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Preferences for redistribution: an empirical analysis

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Abstract

People's preferences for state intervention in social policies vary. A cross-section analysis on individual-level survey data is conducted here to highlight the link between the economic position of agents and their specific demand for redistribution. Controlling for a number of factors usually found to affect individual preferences in the literature, the egoistic motives for redistribution are taken seriously and this article focuses on the role played by the occupational status of individuals in shaping their preferences. Thus, the relative importance of economic factors in terms of current and expected gains is estimated, taking into account individuals' experience of social mobility and risk aversion. Furthermore, the research presented here identifies which socio-political groups may be formed on the basis of their preferences for redistribution.

Keywords: Redistribution, Occupation, Social mobility, Ordered logit regression

JEL classification: D31, D72, H23

1 Introduction

What explains people's preferences for redistributive policies? In this paper, I conduct a cross-country analysis of the determinants of preferences for redistribution, using individual-level survey data. The egoistic motives for redistribution are taken seriously and the relative importance of economic factors is estimated in terms of current and expected gain, allowing for social mobility concerns and risk aversion. To this end, data from the International Social Survey Programme (ISSP 2006 Role of Government IV module) is used. Our sample is composed of 33 democracies. The empirical validity of the main propositions of the literature are tested, using ordered logit regressions. The relative importance of each explanatory variable is substantively assessed and robustness checks are carried out.

Throughout the analysis, I focus on the role played by individuals' occupational status in shaping their preferences for redistribution. Adopting a political economy viewpoint on the more general question of what determines redistributive policies, the research here seeks to identify which socio-political groups may be formed on the basis of their preferences for redistribution. Indeed, the changing weight of social groups and the degree of homogeneity that exists inside groups crucially influences the policy outcome.[1] The analysis of demand concerning social policies and the identification of social groups that formulate this demand are then necessary to determine the support for potential reforms concerning the welfare state, from a comparative perspective (Castanheira *et al.*, 2006).

There is a rapidly growing literature on the determinants of preferences for redistribution, with a large variety of arguments proposed to explain differences in attitudes

[1] On this point see the political economy model of Pagano and Volpin (2001, 2005).

towards the welfare state. This goes from purely pecuniary factors (Meltzer and Richard, 1981) to purely cultural factors (Algan and Cahuc, 2006), through subjective social positioning (Hirschman, 1973), or expectations of social mobility (Benabou and Ok, 2001). The present contribution to the existing literature is twofold: (i) it substantively assesses the importance of the variables identified in the literature, inferring a hierarchy in the arguments and emphasizing the supremacy of economic factors in shaping preferences for redistribution; (ii) it identifies the different social groups (hence potential coalitions) which might support redistribution according to their position in the labour market.

The paper is organized as follows. Section 2 presents the literature on the determinants of preferences for redistribution. Section 3 explains the empirical strategy applied here, the data and the careful construction of variables. Section 4 illustrates the econometric results, while Section 5 conducts a series of robustness checks. Section 6 concludes.

2 Literature

A recent body of the economic literature addresses the problem of the formation of preferences for redistribution.[2]

The standard viewpoint is to consider a purely pecuniary factor as determining individual preferences (Meltzer and Richard, 1981): individuals whose income is below the mean income of the population ask for redistribution, given that they will directly benefit from it. Symmetrically, individuals whose income is above the mean do not favour redistribution, as they are net contributors. Therefore, if the median income is below the mean income in the population, a majority of voters will be in favour of redistribution.

[2]See the recent survey by Alesina and Giuliano (2009).

In their study of the differences between the level of welfare state in the United States and in four European countries (France, Germany, Sweden and the UK), Alesina and Glaeser (2004) show that the empirical validity of this argument is highly controversial.

Adding the "prospect of upward mobility" to enrich the standard model and assuming that a change in politics cannot happen too often, Benabou and Ok (2001) leave a room for individuals whose income is just below the mean to rationally oppose redistributive policies. Then, there may be a "preference for inequality" (Suhrcke, 2001) linked to the fact that a majority of voters expect to experience upward mobility in the future, and hence a net cost of redistribution (Clark, 2003; Senik, 2005). A similar argument has recently been tested by Alesina and La Ferrara (2005), using an objective mobility matrix.

This raises the question of how individuals estimate their chances of future mobility. Piketty (1995) assumes a learning process that leads individuals to take into account not only their current income, but also their personal mobility history to compute their future income. Using their personal experience of mobility, individuals, who do not know the true role of effort in determining income, update their initial beliefs (randomly distributed) while evaluating the cost of redistribution. Therefore, an individual who believes that effort is rewarded by society and who experiences upward mobility would have an incentive to oppose any redistributive policy and to pursue his/her effort to increase his/her social position. These beliefs are self-fulfilling, in the long run.[3] They imply multiple equilibria leading the US, for instance, to promote effort (and thus to oppose redistribution) and European countries to reward chance (thus favouring redistributive

[3]See Piketty (1998) for a theoretical explanation of the persistence of inequalities.

policies). The standard income effect usually assumed in Public Choice theories with an egoistic median voter may thus be false, since the effect comes from endogenous beliefs about the role of effort.[4] More recently, Fong (2001), Alesina and Angeletos (2005) and Benabou and Tirole (2006) have revisited the relationship between collective beliefs about the relative importance of individual effort in personal success and the demand for redistribution.

Relative income also has a role in determining preferences, as pointed out by Ravallion and Lokshin (2000), who take advantage of the "tunnel effect" put forward by Hirschman (1973). In this approach, beliefs are strongly related to the way other people evolve in the society. The tunnel refers to a situation in which the driver of a car is stuck in a traffic jam. If traffic in the next lane is moving faster, the individual first has a positive reaction: the traffic jam is probably coming to an end, and his/her lane will accelerate very soon, too. But if, after a while, the lane remains stuck, the individual is not only unsatisfied, but his/her discontent is raised by the fact that drivers in the adjacent lane are moving on. This twofold effect is called the *tunnel effect*. Attitudes of individuals clearly depend on their expectations, and their expectations rely on the observation of others. Ravallion and Lokshin (2000) and Corneo and Grüner (2000, 2002) find empirical support for this relative social mobility argument, using Russian data for the former, and international survey data (ISSP 1992) for the latter.

Finally, a growing body of the literature focuses on behavioural and cultural values as determinants of preferences for redistribution.[5] Alesina and Fuchs-Schündeln (2007)

[4]See Piketty (1999) for a test on French data.

