Preferences for Redistribution across the World

Frank Neher

Freie Universität Berlin

11.12.2011

Comments are warmly welcome

Abstract:

Gender, income, education and self-employment are robust predictors for individual support for redistribution in the OECD. In addition, considerations of social status, the fairness of the allocation mechanism, perceived moral worth of the poor and individual autonomy are important. The results for the OECD are compared to those for a large sample of non-OECD countries which also include less developed economies. Neither gender, nor self-employment, nor fairness considerations exhibit a robust association with preferences for redistribution. However, education, income, individual autonomy and moral worth of the poor remain important determinants. On average, preferences for redistribution indicate that within the OECD, there is no desire to change redistributive policies. In contrast, in the sample of non-OECD countries, on average there is a desire to redistribute less.

1. Introduction

Government social spending greatly varies across countries. For OECD countries in 2007, social expenditure as percentage of GDP was as high as 27.3% in Sweden and 25.2% in Germany, and as low as 7.2% in Mexico and 7.5% in South-Korea. Why are countries so different with respect to the resources they use for social expenditure? There are certainly a multitude of economic, historic, legal and cultural factors determining the extent of state social spending (e.g. Becker 1983, Persson and Tabellini 1999, Shelton 2007). Still, in a democracy, the preferences of the electorate should also have an important effect on redistributive policies of the state. Assuming that the extent of state social spending is to a large degree driven by the electorate's preferences, a better understanding of the determinants of these preferences is necessary in order to understand cross country differences.

The present analysis shows that income, education, social class and beliefs in self-determination have a significant effect on preferences for income equality throughout the world. Preferences for income inequality, which are interpreted as preferences for redistribution, are analyzed for OECD and non-OECD countries separately, overall comprising more than 350,000 observations from 100 countries. The contribution of the present paper to the empirical literature on determinants for individual preferences for redistribution is twofold. On the one hand, the analysis includes data for more countries over a longer period of time than used in this type of analysis so far. On the other hand this study tries to simultaneously test various determinants of redistributive preferences, which so far have been mainly tested individually. If each hypothesis being tested individually finds empirical support, this implies that each individual analysis suffers from missing variables bias. Also substitutive and complementary relations between the determinants are unaccounted for. It is the rule rather than the exception of empirical work with pre-existing data that not all relevant questions can be answered simultaneously with a given data set. This is also true for the present study. While it succeeds in grouping hypotheses that so far have been answered separately, there are a number of important determinants identified in the literature, which can not be considered, since no information is provided in the data used. Respondents' race, the ethnic composition of the home community and past and future expected social mobility are examples of determinants that have been proven important for preferences of redistribution but cannot be accounted for with the data used in this paper.

The next section will discuss theoretical and empirical contributions to the literature on what determines preferences for redistribution. In section 3 some general methodological

issues will be discussed. Also the dependent variables most commonly used in the literature as proxy for preferences for redistribution will be reviewed. Section 4 will introduce the data set and present the empirical strategy of the present analysis. In section 5 the results for the sample of OECD countries will be presented and discussed. Also a wide array of robustness checks will be considered. In section 6 the result for the non-OECD sample will be presented. Finally, section 7 wraps up the results and concludes.

2. Determinants for Preferences for Redistribution

The present section discusses the theoretical arguments and empirical analysis of preferences for redistribution in the literature. I will refer heavily to Corneo (2004) and Alesina and Giuliano (2009) who provide a selective and thorough review of some of the most important contributions. For analytical clearness, I follow Corneo (2004) in categorizing the determinants for redistribution in three groups. The first group comprises the individual and socio-economic characteristics that shape material self-interest. The second group refers to interdependent preferences which result in distributional externalities. The third and final group captures beliefs about a fair or just world and individual responsibility.[1]

An individual is expected to vote for redistribution if her disposable income increases with redistribution. This logic is implied in the models of Romer (1975), Robert (1977) and Meltzer and Richard (1981). Since the distance between median and mean income rises with rising inequality, the median voter's preferred level of redistribution rises with income inequality.[2] Net gains from redistribution are inversely related to income. In empirical work either absolute or relative individual or household income is used to account for this effect. For example Corneo (2001), Corneo and Grüner (2002) and Isaksson and Lindskog (2009) use relative individual income, while Alesina and Giuliano (2009), Fong (2001), Luttmer (2001) and Murthi and Tiongson (2009) use absolute income levels or categories of income levels in their respective empirical specifications. Ravallion and Lokshin (2000) use the real value of household consumption as a proxy for current economic welfare.

Not only current income but also lifetime income and thus the possibility of upward and downward social mobility will be considered by a rational actor when determining the individually optimal level of income redistribution. Hirschman and Rothschild (1973), Piketty (1995) and Benbeou and Ok (2001) analyze how prospects, observations or experience of

---

[1] Note that fairness can also be understood as a variety of interdependent preferences.
[2] This reasoning implies that more unequal societies should experience higher levels of redistribution. The empirical test and explanations why the hypothesis is mostly rejected have produced a large body of research.

income mobility might affect the individual desire for redistribution.[3] A proxy for life-time income is educational attainment which, to the best of my knowledge, is included in basically every empirical analysis of preferences for redistribution. Actual mobility experience is mostly measured by comparison of the respondents own standard of living, level of income, educational attainment or occupational status with those of her parents (Corneo 2001, Corneo und Grüner 2002, Alesina and Giuliano 2009). Alesina and LaFerrara (2005) use panel income data to construct a measure of expected future income. They also use a survey item from the General Social Survey (GSS) which states that "… people like me […] have a good chance of improving our standard of living…". This question simultaneously refers to the respondents prospects of social mobility and the functioning and fairness of the economic system. Both, social mobility and beliefs about the allocation mechanism in society are important determinants and are often treated jointly. In the present paper both issues will be treated separately. The beliefs about the fairness of the market system will be discussed below.

