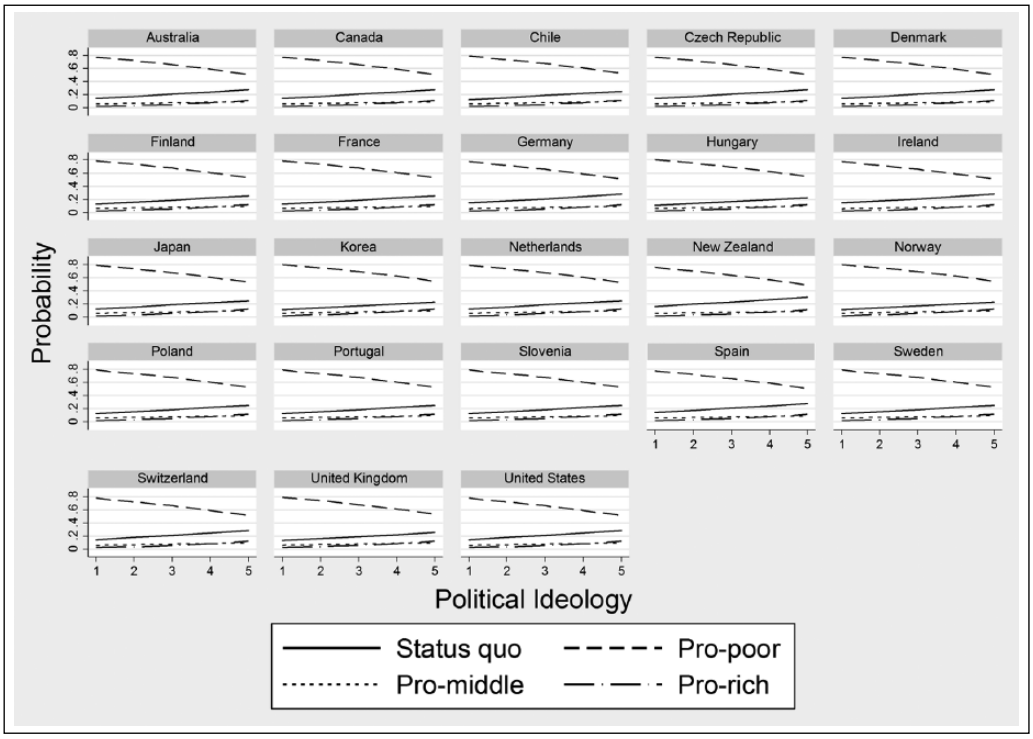

Figure 2. Simulated preferences for redistribution by political ideology for each country.
Note: Probabilities for each category of the dependent variable have been simulated using estimates from Model 2 reported in Table 3.
Source: ISSP Research Group (2008).

in probabilities between left and right-wing voters are greater than in countries where direct taxation is moderately low (such as Portugal or Ireland). Along these same lines, differences in the probabilities of supporting redistribution toward the poor between low and high socio-economics statuses are higher in these countries.

Conclusions

The literature on preferences for redistribution has been focused typically on the analysis of the demand for overall redistribution, but much lesser attention has been paid to the mechanisms through which redistribution takes place, and to the preferences for specific redistributive schemes. More specifically, preferences for tax schemes and their redistributive implications have been scarcely analyzed in the literature. Drawing upon literature on the self-interest approach and the ideological determinants of preferences for redistribution, we hypothesized that both socio-economic status and political ideology are at work in explaining preferences for tax schemes. Then we proposed a metric for preferences for targeted redistribution through the tax system (TRT), which is computed from the evaluations of the amount of taxes paid by different income groups (low, middle and high). Then, we estimated multilevel models to test our argument empirically using data from the ISSP for a sample of OECD countries.

Our estimates support both the self-interest and the ideological approaches. Low socio-economic status groups, along with the unemployed, those not in the labor force, and public workers

are more willing to support a change in the tax system aimed at increasing redistribution toward the poor, whereas the high socio-economic status groups, those who hold a college degree and work in the private sector are more willing to increase redistribution toward the rich. Also, high socio-economic status groups, those who have a job, hold a secondary education degree and work in the public sector prefer to increase redistribution toward the middle-income group. As for the effect of political variables, left-wing voters and union members want to redistribute toward the poor, while the right-wing voters want to increase redistribution toward the rich. Interestingly, political affiliation has no significant effect on pro-middle class preferences, suggesting a polarization of preferences along the lines of political ideology.

The main explanatory factor of preferences for tax schemes at the national level is direct taxation. Support for the status quo increases as direct taxation increases, while the probability of supporting redistribution to any particular income group decreases. More importantly, the distributive conflict over taxation appears to increase when direct taxation increases. At higher levels of direct taxation, differences between socio-economic statuses in pro-poor preferences increases and probabilities of supporting redistribution toward the poor and the rich become highly polarized between political affiliations. This suggests a mobilization effect in line with Kumlin and Svallfors' (2007) argument. As direct taxation increases, left-wing parties strengthen their ability to mobilize their electorates to pursue further their redistributive interests, while those leaning toward the right-wing increase their resistance to tax the rich. Further research should address the specific mechanisms driving political mobilization in the context of high direct taxation.

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Notes

1. As has already been discussed, there is another possibility in which $T_{li} < T_{mi}$ and $T_{mi} > T_{hi}$. Those having this order of preference will want to redistribute from the middle class to both extremes. Only a few cases in the whole database fall into this category (1.24%). For the sake of parsimony, they have been omitted from the analysis.
2. Note, however, that the effect on pro-rich preferences is only significant in Model 2.

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