[5]See Algan and Cahuc (2006) for an international comparison using the World Value Survey and ISSP (1991, 1998) that explains differences in welfare states and labour market institutions by differences in civic attitudes. See Amable (2009) for an empirical evaluation of European Social Survey data of the importance of cultural factors relative to other "materialist" factors in the individual support for the

argue that there is a long lasting impact of political regimes on collective beliefs about redistribution. The authors take advantage of the natural experiment of East Germany to assess the impact of Communism on people's preferences for redistribution. Alesina, Glaeser and Sacerdote (2001) and Roemer and Van der Straeten (2005, 2006) focus on the racial conflict that could explain the refusal of redistribution, when individuals expect migrants to get all the benefits from it. Clark and Lelkes (2005) and Scheve and Stasavage (2006) highlight the role of religion as a substitute to public redistribution. The hypothesis tested by the authors is that the social distress due to an economic shock (e.g. unemployment) is dampened if the individual belongs to a social network. Religion might be such a network.[6] In all these studies, the insurance motive of redistributive policies (Buchanan and Tullock, 1962) is also tackled.[7]

The research here tests the empirical validity of these propositions on an extensive set of countries, that includes not only advanced industrial democracies, but also former communist countries and Latin American countries. Adopting a political economy viewpoint on the more general question of what determines redistributive policies, it seeks to identify which socio-political groups could be formed on the basis of their preferences for redistribution. Throughout the analysis, the hypothesis is that preferences for redistribution rely on the economic positioning of agents in the labour market. Thus, conducting a cross-country analysis of the determinants of preferences for redistribution, the paper contributes to the existing literature in two ways. First, it assesses the relative importance of the factors identified in affecting preferences for redistribution and reveals

European social model.

[6]Indeed, Clark and Lelkes (2005) have shown that religious individuals experience significantly lower estimated losses in subjective utility after adverse life events, such as unemployment.

[7]See Rehm (2005) for an empirical test on European Social Survey data of diverse insurance motives (globalization, deindustrialization) as determinants of preferences for redistribution.

the key role played by economic variables, as compared to cultural factors. Second, the research identifies the different occupational groups which might support redistributive policies.

3 Empirical Strategy

The present analysis highlights the link between the economic position of agents and their specific demand concerning redistribution. It focuses on the role played by the occupational status of individuals in shaping their preferences for redistribution. Indeed, taking the egoistic motives for redistribution seriously, the attitudes of individuals are examined according to their (perceived) position in the labour market. More specifically, the aim is to estimate the relative importance of economic factors in terms of current and expected gain, allowing for social mobility concerns and risk aversion. From a political economy perspective, the aim is also to identify which socio-political groups can be formed on the basis of their preferences for redistribution.

3.1 Data

The micro-econometric analysis here is based on the ISSP dataset "Role of Government IV" (International Social Survey Programme - 2006). Questions of the survey deal with the political demand, votes, social and economic characteristics of individuals. More specifically, the Role of Government IV module aims to identify individual attitudes toward government responsibilities and government spending. The large size and coverage of the data (on average 1500 respondents per country, over 33 democracies) gives the opportunity to produce precise estimates of what determines individual preferences for

redistribution. The following OECD countries are included in the dataset: Switzerland, Germany (East and West), Danemark, Spain, Finland, France, Great Britain, Ireland, Netherlands, Norway, Portugal, Sweden, Australia, Canada, Japan, New Zealand, USA, Israel (Jewish and Arabs), Chile, South Korea, Hungary, Poland, Czech Republic, and Slovenia. In addition, the dataset provides data on Croatia, Latvia, Russia, Philippines, Taiwan, Dominican Republic, Uruguay, Venezuela, and South Africa.

To measure attitudes towards redistribution, agents are assumed to be sincere revealers of their preferences, in answering to the following survey question:

> "On the whole, do you think it should or should not be the government's responsibility to reduce income differences between the rich and the poor?"

For presentational purposes, the original scale has been inverted, placing critics and supports of redistribution in four categories: 1 Definitely should not be, 2 Probably should not be, 3 Probably should be, 4 Definitely should be. The distribution of answers is shown in Tables 1 and 2 below.

[**Tables 1 and 2 about here**]

Series of further explanatory variables are selected from the dataset, each of which corresponds to a possible explanation for the formulation of preferences. The causal link involved is briefly exposed below.

Occupation ISCO-88 (International Standard Classification of Occupations): The type of occupation, which depends on skills levels and specialization, is assumed to influence preferences of agents regarding social policies. Indeed, according to Iversen and Soskice (2001), specific jobs are more threatened by globalization and macro shocks than others.

Moreover, specialized workers have greater difficulties in finding vacancies that correspond to their specialty (Estevez-Abe *et al.*, 2001). Consequently, agents with *specific skills* are supposed to be more supportive of the welfare state, compared to agents with *general skills*.[8] The ISCO indicator is clustered here into the 9 major groups, indicated by the ILO (1990) and strongly related to individuals' *education degree* and their level of *on-the-job training*. Importantly, by entering major occupation groups as binary variables into the regression analysis, it is possible to assess which occupations can be grouped together according to the similarity of their political demands. The major groups used are the following: Manager, Professional, Associate professional, Clerk, Service worker, Agricultural worker, Craftsman, Machine operator, Elementary worker.[9]

Income The higher an individual's income, the less he/she needs public funding, hence the less he/she should favour redistribution (Meltzer and Richard, 1981). On the other hand, the higher an individual's income, the more he/she has to lose when becoming unemployed, if he/she does not earn sufficient replacement benefits. Hence, the linearity of an individual's preferences for redistribution is not theoretically obvious and calls for more precise empirical testing (Moene and Wallerstein, 2001). Therefore, current income enters the regression in quintiles, from the lowest (Q1) to the highest (Q5) level of income.[10]

[8]To test their argument, the authors construct a linear *skill specificity index* based on the ISCO classification. However, I do not see any reason why all specific skills - by definition specific to a job or sector - would be threatened in the same way by globalization or macro shocks. Thus, the linearity of the effect does not seem intuitive. Moreover, the skill specificity index of the authors is negatively related to the level of education of workers (Cusack *et al.*, 2006, p.371).

[9]Given the small size and the heterogeneous composition of the group of agricultural workers, the same analysis excluding this group was conducted, as a robustness check. Results remain unchanged.

[10]To achieve international comparability, the actual position of individuals in the income distribution of their country is considered here, instead of the level of income *per se*. This income distribution has been normalised in quintiles. However, keeping the original coding in terms of income level would not change the results.

Risk Aversion The employment status (workers in the private sector, self-employed and publicly employed) is used as proxy for risk aversion. Self-employed workers are supposed to be less risk-averse than average (Alesina and La Ferrara, 2005), while publicly employed people are supposed to be more risk-averse than average. Indeed, public employees are less likely to lose their jobs: job tenure is guaranteed more in the public sector than in the private sector. Assuming they follow a decision-making process while choosing their job status, those individuals who have chosen to be publicly employed should correspond to more risk-averse people. Furthermore, the level of public employment directly relies on the size of government, and more particularly on the size of social programs. Therefore, public employees have a direct interest in supporting redistributive policies.

Unions Membership of a trade union or an employers' association is taken into account using a dummy. The idea is that union members are better informed about the costs and benefits of redistribution. Moreover, union members are supposedly willing to influence public policy decisions, by giving power to an organization that expresses common interests (Olson, 1965).