There are a number of socio-economic characteristics like labour-market status and marriage status that influence the material payoffs associated with income redistribution. Often these characteristics are only included to control for possible missing variable bias. However, since this paper wants to provide a comprehensive view on the determinants of preferences for income equality, they are included in the discussion.

The unemployed are excluded from the labour market and in general earn no or little market income. They are expected to receive higher transfers if more income is redistributed and accordingly prefer more redistribution. In addition, the experience of unemployment could constitute a major trauma. Alesina and Giuliano (2009) argue that negative life events might induce more risk-aversion or reduce optimistic beliefs about upward mobility and empirically show a statistical positive and significant effect of such adverse life events on the willingness to redistribute.

Aspects of material self-interest extend beyond direct pecuniary effects and include insurance effects. Among others, Varian (1980) and Sinn (1995) show that income redistribution in the welfare state constitutes social insurance against income risks. For the self-employed, it is often argued that they are less risk averse and thus demand less insurance against income shocks as it is provided by a redistributive system of taxes and transfers (Guillaud 2008, Alesian and LaFerrara 2005). Accordingly, the self-employed should prefer

---

[3] The categorization of social mobility is contested; e.g. Corneo (2001) and Corneo and Grüner (2002) take social mobility and related perceptions on the fairness of the marketplace together as effects of public values as opposed to material self-interest.

less redistribution. Corneo (2004) cautions that the interpretation of self-employment as a proxy for low risk-aversion is very ad-hoc. Ceteris paribus the demand for insurance against income risks could also be higher since the self-employed experience higher income volatility.

Marriage is the foundation for the family, which traditionally used to be the fundamental insurance provider in case of sickness or unemployment. As such the family constitutes a basic insurance mechanism. The insurance effect of marriage is discussed in Hess (2004). Accordingly, a married individual should have a lower demand for social insurance as compared to a single individual, since marriage provides some form of insurance against labour market risks. Individuals living in marriage should exhibit lower preferences for redistribution.

The insurance argument also applies for religion. Religious communities provide solace and often even material compensation in the case of adverse life events. While the insurance effect of religion might vary with denomination, the central hypothesis is that religious individuals of all denominations have a substitute for social insurance and accordingly demand less of it (Clarke and Lelkes 2005, Deheja et al. 2007). The inverse relation between religiosity and intensity of preferences for social insurance is empirically substantiated by Scheve and Stasavage (2006).

The aforementioned characteristics influence an individual's material well-being, not only in a pecuniary sense, but also in the sense of providing optimal levels of insurance. However, Fong et al. (2005) show that individual motives for income redistribution can not be fully explained by selfishly rational determinants alone. Instead they propose that "strong reciprocity"[4] is the reason why people support the welfare state[5]. Since strong reciprocity is an unfamiliar concept, I will proceed to disentangle the concept into interdependent preferences and beliefs about fairness and individual responsibility.

Corneo (2004) identifies two channels for interdependencies between actors for externalities to arise: status concerns and altruism. In a matching model where an agent's individual income determines his marriage prospects, Corneo and Grüner (2000) derive the social rivalry effect: even individuals that would profit from income redistribution may oppose it, because income redistribution would also improve the income position of poorer individuals, thereby increasing the competition in the marriage market and reducing the chance of a good match. Corneo (2001) and Corneo and Grüner (2002) use individual

---

[4] „Strong reciprocity is a propensity to share and cooperate with others similarly disposed, even at personal cost, and a willingness to punish those who violate cooperative and other social norms, even when punishing is personally costly and cannot be expected to entail net personal gains in the future" (Fong et al. 2005, p. 285).
[5] On reciprocity see Sobel (2005).

occupational prestige scores they match to income groups to show the empirical relevance of the social rivalry effect.

A related issue to social rivalry is social identity. Shayo (2009) constructs a model of social identity and shows the existence of an equilibrium in which members of the lower class identify with the nation as a whole and vote for less redistribution as compared to the optimal level given their class interest alone. He also provides empirical support for the social identity hypothesis using the same data as the present study. Klor and Shayo (2010) experimentally study the effect of social identity on redistributive preferences and show that identification with a group can counteract individual pecuniary interest in the selection of redistributive schemes.[6]

Luttmer (2001) analyses the effect of group loyalty on the taste for redistribution. What he terms group loyalty could also be framed as racial identity and accordingly be related to the just discussed effects of social identity. In Luttmer's approach group membership is defined by race. He empirically shows that racial group loyalty increases the demand for redistribution as the share of welfare recipients from the in-group in the community rises. At the same time there is an exposure effect: welfare support decreases with a rising number of recipients in the community. Luttmer's contribution is part of a larger literature that analyzes the effects of ethnic and racial diversity on economic performance in general (see Alesina and La Ferrara 2005) and on redistributive preferences especially. The literature on ethnic diversity and support for redistribution is reviewed by Stichnoth and Van der Straeten (forthcoming). While for the U.S. there is some agreement on a pure race effect, the effect of ethnical heterogeneity and fractionalization for attitudes toward redistribution is contested. Most studies that rely on observational data only provide weak or no evidence for an effect of ethnic heterogeneity on preferences for redistribution. These studies report correlations and statistical associations but can not determine causation. Dahlberg et al. (2011) use a nation-wide policy intervention that produced an exogenous variation in immigrant shares in communities across Sweden, to identify the effect of ethnic heterogeneity on natives' preferences for redistribution. They find, "that an increasing share of immigrants leads to lower preferred levels of social benefits. This negative effect on preferences for redistribution is especially pronounced for individuals in the upper tail of the income and wealth distributions." (p. 29). Fong and Luttmer (2009) provide experimental evidence for the effect of racial group loyalty on charitable giving, using a large representative sample of the American population. They find no effect of race per se, but strong effects for those

---

[6] A related, but theoretically not substantiated argument is presented by Solt (2011). He states that nationalism is consciously used to accommodate the poor with larger income differences.

respondents that identify with their respective group and conclude that "subjective racial identification is a stronger predictor of racial bias in giving than the objective race of the respondent" (p. 85). The same authors use a similar experiment to disentangle the effects of fairness and race (Fong and Luttmer 2011). They show that fairness considerations of donors depend on perceptions of moral worthiness of recipients, i.e. "beliefs about whether or not the poor are individually responsible for their own bad outcomes, […] whether the poor are lazy or industrious" (p. 372). No direct effect of race or racial composition is found. However, the experiment shows that worthiness perceptions are racially biased.