Religion Religious denomination (dummies for Catholic, Protestant, and Other religion) and church attendance are used to assess the validity of the result found in the literature, as applied to the sample used here (Clark and Lelkes, 2005; Scheve and Stasavage, 2006).

Social Class In order to infer the potential impact of the subjective social ranking on attitudes towards redistribution, self-positioning values by agents of how they rank themselves on a social scale from 1 (top) to 10 (bottom) are used. Two binary variables are defined: upper class (positioning from 1 to 4) and lower class (from 7 to 10). Individuals who position themselves on the 5th and 6th ranks are considered to belong to the middle

class (the reference category here). It may thus be expected that individuals who express the feeling of belonging to the upper class have a more negative attitude towards redistribution, while individuals having the feeling of belonging to the lower class will have a more positive attitude, relative to those who belong to the middle class.[11]

Social Mobility Two different specifications are used to assess the social mobility argument.[12] The first one is the self-assessment by individuals of their job prestige, compared to their father's. This specification may also be found in Corneo and Grüner (2002) and in Alesina and La Ferrara (2005). The second specification used is the personal history of individuals, concerning their social mobility. To construct this variable, the previous question on the self-positioning of individuals on a social scale is used. Indeed, the question is asked twice, for the present (today) and regarding the past: 10 years ago (an *ex post* assessment). The difference between both answers is calculated to measure the subjective social mobility of respondents and to classify the newly created variable into 3 categories (upward mobility, immobility, and downward mobility). This is a direct test of the argument by Piketty (1995) stating that people who have experienced upward mobility should oppose redistribution, while people who have experienced downward mobility

[11]Two remarks should be made, concerning the incorporation of this variable into the model. On the one hand, the *subjective* feeling of belonging to a certain social class is highly correlated to *objective* variables of job occupation and family income. It may be noted indeed that the introduction of the social class variable decreases the coefficients of occupation and income, although it does not strongly affect their significance. On the other hand, two individuals who have the same occupation and a similar family income may have different views of their social position. The self-positioning of an individual on the social ladder thus captures the feeling he/she has regarding his/her relative ranking, hence his/her vision of the society in which he/she lives (this could even act as a proxy of personal social satisfaction).

[12]The effect of this explanatory variable is estimated on a different dataset: the ISSP 1999 module, Social Inequality III, is used here. Indeed, for data availability reasons, it was not possible to address this social mobility issue in the ISSP 2006 module. Consequently, the dependent variable slightly differs, although its interpretation is closely related to the one of the question used in our main dataset. Individuals are asked whether they agree with the following statement: "It is the responsability of the government to reduce the differences in income between people with high incomes and those with low incomes." Respondents can choose among five answers: 1 Strongly disagree, 2 Disagree, 3 Neither agree nor disagree, 4 Agree, 5 Strongly agree. As before, the scale has been inverted for presentational reasons.

should support redistribution. The reference category here gathers people who consider they did not experience any mobility within the last 10 years.

The following variables are introduced as a control set: gender (dummy for female), age and age squared (to allow for concavity), and marital status (dummy for individuals who are married or live as married).

An important variable that could have been introduced into the analysis is the education level of individuals. However, as it is already included in the ISCO variable used, it has not been included in the regression to avoid multicollinearity. Yet, if tested separately, it is found to have the same result as in the literature: the more educated an individual is, the less he/she favours redistribution.[13] Finally, another interesting explanatory variable would be the work status of individuals (unemployed, disabled, retired, part-time, etc.). Unfortunately, the high number of missing points on this question ruled out using this set of variables in the regression.

3.2 Estimation Process

The next step is to carry out an ordered logit regression, since the variable to be explained encompasses discrete choices that can be easily ordered on a Likert scale.[14] Ordered mod-

[13]The explanation for this is twofold. First, the more individuals study, the more they are informed, and hence the more they know about the cost and benefits of redistribution. Second, the more an individual studies, the higher his/her productivity and wage, thus the more he/she pays taxes while employed. Therefore, support for redistribution falls as it represents a net cost to the individual. Also, if it is assumed that long-term unemployment risks fall with education, then this effect is emphasized.

[14]The Likert scale is commonly used to measure individuals' degree of satisfaction. This type of scale uses a classification in 5 points that ranges from strong agreement to simple agreement, indifference, disagreement, and strong disagreement in order to rank attitudes. Even though some scholars treat this scale as being an interval scale (hence applying OLS estimates), it is not known whether the distances between the different alternatives are equal (i.e. the gap between "strongly agree" and "agree" is not necessarily of the same magnitude as the gap between "agree" and "indifferent"). Therefore, the presence of a Likert scale calls for the use of categorical dependent variable regression models (CDVMs). Unlike OLS models, CDVMs are not linear.

els assume the existence of threshold values, thus implying an ordering to the categories of the dependent variable. More precisely, a latent variable is supposed to capture the outcome, following a decision rule based on the cut-point parameters that need to be estimated.

The equation to be estimated can be defined as follows:

$$Y_i^* = \gamma D_i + \chi E_i + \delta M_i + \phi V_i + \eta C + \epsilon_i \tag{1}$$

where vectors γ, χ, δ, ϕ, η and ϵ are parameters to be estimated, and Y_i^* is the latent variable, i.e. the intensity of preferences for redistribution.

D is a vector of individual socio-demographic characteristics (age, sex, marital status). E is a vector that measures the socio-economic position of individuals (type of occupation, current income, risk aversion). This vector includes also a binary variable for individuals who are trade union members. M is a vector of binary variables that captures the personal experience of social mobility and the perception of mobility relative to the individual's father, or alternatively the subjective social position. V is a vector of dummies that captures cultural values, reduced here to the religion of individuals and the intensity of their religiosity. As far as Germany is concerned, a dummy for living in former East Germany is included, in order to capture a potential long lasting effect of the communist regime on preferences. Finally, C is a vector of country dummies, and ϵ is the error term.

It is not Y_i^* which is observed, but a variable Y_i that takes values from 1 to 5, and increases with the individual support for redistribution. In particular, we have:

$$Y_i = j \text{ if } \alpha_{j-1} \leq Y_i^* < \alpha_j \tag{2}$$

for $j = 1, ..., 5$ where α_j are cut points to estimate, assuming that $\alpha_0 = -\infty$ and $\alpha_5 = +\infty$.

The interpretation of categorical variables estimates is not straightforward. Coefficients give us the marginal effect of a unit variation of the independent variable on the value of the latent variable. However, the value of the latent variable is not known, but only its cut points. Therefore, a first interpretation of results is carried out through the interpretation of the *sign of coefficients* and of their *statistical significance*. It should be noted that the magnitude of coefficients is comparable, within the same regression. We thus interpret the relative impact of independent variables in terms of *odds ratios* (i.e. for a unit increase in x, the odds of a lower outcome compared with a higher outcome are changed by a β factor, holding all other variables constant). The substantive effect of coefficients is further assessed by computing *predicted probabilities* for a few ideal types (Long and Freese, 2006).

4 Results

To begin with, a pooled country regression was run that constrains the residual variance to be the same, hence assuming the homogeneity of unobserved variables. While presenting the results of the estimates elaborated here, an odds ratio was specifically provided to compare the impact of explanatory variables in a meaningful way. Indeed, a unit increase in x_k is interpreted as a change in the odds of a lower outcome compared with a higher outcome by a factor β_k, holding all other variables constant. Subsequently a few ideal types were put forward and the predicted probabilities of falling into one or another category of the dependent variables were computed. The econometric results for the

pooled country regressions, using the ordered logit estimation technique, are provided in Table 3. The predicted probabilities are gathered in Tables 4 and 5 for six different ideal types.

In the regression Table, column [1] presents the baseline model, which includes only explanatory variables linked to the labour market (occupation, income, employment status, and union membership) and the usual control variables (socio-demographic characteristics, and country dummies). Columns [2] and [3] extend the baseline model with variables related to religion. These include the frequency of church attendance (column [2]) and the religious denomination (column [3]). The aim is here to test the validity of arguments emphasizing the role of religion in the formation of preferences for redistribution. Column [4] extends the baseline model by incorporating dummy variables for the social class of individuals (upper class, lower class). Our reference category is the middle class. Finally, columns [5] and [6] test the arguments linked to the role of subjective social mobility in the formation of preferences for redistribution. More particularly, column [5] tests the argument of intergenerational mobility, while column [6] tests the impact of personal mobility history on preferences for redistribution. Following the baseline model throughout the different regressions allows the robustness of the impact of economic variables to be assessed.

[Table 3 about here]

4.1 The Supremacy of Economic Factors

Running an ordered logit regression on pooled country data (Table 3) clearly indicates that the economic factors identified in the previous discussion do play a crucial role in

determining preferences for redistribution (occupation, income, and risk aversion). Not surprisingly, family income is a good predictor of preferences: the higher it is, the lower an individual's support for redistribution.[15] This is a simple revenue effect: wealthier individuals are directly burdened by redistributive policies, while low income should gain from them. The result also implies that the supposed insurance effect remains relatively modest compared to the revenue effect.

The proxies for risk aversion are also shown to have an important effect on preferences for redistribution. Self-employed workers, who are supposed to be less risk-averse than dependent employees, are indeed less in favour of redistribution: their odds of having more *negative* attitudes toward redistribution are 1.16 times (16%) larger than dependent employees. In contrast, more risk-averse people, proxied by public employees in the sample, appear to be strongly and significantly in favour of redistributive policies: their odds of having more *positive* attitudes towards redistribution are 1.23 times (23%) higher than workers in the private sector.

Finally, the type of occupation that individuals exercise is also a good predictor of their preferences, even after controlling for income. Indeed, in all specifications, the occupation indicator used here is strongly and significantly related to the dependent variable. The coefficients are interpreted relative to the reference category, represented by office Clerks. Thus, the negative and significant coefficients of Managers, Professionals and Associate professionals indicate that individuals who belong to these types of occupation

[15]The result of the Chow test (H0: equal coefficients) for income quintiles is $\chi^2(3) = 13.25$, $p < 0.01$. It means that the categories of income are not evenly spaced, and so income should not be treated as an interval scale variable. This implies that an increase from the first quintile of income to the second quintile of income does not involve a similar decrease in the probability of favour redistribution, as an increase from the second quintile to the third quintile of income. This is the reason why income quintiles are entered separately into the regression.

are clearly less in favour of redistribution than Clerks: based on column [1], the odds of having more *negative* attitudes toward redistribution are 1.4 times (40%) higher for Managers than for Clerks, 1.3 times (30%) higher for Professionals than for Clerks, and 1.14 times (14%) higher for Associate professionals than for Clerks. By contrast, Service workers, Craftsmen, Machine operators and Elementary workers are much more in favour of redistribution than Clerks: Their odds of having more *positive* attitudes toward redistribution are increased by, respectively, 15%, 17%, 25% and 17% compared to Clerks. Agricultural workers have attitudes toward redistribution that cannot be distinguished from those of Clerks (non-significant coefficient). The results clearly suggest that a straight ordering of occupation categories may be relevant: the less skills an individual has, the higher his/her probability of favouring redistributive policies. Results further suggest that a grouping of occupation categories might be constituted, according to the proximity of their coefficients: (i) Service workers, Craftsmen, Elementary workers and Machine operators do have the same attitudes towards redistribution; and their attitudes differ to those of (ii) Agricultural workers and Clerks; and finally, (iii) Associate professionals, Professionals and Managers form another group, which holds similar attitudes towards redistribution.

4.2 Religion Acts as a Possible Substitute for Redistribution

Columns [2] and [3] introduce variables on church attendance and religious denomination, respectively. The results confirm the argument of Scheve and Stasavage (2006): religion seems to act as a substitute for redistributive policies. Being Catholic increases the odds of having more *negative* attitudes toward redistribution by 7%, while being Protestant

increases it by 13%, relative to having no religion. According to the literature, this could be due to an insurance effect of religious communities that lessens the social distress of individuals, and hence their need for redistribution, potentially through network externalities.[16] However, figures on church attendance do not confirm this result. Therefore, given that religion has a strong effect when it comes to religious denomination, but that this effect vanishes when one considers church attendance, one might argue that the pathway is ideological, not via actual social support.[17]

4.3 The Affects of Individuals' Social Self-ranking on their Support for Redistribution

Column [4] introduces the subjective belonging to a social class.[18] The idea is to capture the differentiated impact on preferences of an individual's feeling of belonging to the upper or to the lower class. Not surprisingly, individuals who express the feeling of belonging to the upper class are less inclined to favour redistribution than those who subjectively belong to the middle class (the reference category here): their odds of having more *negative* attitudes toward redistribution rises by 25%. However, the symmetry is not true: no significant effect is found for individuals who (subjectively) belong to the lower class.

[16]The category "other religion" represents 20% of the sample. However, it is very heterogenous. Indeed, each religion listed in it represents less than 3% of the sample (except for Christian Orthodoxes that represent 5% of the sample). The coefficient of this category is not significant. One might thus argue that religion is important in shaping preferences for redistribution, *providing that it is a major religion in the country*. It has been tested here, but results do not validate this interpretation.

[17](I thank an anonymous reviewer for having suggested this second interpretation.)

[18]Great Britain is excluded from this specification, since it has no observations on the social class variable.