In the following influence of perceptions of moral worth of welfare recipients, individual responsibility in shaping life events and beliefs about the fairness of societal allocation mechanisms will be considered. Bénabou and Tirole (2006) and Alesina and Angeletos (2005) show how beliefs in the fairness of the allocation system in a society (beliefs in a "just society") can account for large differences in redistributive policies. Fairness beliefs refer to the perceived relation between effort and compensation, income or success. A system is considered just or fair, if individual responsibility, i.e. individual effort and not luck or family background determine outcomes. Naturally, these beliefs also influence the expectations about own future income and prospective social mobility. Fong (2006) uses quantitative sensitivity analysis to disentangle whether the effect of beliefs in a fair society on redistributive preferences works through the expectation of own upward mobility or through the belief in moral worthiness of respondents. She finds the latter explanation to be more robust. Most empirical work using survey data tries to account for these beliefs. Corneo (2001) and Corneo and Grüner (2002) include an item in their analysis asking respondents for the importance of hard work and a wealthy family background for getting ahead in life. Variables capturing beliefs about the importance of family background, luck and hard work for social upward mobility are also included by Alesina and La Ferrara (2005) and Fong (2001).[7] These results have been substantiated by a series of economic experiments. Fong (2007) shows that altruistic giving is conditioned on the apparent worthiness of the recipients. Durante and Putterman (2007) find that the support for redistribution is lower if the initial distribution is determined by the performance in a task. In an experiment performed by Krawczyk (2010), redistributive transfers dropped by 20% if task performance and not luck determined outcomes. However, if outcomes were determined by luck, the distribution of winning probabilities of the underlying lottery did not have an effect on levels of redistribution. Rey-Biel et al. (2011) confirm the importance of fairness beliefs and in

---

[7] For a discussion see Corneo (2004).

addition show that the priors of these fairness beliefs differ across countries. If the income generating process is unknown to experimental subjects, in the U.S. bad outcomes are attributed to a lack of effort while in Spain bad luck is perceived as the decisive reason.

Bavetta et al. (2007) and Patti and Navarra (2010) embrace the importance of fairness beliefs for the support for redistribution. However, they argue that fairness beliefs themselves are endogenous and to a large degree depend on the perception of individual freedom and autonomy. If individuals belief that they are in control of their life, they also tend to accept the outcomes as fair and accordingly will have weaker preferences for redistribution.

3. Methodological issues and hypothesis formulation

In the present subsection some methodological issues will be discussed. Firstly, some general problems with survey data will be pointed out. Secondly, the dependent variable used to analyze preferences for redistribution will be discussed and compared to other measures used in the literature.

While survey data is increasingly being used by economists, there is still some concern regarding data quality and the reliability of self-reported outcomes and attitudes. As pointed out by Bertrand and Mullainathan (2001) there are framing-, priming- and interviewer bias, to name just the most likely sources of bias, prevalent in individual survey data. However, it is unlikely that similar framing and priming biases pertain across different surveys. For empirical findings based on survey data it is thus desirable to reproduce results across different data sets using similar items. The dependent variable, in the present case the implicit or explicit stated preference for redistribution, is in general operationalized differently across data sets. While this might seem like an obstacle to comparability, the reproduction of qualitative results with only similar but not the same dependent variables in fact corroborate the underlying relation: respective results are obviously robust to the formulation of the dependent variable.

In Table 1 there is an overview over the items used in the research on preferences for redistribution. While not exhaustive, the most important measures are presented. The first two items simply ask about the government reducing income differences. Question (1) from the International Social Survey Program (ISSP) does neither provide a reference level nor an implied trade-off. In contrast, the wording of the European Social Survey (ESS) item (2) seems to suggest that the actual income differences present in the surveyed country should be reduced. The ESS measure also lacks an implied trade-off. Item three from the General Social Survey (GSS) also refers to the reduction of income differences by the government. The

wording suggest that people should refer to the actual given income difference in their country. The question also details how such a redistributive policy could be financed. Question (5) from the GSS asks about the appropriate extend of welfare spending with reference to the given situation. The item (4) from the GSS and item (7) from the World Values Survey (WVS) do not refer directly to redistributive policies and pecuniary transfers. Instead they evaluate the appropriate relation between the state and its citizens and the degree of self-responsibility. Both items obviously refer to the given situation.

Table 1. Overview: survey items used to measure preferences for redistribution

Data	Item	used in publications
(1) ISSP	"It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes." (1) "Strongly agree" to (5) "Strongly disagree"	Corneo (2001); Corneo and Grüner (2002); Guillaud (2008);
(2) ESS	"The government should take measures to reduce differences in income levels?". (1)"Agree strongly" to (5) "Disagree strongly"	Rueda and Pontusson (2010); Luttmer and Singhal (2010); Jaeger (2008); Senik et al. (2009); Lübker (2007)
(3) GSS	"Some people think that the government in Washington ought to reduce the income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor. Others think that the government should not concern itself with reducing this income difference between the rich and the poor". (1) "Should" to (7) "Should not"	Alesina and La Ferrara (2005); Keely and Tan 2008; Guiso et al. (2006).
(4) GSS	"Some people think that the government in Washington should do everything to improve the standard of living of all poor Americans (they are at point 1 on this card). Other people think it is not the government's responsibility, and that each person should take care of himself (they are at point 5). Where are you placing yourself in this scale?"	Alesina and Giuliano (2009) [They claim that Alesina and La Ferrara 2005 and many others use the same item, but in fact do not]
(5) GSS	"Are we spending too much, too little, or about the right amount on welfare?"	Luttmer (2001); Alesina and La Ferrara (2005); Keely and Tan (2008)
(6) WVS	"Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. Sentences: 'Incomes should be made more equal' (1) vs. 'We need larger income differences as incentives' (10)."	Murthi and Tiongson (2008)[8]; Shayo (2009); Klor and Shayo (2010)
(7) WVS	"Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. 'People should take more	Alesina and Giuliano (2009)

---

[8] Murthi and Tiongson (2008) provide an overview over data sets used to analyze the socialist legacy with respect to redistributive preferences in member countries of the former Soviet Union.

	responsibility to provide for themselves' (1) vs. 'The government should take more responsibility to ensure that everyone is provided for' (10)."	

Note: ISSP (International Social Survey Program); GSS (General Social Survey Program); ESS (European Social Survey); WVS (World Values Survey)

Finally, item (6) from the WVS is the main dependent variable in the present paper. The question clearly refers to the status quo and does not only ask whether income differences should be reduced, but also allows for the possibility of larger income differences. However, with referring to "larger income differences as incentives" the question does not only elicit preferences about the desirable income distribution, but also includes beliefs about the efficiency cost of redistribution. It could be argued that by mentioning incentives in the context of larger income differences, respondents are somewhat primed on the efficiency costs of redistribution, probably biasing downward the reported desire for more equal incomes. The question does not mention policies or associated costs. It is thus more a question on the preference for income equality than for income redistribution. However, since redistribution is not the only, but certainly the most common policy of achieving more equal income distributions, the items is taken as an indirect measure for preferences of redistribution.

3.2. Hypothesis Formulation

We will now formulate the central hypotheses and introduce the respective variables.[9] As discussed in section 2 there are a number of individual characteristics which have a direct influence on individual self-interest in a narrow sense. Individuals with higher incomes will have to contribute more and accordingly prefer less redistribution.

H1: With rising income, support for redistribution diminishes.

There are five income dummies indicating an individual's gross household income (*inc_quint1- inc_quint5*). The third quintile will be used as reference category. Accordingly, lower quintiles (1, 2) should have a positive, higher quintiles (4, 5) a negative effect on the support for redistribution.

Educational levels are a proxy for lifetime income with more education increasing lifetime income.

H2: With higher educational achievements, the support for redistribution diminishes.

There are five dummies indicating educational achievement (*edu_no-edu_uni*). No education is the reference category. Accordingly, every educational level should have a negative effect on the preference for redistribution.

---

[9] Summary statistics are presented in Table 4 below. Variable coding is detailed in Appedix II, Table B1.

Insurance effects are also considered to reflect self-interested behaviour. The self-employed should have lower risk-aversion and accordingly demand less social insurance against income shocks.

H3: The self-employed have weaker preferences for redistribution.

There are a number of job-status dummies. The reference category is full employment. The dummy indicating self-employment is called *jobstat_self* and should have a negative effect on the preference for redistribution.

Marriage was also considered as a basic insurance scheme. A married person should demand lower levels of social insurance and accordingly less redistribution.

H4: The married have weaker preferences for redistribution.

The marriage status is indicated by four dummies (*stat_*) with being single being the reference category. The dummy for being married, *stat_married*, should have a negative effect on the support for redistribution.

The insurance argument is also applied in the context of religion. Religious people have some substitute for social insurance and accordingly should demand less of it.

H5: Being religious diminishes the support for redistribution.

Religiosity is measured using the frequency of church attendance. Three dummies are coded with never visiting religious services as base category. The dummies *religion_some* and *religion_reg* indicate some and regular attendance to religious services.

We now proceed to the augmented hypotheses using additional focus variables.

The social rivalry effect states that individuals might oppose redistribution because it might jeopardize their position in the social hierarchy. This effect is captured by including self-reported social class of the respondents.

H6: The higher the social class, the lower the preference for redistribution.

Social class is captured by four dummies with the working class (*class_working*) as reference category. Belonging to the middle and upper class (*class_middle*, *class_upper*) should have a negative effect, belonging to the lower class (*class_lower*) a positive effect on the preferences for redistribution. Social class is a coarse measure to capture the social rivalry effect. Some problems will be discussed in the results section (section 5).

The argument based on social identity states that nationalism (i.e. a strong/stronger identification with the nation) might moderate class interest.

H7: Higher levels of national pride come with low preferences for redistribution.

The dummy *proud_bin1* indicates respondents which are very proud to be citizens of their respective nation. Accordingly, *proud_bin1* should have a negative effect on the preference for redistribution.

It has already been discussed that the categorization of the variable measuring an individual's belief about the relation of work and success is ambivalent. The variable could indicate fairness considerations, but it could also proxy beliefs about individual possibilities for upward mobility.

H8a: The belief that hard work will result in success will diminish the support for redistribution.

H8b: The belief that success is a matter of luck will increase the support for redistribution.

The original ten point Likert-scaled variable is recoded in three dummies. The reference category is made up of all individuals indicating non-extreme values (3 to 8). The dummy *success_work* indicates the belief that effort results in success and accordingly should have a negative effect. The opposite belief, captured by the dummy *success_luck* should have a positive effect on the preference for redistribution.

The belief in the moral worth of recipients and the fairness of the social distribution system is captured by a question about the reasons for being poor.

H9a: Respondents who believe that being poor is caused by laziness have weaker preferences for redistribution.

H9b: Respondents who believe that being poor is caused by an unfair society have stronger preferences for redistribution.

The dummy *poor_lazy* indicates the belief that the poor are poor because of laziness. On the other hand *poor_unfair* indicates that the reason for poverty is an unfair society.

A related item asks about the control in life. While this question is not related to poverty, it evaluates whether respondents feel responsible for their actions and associated outcomes. It seem very likely that respondents project their self-evaluation on other, i.e. if they feel responsible for their outcomes, they also belief that others are responsible too.

H10a: Respondents who feel in control of their life have a lower preference for redistribution.

H10b: Respondents who do not feel in control of their life have a higher preference for redistribution.