4.4 The Strong Impact of Subjective Social Mobility on Preferences for Redistribution

Columns [5] and [6] introduce the social mobility argument. Two different specifications are tested. The first (column [5]) tries to capture the effect of intergenerational social mobility in a family context. Surprisingly, the coefficient of job prestige is positive (however, not significant).[19]

The second specification of social mobility (column [6]) has a more straightforward interpretation. Individual perceptions of personal upward or downward mobility within the last ten years are used. The reference category encompasses those individuals who have experienced no social mobility. Coefficients have the expected signs: individuals who have the feeling of having experienced upward mobility are less supportive of redistributive policies than people who have not experienced any mobility, whereas people who have experienced downward mobility within the last ten years are more in favour of redistribution. The odds of the former having a more *negative* attitude toward redistribution are higher by 21%, while the odds of the latter of having a more *positive* attitude toward redistribution are up by 32%. It may again be noted that this is not an *objective* indicator of social mobility, but a *subjective* one, although the effect is highly significant.[20]

[19]Taking this result seriously would mean that an individual who considers his job as more prestigious than his father's would still be inclined to have a more *positive* attitude towards redistributive policies. Apart from intergenerational altruism, such behaviour could be due to a long-lasting impact of family experience (an influence of the parents' social position on the beliefs and attitudes of children). Such a result, if significant, would consistent with the argument of Piketty (1995) about endogenous beliefs of individuals.

[20]For the use of objective indicators of social mobility, see the contribution of Alesina and La Ferrara (2005).

4.5 Socio-demographic Controls and Country Dummies

Whereas being married (or living as married) has no significant effect on preferences for redistribution, being a female clearly increases the probability of having more favourable attitudes towards redistribution (up by 16%, according to the baseline model). As for age, no significant effect is identified.

Turning now to country dummies, the puzzle is the following. The United States is the reference category here. The positive and highly significant coefficients for Sweden and Norway mean that living in one of these countries leads individuals to adopt more positive attitudes towards redistribution (the odds of holding *positive* attitudes are higher by 29% and 30%, respectively), as compared to American citizens, all other things being equal. The difference between Danemark and the USA is not significant. It should be noted here that all former communist countries do hold extremely high and significant coefficients. For instance, living in Poland, Russia or East Germany inceases the odds of holding *positive* attitudes by 381%, 256%, and 238% respectively. We meet up here with Alesina and Fuchs-Schündeln (2007) result on the long lasting impact of political regimes on collective preferences.[21]

[21]However, country dummies do not give any information on the reason why this is so. Indeed, they simply have the role of "capturing" potentially-omitted, country-specific variables, which might have an impact on the preferences of individuals for redistribution (the level of income inequality, the actual redistribution policy, the unemployment rate, the demographic situation, etc.). Including country dummies in the regressions thus helps to produce unbiased estimates of our variables of interest. The fact that country dummies do have significant coefficients means that there are, indeed, differentiated national attitudes. These dummies are like "black boxes", whose information needs to be extracted manually. It might thus be appropriate to run separated regressions for each country (see Section 5 below).

4.6 Gathering the Results

Before turning to the predicted probabilities, the results are gathered to get a general picture of what determines preferences for redistribution.

First, the analysis confirms the importance of a pure revenue effect on preferences. Work occupation, family income, subjective social class or expected social mobility all point in the same direction: the poorer an individual (objectively or subjectively), the more supportive he/she is of redistribution. These attitudes towards redistribution are linked to the economic position of individuals in the labour market.

Second, risk aversion (risk willingness) of individuals has a significant impact on their attitudes toward redistribution. Indeed, looking at the employment status of individuals shows that being publicly employed significantly increases the probability of supporting redistribution, while being self-employed decreases it.

Third, the political backgrounds of individuals affect their policy preferences for redistribution. Evidence is found for the fact that the political regime may have a long lasting effect on collective preferences. A related question is whether religion plays an active role in shaping preferences. The conclusion is far from clear: according to the results found here, Catholics and Protestants tend to oppose redistribution.

4.7 The Predicted Probabilities

To illustrate the results further, predicted probabilities are used to assess the relative importance of a few independent variables. Using Table 3 allows six ideal types to be constructed and their predicted probabilities of having different attitudes toward redistribution to be computed. The first two ideal types, based on model [1], represent a

manager (Type 1) versus an elementary worker (Type 2). The next two ideal types, also based on model [1], are a self-employed worker (Type 3) and a publicly employed worker (Type 4). The results of these four ideal types are shown in Table 4. There is clearly a strong impact by occupation on the outcomes predicted, as well as risk aversion.

[Table 4 about here]

The last two ideal types, based on model [5] which includes social mobility, represent an average individual, who has experienced upward mobility (Type 5) or downward mobility (Type 6). An average individual has about a 3 to 4% probability of strongly disagreeing with redistribution, about an 8 to 13% probability of disagreeing with redistribution, a 13 to 17% probability of having no idea about it, and a 42% probability of agreeing with redistribution. But most importantly, he/she has 34% probability of strongly agreeing with redistributive policies if he/she has experienced downward mobility, while this probability falls to 24% if the person has experienced upward mobility within the last 10 years. This example illustrates the non-negligible impact of personal social mobility history on preferences for redistribution, as it was already apparent with odds ratios.

[Table 5 about here]

5 Robustness Checks

A series of robustness checks was run, including binary regressions for the pooled data, a test of the proportional odds assumption, and a sub-sample analysis. Results of binary regressions are given in Table 6 in the appendix.

5.1 The Binary Dependent Variable

As a first robustness check, the same pooled regressions were run with a binary dependent variable. People answering that it "probably should be" or "definitely should be" the responsibility of the government to reduce income differences were coded 1, whereas others (including "probably should not be" and "definitely should not be" answers) were coded 0. The results are shown in the appendix (Table 6). They remain unchanged overall.

5.2 The Generalized Ordered Logit

Further, the validity of the *parallel lines assumption*, also called proportional odds assumption (Long and Freese, 2006) is tested. Indeed, if the effect of an independent variable on the dependent variable here is not uniform across categories, then the parallel lines assumption is violated, leading to a fallacious interpretation of the magnitude of the coefficient.[22] The test compares slope coefficients of the $J-1$ binary logits implied by the ordered regression model. In the pooled models, the Brant test indicates that the parallel regression assumption has been violated for some control variables (female, country dummies). This is not considered to be a problem, as their substantive impact is not interpreted here. Furthermore, there is some evidence that it has been violated for the dummy representing publicly employed workers, although not changing the sign of coefficients but only the magnitude of the impact, according to the category of the dependent variable considered. The same issue is found for the dummy variables representing Catholics and Protestants. A *generalized ordered logit* estimates was thus run, in order to assess differentiated effects of these independent variables.[23] However, no

[22]This can be tested through the Brant test (command *brant* in Stata).
[23]Stata user-written command *gologit* written by Fu (1998) and extended by Williams (2006).

valuable additional information is given by this estimation technique, which marginally affects the magnitude of coefficients (but neither their significance, nor their sign), but does not tackle the essential message of this study.[24] Consequently, I remain confident in the inferences made in Section 4, based on ordered logit estimates.