The original ten-point Likert-scaled variable is recoded. There is one dummy indicating the feeling of control (*control_yes)* and another one indicating the absence of this feeling

(control_no). Following hypothesis H10, *control_no* is expected to have a positive and *control_yes* a negative effect on the preferences for redistribution.

If altruism is directed toward the poor, the altruistic individual will experience an increase in utility if the position of the poor is improved. Since redistribution raises the income of the poor, an altruistic individual should have a higher probability to redistribute.

     H11: More altruistic individuals have stronger preferences for redistribution.

There is no direct measure for altruism. Accordingly, the dummy *child_unselfish* is used to proxy for altruism. The dummy *child_unselfish* indicates that the respondent finds unselfishness and important child quality. This dummy should have a positive effect on the preference for redistribution.

Finally, gender differences in redistributive preferences should be considered. Empirical research consistently shows gender differences in risk aversion and altruism (Andreoni and Versterlund 2001, Gneezy et al. 2009). Women are generally found to be more risk averse and more altruistic. Higher risk aversion increases the demand for social insurance.

     H12: *Women have stronger preferences for redistribution.*

Gender is measured with the dummy *female*, indicating the respondent to be a woman.

4. Data and Empirical Strategy

4.1. Data

     The individual level data is taken from the European Value Studies and the World Values Survey, together referred to as WVS. The World Values Survey Network provides a harmonized file of European – and World Values Surveys (WVS 2009), extending over five survey waves carried out around 1981, 1990, 1995, 2000 and 2005.[10] In addition, the European Values Survey 2008 provides a sixth round of survey data (EVS 2010).[11] In each wave the survey has been conducted over a period of about three years. The individual level data from the WVS is augmented with macroeconomic data from the OECD (OECD 2008) and the World Bank Development Indicators (WDI, WDI 2011). The Gini coefficient of household adult-equivalent gross- and net income is included to characterize the income distribution. Income distribution data is taken from the Standardized World Income Inequality Data set (SWIID, SWIID 2009).[12] All macro data is matched to each observation according to

---

[10] For details see http://www.worldvaluessurvey.org/.
[11] More information on the EVS at http://www.europeanvaluesstudy.eu/.
[12] The SWIID and details are provided at http://www.siuc.edu/~fsolt/swiid/swiid.html

the country and year the survey was conducted. In general the year is the time point of reference.[13]

I analyze the statistical relation between the preferences for redistribution and a host of individual and country specific characteristics. The preference for redistribution is elicited with the following survey item:

"Now I'd like you to tell me your views on various issues. How would you place your views on this scale? 10 means you agree completely with the statement on the left; 1 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between. Sentences:

'Incomes should be made more equal' (10) vs. 'We need larger income differences as incentives' (1)."

The original variable was recoded so that higher values indicate a stronger preference for equal incomes, i.e. a stronger preference for redistribution. The dependent variable is accordingly named *equal_income*. The distribution of responses is reported in Table 2

Table 2. Distribution of dependent variable *equal_income*

equal_income	Freq.	Percent	Cum.
incentives to individual effort 1	16,237	10.01	10.01
2	9,460	5.83	15.83
3	22,495	13.86	29.7
4	18,539	11.42	41.12
5	14,455	8.91	50.03
6	21,394	13.18	63.21
7	12,942	7.98	71.19
8	14,950	9.21	80.4
9	10,563	6.51	86.91
incomes more equal 10	21,246	13.09	100
Total	162,281	100	

Note: Sample of 34 OECD countries

In a first step the sample is restricted to the 34 OECD countries. Table 3 shows the mean of *equal_income* by country and wave. The data set contains a total of 200,996 observations for the OECD. Valid information for the dependent variable *equal_income* is available for 162,281 observations. The mean value of *equal_income* over all observations is 5.51 and thus basically the median value (5.5). A possible interpretation is that on average people are happy with the distribution of incomes in the OECD. This interpretation does not consider substantial variation across countries. The mean preference for redistribution is strongest in Israel (1. rank) and Switzerland (2. rank) and has the lowest levels in Denmark

---

[13] Every survey wave was conducted over a period of about three years (for details see Appendix I, Table A1). For ease of exposition, we just present country-wave tables.

(34. rank) and Poland (33. rank). However, a lot of country averages are close to the median value.

Table 3. Mean of *equal-income* by country and wave

country \ wave	1989-1993	1994-1998	1999-2004	2005-2008	2008-2009	Total
Australia	.	5.405	.	5.330	.	5.375
Austria	5.565	.	6.439	.	7.519	6.514
Belgium	5.080	.	5.496	.	5.388	5.285
Canada	4.217	.	5.664	5.352	.	5.118
Chile	4.999	5.795	6.979	6.217	.	5.933
Czech Republic	4.126	4.797	5.513	.	6.338	5.060
Denmark	4.482	.	.	.	4.094	4.250
Estonia	3.228	5.481	4.119	.	5.147	4.581
Finland	4.384	6.842	6.398	6.020	6.384	6.158
France	5.736	.	6.149	5.957	5.778	5.922
Germany	4.251	6.053	.	6.604	7.097	5.755
Greece	.	.	.	.	6.546	6.546
Hungary	5.186	7.199	.	.	6.379	6.180
Iceland	5.295	.	5.342	.	5.629	5.422
Ireland	4.614	.	4.888	.	5.849	5.105
Israel	.	.	7.229	.	.	7.229
Italy	5.084	.	4.981	5.063	5.125	5.059
Japan	5.308	5.548	5.282	4.853	.	5.241
South-Korea	5.853	4.326	4.450	4.413	.	4.765
Luxembourg	.	.	4.174	.	4.681	4.467
Mexico	5.019	5.131	5.869	4.888	.	5.209
Netherlands	4.913	.	4.821	5.370	5.237	5.105
New Zealand	.	5.653	.	5.541	.	5.604
Norway	4.984	5.731	.	5.926	5.329	5.474
Poland	3.289	4.289	4.911	4.219	5.681	4.407
Portugal	6.691	.	.	.	6.017	6.310
Slovakia	4.691	5.428	.	.	5.868	5.309
Slovenia	5.256	6.516	6.947	6.312	7.349	6.537
Spain	5.956	5.437	5.937	5.347	6.038	5.817
Sweden	4.535	5.080	.	4.913	6.186	5.207
Switzerland	.	6.159	.	7.367	6.322	6.622
Turkey	6.419	5.928	6.903	6.028	6.545	6.515
UK	4.551	5.937	5.394	5.585	5.562	5.360
USA	4.263	5.565	5.282	4.815	.	4.942
Total	4.892	5.584	5.758	5.557	5.950	5.516

The true model determining the preferences for redistribution is unknown. To assure robustness of results a wide set of economic and socio-economic variables will be considered in the estimation procedure. The descriptive statistics of all individual-level dependent and explanatory variables are depicted in Table 4.[14] In the OECD sample 52% of respondents are female. Mean age is 44 years, 62% of the respondents are married (*stat_married*) and 74%

---

[14] The coding of variables is detailed in Appendix II, Table B1.

have one or more children living in their household (*child_present*). For each set of dummy variables the respective reference category is marked with an "X" in column 7 of Table 4.

Table 4. Descriptive Statistics of dependent and explanatory micro variables, OECD sample

Variable	Obs.	Mean	Std. Dev.	Min	Max	
equal_income	162281	5.516	2.850	1	10	
equal_income_bin2	162281	0.196	0.397	0	1	
equal_income_bin9	162281	0.158	0.365	0	1	
female	200996	0.529	0.499	0	1	
age	196980	44.287	17.303	14	108	
age_sqr	196980	2260.769	1671.357	196	11664	
edu_no	134886	0.063	0.243	0	1	X
edu_prime	134886	0.243	0.429	0	1	
edu_somesec	134886	0.233	0.423	0	1	
edu_sec	134886	0.300	0.458	0	1	
edu_uni	134886	0.161	0.367	0	1	
stat_married	199087	0.623	0.485	0	1	X
stat_divorced	199087	0.068	0.252	0	1	
stat_widowed	199087	0.075	0.264	0	1	
stat_single	199087	0.233	0.423	0	1	
jobstat_full	195215	0.411	0.492	0	1	X
jobstat_part	195215	0.076	0.265	0	1	
jobstat_self	195215	0.068	0.252	0	1	
jobstat_retired	195215	0.184	0.387	0	1	
jobstat_wife	195215	0.127	0.333	0	1	
jobstat_student	195215	0.060	0.237	0	1	
jobstat_unemp	195215	0.056	0.230	0	1	
jobstat_other	195215	0.019	0.135	0	1	
inc_quint1	167295	0.197	0.398	0	1	
inc_quint2	167295	0.284	0.451	0	1	
inc_quint3	167295	0.239	0.427	0	1	X
inc_quint4	167295	0.176	0.381	0	1	
inc_quint5	167295	0.103	0.304	0	1	
religion_never	192830	0.4025255	0.490408	0	1	X
religion_some	192830	0.2682881	0.4430696	0	1	
religion_reg	192830	0.3291863	0.469919	0	1	
class_upper	124261	0.189	0.392	0	1	
class_middle	124261	0.355	0.479	0	1	
class_working	124261	0.317	0.465	0	1	X
class_lower	124261	0.139	0.346	0	1	
proud_bin1	187352	0.491	0.500	0	1	
trust	192212	0.350	0.477	0	1	
child_unselfish	196035	0.279	0.448	0	1	
poor_lazy	126313	0.276	0.447	0	1	

poor_unfair	126313	0.402	0.490	0	1
control_no	191298	0.046	0.210	0	1
control_yes	191298	0.240	0.427	0	1
success_work	92474	0.278	0.448	0	1
success_luck	92474	0.098	0.298	0	1
child_present	185577	0.744	0.436	0	1
politic_left_bin2	163905	0.0763979	0.2656345	0	1
politic_right_bin9	163905	0.0818096	0.2740752	0	1

To control for macro-conditions the log of per-capita GDP (*ln_pcgdp_wdi*) and a number of other macro variables are included in the estimations. Further macro variables are the unemployment rate (*unemp_wdi*), the growth rate of GDP (*gdp_growth_wdi*), the relation of imports and exports to GDP (*trade_wdi*), the stock of foreign direct investments in million U.S. dollars (*fdi_wdi*), the Gini of equivalent household gross incomes (*gini_gross*), the gross-gini ten years ago (*gini_gross_lag10*) and social expenditures as a fraction of GDP ten years ago (*socexp_gdp_lag10*). Summary statistics are presented in Table 5.

Table 5. Summary statistics of macro controls, OECD sample

Variable	*Obs*	*Mean*	*Std. Dev.*	*Min*	*Max*
ln_pcgdp_wdi	200060	9.977	0.466	8.720	11.200
unemp_wdi	168259	7.434	3.737	0.600	22.700
gdp_growth_wdi	198154	1.901	3.941	-14.574	10.653
trade_wdi	199052	76.710	43.873	16.864	326.764
fdi_wdi (Mio$)	188301	-6876.2	26346.6	-113165.0	68497.2
gini_gross	185365	42.183	6.161	25.757	59.423
gini_gross_lag10	182439	41.199	6.288	25.381	55.736
socexp_gdp_lag10	104669	16.758	7.565	0.000	31.588

Note: Data from OECD (2008), SWIID (2009) and WDI (2011)

4.2. Empirical Strategy

The preference for redistribution is measured with an item from a survey questionnaire. Since the dependent variable is a ten-point Likert-scaled variable, an ordinal logit model will be employed. No exogenous source of variation can be identified, so that estimates show statistical associations rather than causality. A causal effect of most analyzed determinants has been shown under experimental conditions as discussed in section 2. In the present study, the individual and joint statistical effect of respective determinants should be corroborated, using different and bigger data samples as has been the case so far.