5.3 The Sub-sample Regressions

The necessity of running separated country regressions is finally checked. The pooled analyses include a fixed effect for each country to allow for different, mean levels of support for redistribution due to any number of national characteristics, including the actual level of redistribution. However, this does not allow the effects of the other independent variables to vary across countries, as is possible by estimating separate coefficients for each case. Running a Chow test to assess whether coefficients remain equal between countries, we find that the test is strongly significant.[25] The hypothesis that the coefficients do not vary between countries is thus invalidated. Moreover, running a pooled analysis with country fixed effects does not allow to control for the fact that respondents from different countries potentially have a different understanding of the issue at stake. This might be an important problem, given that the long lasting effect of political regimes has already been noted here. As a robustness check of the results presented here, the same analyses were thus conducted on sub-samples of the data.[26] In particular, OECD countries and Eastern European countries were isolated from the rest of the sample. The main results are confirmed by these sub-sample regressions: the type of occupation an individual

[24] It should be noted that the only coefficients which can be affected by this technique are those of control variables, publicly employed, Catholic and Protestant where the parallel line assumption has been violated. All other coefficients are left unchanged.

[25] Given that H0: equal coefficients, $\chi^2(699) = 4787.18$, $p < 0.01$

[26] Results of the sub-sample regressions are available upon request.

exercises remains a key factor in the determination of preferences for redistribution, along with the family income. This suggests the pooled estimates are not driven by a couple of outlier countries.[27]

6 Conclusion

Building on a rapidly growing literature on the political economy of redistribution, I propose an empirical analysis of the determinants of individual preferences for redistributive policies. Using individual-level survey data for 33 democracies, a series of regressions are run to assess the main arguments of the literature. The coefficients are compared systematically, in a meaningful way, by the use of odds ratios and predicted probabilities. Consequently, it is possible to infer which factors are the most important in shaping attitudes towards redistribution, and clearly emphasize the supremacy of economic factors. I further argue that the position of individuals in the labour market has a direct impact on their preferences for redistribution. This appears indeed to be the case, and to be robust to a change in model specification. Hence, based on the results of these regressions, individuals are grouped along this occupational dimension.

[27]However, these new estimates make clear that the grouping of individuals based on their role in the labour market and relying on similar individual preferences for redistribution differs highly from one sub-sample to another. Indeed, as far as Eastern European countries are concerned, (i) Managers and Professionals hold similar attitudes towards redistribution, and these highly differ from the attitudes of (ii) Associate professionals, office Clerks, Service workers, Craftsmen, and Machine operators. Finally, a third social group is formed by (iii) Elementary workers. If the social coalitions are potentially different from one country to another, this suggests that political strategies to reform the welfare state in these countries might also differ (Castanheira *et al.*, 2006). See the working paper version of this article, for a comparison of groupings between European countries.

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Table 1: Distribution of answers by country

%	**SD**	**D**	**A**	**SA**	**Total**
AU-Australia	12.77	26.72	30.22	30.29	100.00
CA-Canada	13.23	18.97	31.03	36.77	100.00
CL-Chile	1.15	7.88	34.22	56.75	100.00
TW-Taiwan	2.21	8.94	33.66	55.20	100.00
HR-Croatia	5.63	9.74	29.22	55.41	100.00
CZ-Czech Republic	16.84	28.72	32.98	21.45	100.00
DK-Denmark	18.01	26.62	25.45	29.91	100.00
DO-Dominican Republic	11.34	15.14	37.47	36.05	100.00
FI-Finland	5.62	16.41	36.17	41.80	100.00
FR-France	8.65	13.66	26.13	51.56	100.00
DE-Germany	6.65	20.95	38.47	33.93	100.00
HU-Hungary	2.36	12.10	35.49	50.05	100.00
IE-Ireland	7.45	12.99	33.87	45.69	100.00
IL-Israel	3.50	10.58	26.61	59.30	100.00
JP-Japan	12.27	21.68	31.73	34.32	100.00
KR-South Korea	3.21	16.20	40.17	40.42	100.00
LV-Latvia	3.46	13.33	44.39	38.82	100.00
NL-Netherlands	8.13	20.17	32.86	38.83	100.00
NZ-New Zealand	20.74	29.17	28.06	22.03	100.00
NO-Norway	6.46	19.21	29.53	44.80	100.00
PH-Philippines	6.45	20.32	37.01	36.22	100.00
PL-Poland	3.28	8.97	33.63	54.12	100.00
PT-Portugal	1.18	5.04	33.35	60.43	100.00
RU-Russia	2.67	11.09	33.12	53.12	100.00
SI-Slovenia	1.32	7.94	36.56	54.18	100.00
ZA-South Africa	5.88	11.23	42.43	40.46	100.00
ES-Spain	4.89	8.57	36.25	50.29	100.00
SE-Sweden	9.80	22.55	30.39	37.25	100.00
CH-Switzerland	4.88	25.75	44.13	25.23	100.00
GB-Great Britain	9.49	21.41	40.16	28.94	100.00
US-United States	21.05	26.73	23.58	28.64	100.00
UY-Uruguay	5.52	10.54	31.53	52.41	100.00
VE-Venezuela	15.82	9.70	18.44	56.03	100.00
Total	7.72	15.84	33.46	42.98	100.00

Question: "On the whole, do you think it should or should not be the government's responsibility to reduce income differences between the rich and the poor?". SD, D, A, and SA stand for "definitely should not be", "probably should not be", "probably should be", and "definitely should be". Source: ISSP 2006 - Role of Government IV, and ILO (1990) for the coding of occupations.

Table 2: Distribution of answers by occupation

%	**SD**	**D**	**A**	**SA**	**Total**
Managers	14.22	22.80	31.61	31.38	100
Professionals	11.30	20.91	33.03	34.76	100
Associate professionals	8.89	19.48	33.63	38.01	100
Clerks	7.71	16.08	33.20	43.01	100
Service workers	5.75	14.33	32.71	47.21	100
Agricultural workers	5.99	15.25	37.24	41.52	100
Craftsmen	5.95	14.20	31.87	47.98	100
Machine operators	5.36	12.44	32.92	49.28	100
Elementary workers	4.38	10.05	35.60	49.97	100
Total sample	7.76	16.24	33.29	42.72	100

Question: "On the whole, do you think it should or should not be the government's responsibility to reduce income differences between the rich and the poor?". SD, D, A, and SA stand for "definitely should not be", "probably should not be", "probably should be", and "definitely should be". Source: ISSP 2006 - Role of Government IV, and ILO (1990) for the coding of occupations.