In a first step, a set of six models, stepwise including more control variables, is estimated. Luttmer and Singhal (2011) empirically show that culture has an important effect on preferences for redistribution. To account for unobserved cultural determinants, country

17

fixed effects are included in all regressions. In addition, time induced variation is controlled for with the inclusion of year fixed effects. The basic model is shown in equation (1).

$$(1) \qquad R_{ict} = \alpha + \lambda' X_{ict} + \gamma_c C + \delta_t T + \varepsilon_{ict}$$

The preference for redistribution R_{ict} of individual i in country c at time t is explained by a set of economic and socioeconomic control variables X_{ict} and country and time fixed effects C and T. In addition to country fixed effects, robust standard errors correcting for clustering at the country level are included (Moulton 1990). This correction augments standard errors so that the p-values for the estimates can be considered conservative.

In the first model (M1) X_{ict} only consists of respondent's sex, age and age squared. The second model (M2) includes information on educational achievements. Model 3 (M3) adds information on gross household income. In model four (M4) the respondents labour market status and marriage status are included. Since information on educational achievement is missing for a large number of cases, education is excluded in the specification of M4. The next model, M5 again includes education in addition to labour market- and marriage status. Model M6 finally adds dummies for the frequency of attendance to religious services. These six models together make up the basic configuration. It includes all variables that were hypothesised to influence narrowly defined material self-interest.

In the next step the basic configuration is augmented with the focus variables, one at a time. Accordingly, model M1 to M6 will be rerun, estimating in turn the social rivalry effect, the social identity hypothesis, the influence of altruism, the effect of beliefs about the fairness of the distribution system, of beliefs about the moral worth of the poor and about the degree of self-control in life. Finally, all hypotheses will be tested jointly. To this end, model M1, M4 and M6 will each be estimated including all focus variables and subsets thereof.

To check for robustness, the three just outlines estimation steps will be repeated including additional micro- and macro controls. Additional micro controls are political orientation and the information whether children are present in the household. Respective macro controls are the log of per-capita GDP, the unemployment rate, the growth rate, the stock of foreign direct investment, the fraction of trade to GDP, the Gini of gross household incomes, the Gini of gross incomes ten years ago and social expenditure as a fraction of GDP ten years ago. This comprises the analysis of the OECD sample which constitutes the main contribution of this paper. The analysis will then be replicated on the sample of available non-OECD countries.

A note on the use of language: results are derived using ordered logit models. These results are correctly interpreted in a probabilistic manner. Also, no exogenous variation is

present that would allow a causal interpretation of results. Still the verbal discussion of results will not always correctly express this interpretation, but instead describe the effect of an independent variable on a dependent variable. When done so, it is strictly for stylistic reasons. Readers should always be aware that results present statistical, probabilistic associations.

5. Results for the OECD sample

In this section the results for the OECD sample are presented. The estimations for the six models in the basic configuration are shown in Table 6. These results will be used to consider the hypotheses H1 to H5 which are based on the assumption of agents motivated by narrowly defined self-interest.

In line with hypothesis H1, respondents with higher (lower) incomes have a lower (higher) probability to support redistribution and vice versa. Educational achievements also have the expected effects as formulated in H2. Higher educational achievements significantly reduce the probability of strong preferences for redistribution. Regarding hypothesis H3 on

Table 6. Basic: Ordered logit estimations of Model M1 – M6

	M1	*M2*	*M3*	*M4*	*M5*	*M6*
equal_income						
age	-0.002	-0.001	0.007*	0.015***	0.013***	0.013***
	(-0.94)	(-0.33)	(2.44)	(5.17)	(4.35)	(4.28)
age_sqr	0.000*	0.000	-0.000**	-0.000***	-0.000***	-0.000***
	(2.35)	(0.35)	(-2.80)	(-5.44)	(-4.94)	(-4.85)
female	0.189***	0.149***	0.136***	0.150***	0.137***	0.148***
	(8.54)	(5.56)	(5.13)	(6.60)	(5.70)	(6.34)
edu_prime		-0.171***	-0.137***		-0.147***	-0.141***
		(-4.76)	(-3.68)		(-4.06)	(-3.31)
edu_somesec		-0.399***	-0.304***		-0.316***	-0.314***
		(-6.33)	(-4.37)		(-4.80)	(-4.44)
edu_sec		-0.484***	-0.329***		-0.352***	-0.351***
		(-6.51)	(-4.23)		(-4.85)	(-4.57)
edu_uni		-0.683***	-0.448***		-0.458***	-0.455***
		(-7.56)	(-4.61)		(-4.99)	(-4.76)
inc_quint1			0.304***	0.337***	0.260***	0.260***
			(8.90)	(5.69)	(7.23)	(6.97)
inc_quint2			0.159***	0.198***	0.136***	0.132***
			(6.16)	(6.43)	(6.08)	(5.82)
inc_quint4			-0.163***	-0.162***	-0.159***	-0.157***
			(-7.24)	(-7.19)	(-6.61)	(-6.46)
inc_quint5			-0.411***	-0.475***	-0.407***	-0.412***
			(-8.03)	(-9.27)	(-7.89)	(-7.76)
stat_married				-0.061*	-0.058*	-0.060*
				(-2.28)	(-2.49)	(-2.56)
stat_divorced				-0.063*	-0.050^{+}	-0.058*
				(-2.55)	(-1.84)	(-2.09)
stat_widowed				-0.032	-0.045	-0.045
				(-0.84)	(-1.08)	(-1.10)
jobstat_part				0.059*	0.032	0.028
				(2.06)	(1.26)	(1.17)
jobstat_self				-0.217***	-0.255***	-0.252***
				(-4.62)	(-4.85)	(-4.85)

jobstat_retired				0.104*	0.051+	0.049
				(2.46)	(1.66)	(1.53)
jobstat_wife				0.042	-0.060	-0.057
				(1.10)	(-1.45)	(-1.40)
jobstat_student				-0.017	-0.018	-0.012
				(-0.49)	(-0.46)	(-0.30)
jobstat_unemp				0.222***	0.116**	0.106**
				(3.53)	(2.99)	(2.70)
jobstat_other				0.144*	0.047	0.038
				(2.29)	(0.95)	(0.73)
religion_some						-0.085***
						(-4.29)
religion_reg						-0.050+
						(-1.84)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	162002	119838	101444	133313	97514	94779

t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001
Note: constants for each cut-off not reported.