Table 3: Preferences for redistribution: pooled country

Ordered logit	[1]	[2]	[3]	[4]	[5]	[6]
Occupation						
Reference category: Clerk						
Manager	-.354***	-.351***	-.360***	-.364***	-.441***	-.423***
	(.050)	(.051)	(.051)	(.052)	(.069)	(.069)
Professional	-.280***	-.278***	-.288***	-.269***	-.325***	-.318***
	(.045)	(.045)	(.045)	(.046)	(.059)	(.059)
Ass. professional	-.139***	-.133***	-.144***	-.149***	-.137**	-.152***
	(.043)	(.043)	(.043)	(.044)	(.056)	(.056)
Service worker	.140***	.142***	.141***	.119***	.114**	.107*
	(.044)	(.044)	(.044)	(.045)	(.057)	(.058)
Agric. worker	-.085	-.075	-.091	-.119*	.189**	.142
	(.064)	(.065)	(.065)	(.066)	(.086)	(.087)
Craftsman	.155***	.159***	.150***	.137***	.237***	.201***
	(.047)	(.048)	(.047)	(.048)	(.059)	(.060)
Machine operator	.224***	.219***	.225***	.190***	.361***	.340***
	(.053)	(.053)	(.053)	(.055)	(.067)	(.068)
Elementary worker	.158***	.158***	.153***	.116**	.267***	.245***
	(.046)	(.046)	(.046)	(.048)	(.062)	(.063)
Income						
Reference category: Family income Q5						
Family income Q1	.694***	.687***	.685***	.617***	.791***	.715***
	(.039)	(.039)	(.039)	(.041)	(.053)	(.054)
Family income Q2	.533***	.532***	.523***	.461***	.732***	.667***
	(.036)	(.036)	(.036)	(.038)	(.050)	(.051)
Family income Q3	.436***	.444***	.438***	.385***	.509***	.462***
	(.034)	(.035)	(.035)	(.036)	(.048)	(.049)
Family income Q4	.258***	.263***	.260***	.219***	.296***	.270***
	(.034)	(.034)	(.034)	(.035)	(.046)	(.047)
Employment status						
Self-employed	-.154***	-.145***	-.153***	-.156***	-.244***	-.243***
	(.034)	(.034)	(.034)	(.034)	(.050)	(.051)
Publicly employed	.207***	.205***	.206***	.213***	.168***	.166***
	(.028)	(.028)	(.028)	(.029)	(.037)	(.037)
Unions						
Union membership	.225***	.226***	.224***	.217***	.207***	.215***
	(.027)	(.027)	(.027)	(.028)	(.038)	(.038)
Demographic characteristics						
Female	.146***	.148***	.148***	.144***	.287***	.270***
	(.023)	(.024)	(.024)	(.024)	(.031)	(.031)
Age	.006	.005	.005	.002	.021***	.019***
	(.004)	(.004)	(.004)	(.004)	(.006)	(.006)
Age-sq/100	-.004	-.003	-.003	-.000	-.017***	-.016***
	(.004)	(.004)	(.004)	(.004)	(.006)	(.006)
Married	-.025	-.022	-.021	-.020	.013	.024
	(.025)	(.025)	(.025)	(.026)	(.033)	(.034)
Religion						
Church attendance		-.007				
		(.006)				
Reference category: No religion						
Catholic			-.059*			
			(.035)			

To be continued next page...

Table 3: Preferences for redistribution: pooled country (cont')

Ordered logit	[1]	[2]	[3]	[4]	[5]	[6]
Protestant			-.115***			
			(.036)			
Other religion			.040			
			(.041)			
Social class						
Reference category: Middle class						
Upper class				-.223***		
				(.031)		
Lower class				.029		
				(.027)		
Social Mobility						
Job prestige					.039	
					(.030)	
Reference category: No mobility						
Upward mobility						-.189***
						(.036)
Downward mobility						.276***
						(.038)
Country dummies	yes	yes	yes	yes	yes	yes
Number of Obs	31423	30852	30938	29891	17489	17199
Pseudo R-Squared	.055	.055	.055	.056	.084	.087
Log Pseudolikelihood	-36502.9	-35828.1	-35924.6	-34638.8	-22843.3	-22405.4
Chi 2	3935.64	3896.61	3894.25	3814.26	3500.86	3559.53

Note: Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.
Models [1] to [4] based on ISSP 2006, and models [5] and [6] based on ISSP 1999

Table 4: Preferences for redistribution: predicted probabilities (occupation, risk aversion)

	Type 1	**Type 2**	**Type 3**	**Type 4**
Definitely should not be	.09	.06	.08	.06
Probably should not be	.20	.14	.18	.14
Probably should be	.38	.35	.37	.35
Definitely should be	.33	.45	.36	.45

Note: Based on Table 3, model [1]. Predicted probabilities for different ideal types, holding all other variables constant at their means. Dependent variable: "On the whole, do you think it should or should not be the government's responsibility to reduce income differences between the rich and the poor?". **Type 1**: average individual, manager; **Type 2**: average individual, elementary worker; **Type 3**: average individual, selfemployed; **Type 4**: average individual, publicly employed

Table 5: Preferences for redistribution: predicted probabilities (social mobility)

	Type 5	**Type 6**
Strongly Disagree	.04	.03
Disagree	.13	.08
Neither agree Nor disagree	.17	.13
Agree	.42	.42
Strongly Agree	.24	.34

Note: Based on Table 3, model [5]. Predicted probabilities for different ideal types, holding all other variables constant at their means. Dependent variable: "It is the responsability of the government to reduce the differences in income between people with high incomes and those with low incomes.". **Type 5**: average individual, upward mobility; **Type 6**: average individual, downward mobility

A Further Results: Robustness Checks

Table 6: Preferences for redistribution (binary): pooled country

Binary logit	[1]	[2]	[3]	[4]	[5]	[6]
Occupation						
Reference category: Clerk						
Manager	-.321***	-.315***	-.329***	-.336***	-.383***	-.366***
	(.061)	(.062)	(.062)	(.063)	(.080)	(.081)
Professional	-.232***	-.233***	-.245***	-.222***	-.234***	-.230***
	(.056)	(.057)	(.057)	(.058)	(.071)	(.072)
Ass. professional	-.117**	-.112**	-.123**	-.130**	-.112	-.137*
	(.055)	(.055)	(.055)	(.057)	(.069)	(.070)
Service worker	.140**	.146**	.136**	.114*	.122*	.111
	(.057)	(.057)	(.057)	(.059)	(.073)	(.074)
Agric. worker	.033	.040	.018	-.007	.305***	.253**
	(.088)	(.088)	(.088)	(.090)	(.112)	(.114)
Craftsman	.194***	.198***	.188***	.170***	.250***	.213***
	(.062)	(.062)	(.062)	(.063)	(.076)	(.077)
Machine operator	.292***	.287***	.291***	.238***	.400***	.380***
	(.072)	(.072)	(.072)	(.073)	(.087)	(.089)
Elementary worker	.327***	.325***	.321***	.286***	.338***	.299***
	(.065)	(.065)	(.065)	(.067)	(.084)	(.085)
Income						
Reference category: Family income Q5						
Family income Q1	.734***	.733***	.730***	.648***	.779***	.700***
	(.050)	(.051)	(.051)	(.053)	(.065)	(.066)
Family income Q2	.561***	.564***	.551***	.473***	.728***	.657***
	(.046)	(.046)	(.046)	(.047)	(.060)	(.061)
Family income Q3	.457***	.468***	.462***	.401***	.492***	.442***
	(.044)	(.044)	(.044)	(.046)	(.058)	(.059)
Family income Q4	.262***	.267***	.262***	.219***	.281***	.252***
	(.043)	(.043)	(.043)	(.044)	(.054)	(.055)
Employment status						
Self-employed	-.213***	-.206***	-.210***	-.210***	-.281***	-.283***
	(.042)	(.042)	(.042)	(.043)	(.058)	(.059)
Publicly employed	.241***	.234***	.242***	.246***	.176***	.170***
	(.037)	(.037)	(.037)	(.038)	(.046)	(.047)
Unions						
Union membership	.244***	.244***	.238***	.236***	.200***	.215***
	(.036)	(.036)	(.036)	(.037)	(.047)	(.048)
Demographic characteristics						
Female	.217***	.213***	.213***	.215***	.321***	.312***
	(.031)	(.031)	(.031)	(.031)	(.039)	(.039)
Age	.001	-.001	.001	-.004	.018**	.016**
	(.006)	(.006)	(.006)	(.006)	(.008)	(.008)
Age-sq/100	.003	.005	.004	.009	-.013*	-.013*
	(.006)	(.006)	(.006)	(.006)	(.008)	(.008)
Married	-.004	-.006	-.002	-.001	.014	.026
	(.032)	(.033)	(.033)	(.033)	(.041)	(.042)
Religion						
Church attendance		.003				
		(.008)				
Reference category: No religion						

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Table 6: Preferences for redistribution (binary): pooled country (cont')

Binary logit	[1]	[2]	[3]	[4]	[5]	[6]
Catholic			.019			
			(.045)			
Protestant			-.092**			
			(.044)			
Other religion			.037			
			(.055)			
Social class						
Reference category: Middle class						
Upper class				-.274***		
				(.037)		
Lower class				.018		
				(.036)		
Social Mobility						
Job prestige					.053	
					(.037)	
Reference category: No mobility						
Upward mobility						-.206***
						(.043)
Downward mobility						.284***
						(.048)
Country dummies	yes	yes	yes	yes	yes	yes
Number of Obs	31423	30852	30938	29891	17489	17199
Pseudo R-Squared	.108	.109	.109	.111	.122	.127
Log Pseudolikelihood	-15614.3	-15311.0	-15352.5	-14769.1	-9664.5	-9445.8
Chi 2	3100.61	3065.65	3061.11	3053.65	2187.48	2226.23

Note: Robust standard errors in parentheses. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$. Models [1] to [4] based on ISSP 2006, and models [5] and [6] based on ISSP 1999

B Summary Statistics

Table 7: Summary statistics

Variable	n	%	N
Government's responsibility to reduce income differences?			
Definitely should not be	3539	7.72	45835
Probably should not be	7258	15.84	45835
Probably should be	15336	33.46	45835
Definitely should not be	19702	42.98	45835
Government should reduce income differences? (ISSP 1999)			
Strongly disagree	1481	4.83	30684
Disagree	3598	11.73	30684
Neither agree nor disagree	4615	15.04	30684
Agree	11137	36.30	30684
Strongly agree	9853	32.11	30684
Occupation			
Manager	3619	9.04	40046
Professional	5360	13.38	40046
Associate professional	5579	13.93	40046
Clerk	4449	11.11	40046
Service worker	5973	14.92	40046
Agricultural worker	1723	4.30	40046
Craftsman	5196	12.98	40046
Machine operator	3196	7.98	40046
Elementary worker	4951	12.36	40,046
Income			
Family income Q1	9870	24.60	40114
Family income Q2	8358	20.84	40114
Family income Q3	7601	18.95	40114
Family income Q4	6993	17.43	40114
Family income Q5	7292	18.18	40114
Employment status			
Self-employed	6440	13.71	46982
Publicly employed	11355	24.17	46982
Unions			
Union membership	16443	34.90	47110
Demographic characteristics			
Female	25998	53.88	48253
Married	27007	56.30	47966
Religion			
Catholic	17484	37.00	47252
Protestant	10886	23.04	47252
Other religion	8713	18.44	47252
No religion	10169	21.52	47252
Church attendance			
Never	13110	27.85	47078
Less frequently	6458	13.72	47078
Once a year	4533	9.63	47078
Several times a year	8197	17.41	47078
Once a month	2529	5.37	47078
2-3 times a month	3157	6.71	47078
Once a week	9094	19.32	47078
Social class			

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Table 7: Summary statistics (cont')

Variable	**n**	%	**N**
Upper class	9019	19.89	45354
Lower class	15871	34.99	45354
Middle class	20464	45.12	45354
Social mobility (ISSP 1999)			
Job prestige > father	12335	39.37	31334
Upward mobility	8891	28.97	30686
Downward mobility	10560	34.41	30686
No mobility	11235	36.61	30686
Country			
AU-Australia	2765	5.72	48324
CA-Canada	927	1.92	48324
CL-Chile	1499	3.10	48324
TW-Taiwan	1939	4.01	48324
HR-Croatia	1193	2.47	48324
CZ-Czech Republic	1192	2.47	48324
DK-Denmark	1356	2.81	48324
DO-Dominican Republic	2092	4.33	48324
FI-Finland	1180	2.44	48324
FR-France	1791	3.71	48324
DE-Germany	1628	3.37	48324
(incl. East Germany)	527	1.09	48324
HU-Hungary	1001	2.07	48324
IE-Ireland	997	2.06	48324
IL-Israel	1324	2.74	48324
(incl. Israel -Arabs)	306	0.63	48324
JP-Japan	1230	2.55	48324
KR-South Korea	1599	3.31	48324
LV-Latvia	1066	2.21	48324
NL-Netherlands	982	2.03	48324
NZ-New Zealand	1259	2.61	48324
NO-Norway	1320	2.73	48324
PH-Philippines	1198	2.48	48324
PL-Poland	1290	2.67	48324
PT-Portugal	1828	3.78	48324
RU-Russia	2393	4.95	48324
SI-Slovenia	996	2.06	48324
ZA-South Africa	2939	6.08	48324
ES-Spain	2500	5.17	48324
SE-Sweden	1191	2.46	48324
CH-Switzerland	996	2.06	48324
GB-Great Britain	924	1.91	48324
US-United States	1504	3.11	48324
UY-Uruguay	1025	2.12	48324
VE-Venezuela	1200	2.48	48324
	Mean	**Std. Dev.**	**N**
Age (17 to 96 years old)	46	17.45	48087

Main source: ISSP 2006 - Role of government IV.
Additional source: ISSP 1999 - Social Inequality III (where indicated).