self-employment, it is noted that less risk adverse individuals demand less social insurance against income shocks. If the self-employed are less risk averse, and their lower risk aversion is not overcompensated by higher income volatility, self-employment should reduce the probability to opt for high levels of redistribution. This is confirmed by the estimation results for *jobstat_self*. In H4 it is hypothesised that marriage might be a substitute for social insurance provided by redistributive schemes. Results indicate at significance levels of 5% that marriage reduces the likelihood of respondents to support redistribution. Membership in a religious community could also function as a substitute for social insurance. As formulated in hypothesis H5, more religious individuals should demand less redistribution. This is in part confirmed by the results. Individuals who attend religious services have lower probabilities to support redistribution. However, while the coefficient for some attendance is highly significant, the coefficient for regular attendance is only weakly significant.

Next, we will turn our attention to the focus variables. The basic configuration is augmented with the focus variables, one at a time, and model M1-M6 are re-estimated. The coefficients obtained for the respective focus variable and the sample size for each estimation are presented in Table 7 to 9. As can be seen from Table 7 estimation results indicate the presence of the social rivalry effect (H6). After controlling for income, an individual's social class still has significant explanatory power. Being member of a higher class significantly reduces the probability of having strong preferences for redistribution. The insignificant coefficients for membership in the lowest class in model M3, M5 and M6 are in line with the social rivalry effect, if one assumes that the status differential between the lower class and the working class is sufficiently small compared to the status differentials between the working class and middle and higher class, respectively. However, there are some caveats to this

interpretation of social class. While income is controlled for, social class is certainly highly correlated with a large number of other, unobserved individual characteristics of material wealth. The effect of social class might rather measure the effect of pecuniary self-interest associated with different forms of unobserved wealth than considerations of social status. Corneo (2001) and Corneo and Grüner (2002), use international occupational prestige scores to capture individuals' social position and derive the social rivalry effect. This approach can not be replicated here, since detailed information about respondents' occupation is not available.

Table 7 also depicts the coefficients for nationalism. As formulated in hypothesis H7 on social identity, individuals with a stronger feeling toward their nation should have weaker preferences for redistribution. As can be seen from the results, being very proud of your nation in fact significantly reduces the probability of strong redistributive preferences.

Table 7. Focus Variables: social rivalry effect and social identity

	M1	*M2*	*M3*	*M4*	*M5*	*M6*
class_upper	-0.633***	-0.572***	-0.457***	-0.443***	-0.453***	-0.456***
	(-13.00)	(-11.04)	(-7.58)	(-8.89)	(-7.43)	(-7.45)
class_middle	-0.280***	-0.252***	-0.223***	-0.224***	-0.227***	-0.226***
	(-8.09)	(-6.57)	(-5.51)	(-6.42)	(-5.60)	(-5.35)
class_lower	0.234***	0.130⁺	0.095	0.179**	0.080	0.103
	(4.29)	(1.83)	(1.34)	(3.14)	(1.06)	(1.32)
N	103440	69274	60553	86923	57210	54807
proud_bin1	-0.104***	-0.125***	-0.136***	-0.136***	-0.144***	-0.141***
	(-4.26)	(-4.51)	(-4.73)	(-5.60)	(-4.69)	(-4.51)
N	150880	110768	94197	124600	90405	88460

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

The next table (Table 8) depicts the coefficients for the variables associated with the fairness of the allocation system, moral worthiness of the poor and individual control and responsibility. First note that there are relatively few observations for the variable that measures the belief in the relation between hard work and success, i.e. the fairness of the distributive system (*success_work, success_work*). As can be seen from the estimated coefficients, individuals who think that hard work brings success, i.e. the system is fair (*success_work*), have a lower probability to demand redistribution. This is stated in hypothesis H8a. In contrast, the belief that the system is unfair, i.e. success is determined by luck (*success_luck*), does not increase the probability of strong preferences for redistribution. Accordingly, hypothesis H8b is not supported.

Table 8. Focus Variables: just world beliefs, moral worth and self-control

	M1	*M2*	*M3*	*M4*	*M5*	*M6*
success_work	-0.234***	-0.152*	-0.152*	-0.229***	-0.146+	-0.151+
	(-4.82)	(-2.05)	(-2.06)	(-4.65)	(-1.85)	(-1.94)
success_luck	0.095	0.081	0.005	0.016	0.023	0.019
	(1.15)	(0.72)	(0.05)	(0.19)	(0.19)	(0.16)
N	90884	50519	44329	75491	41016	40296
poor_lazy	-0.154***	-0.191***	-0.163***	-0.133***	-0.157***	-0.158***
	(-6.10)	(-6.19)	(-5.02)	(-5.07)	(-4.60)	(-4.54)
poor_unfair	0.338***	0.361***	0.366***	0.306***	0.354***	0.356***
	(10.03)	(10.13)	(10.28)	(9.63)	(10.23)	(10.32)
N	114044	74349	61228	91975	58122	57388
control_no	0.325***	0.251***	0.214***	0.244***	0.201***	0.201**
	(4.34)	(3.52)	(3.38)	(3.50)	(3.34)	(3.18)
control_yes	-0.166***	-0.155***	-0.145**	-0.161***	-0.152**	-0.158***
	(-4.75)	(-3.91)	(-3.13)	(-4.03)	(-3.17)	(-3.44)
N	154332	113238	95686	127891	92905	91834

t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

An associated variable considers the moral worth of the poor. Are people poor because they where lazy or does their poverty result from an unfair society? As can be seen in Table 8, the belief that poverty results from laziness (*poor_lazy*) has a strongly significant, negative effect on the support for redistribution. In contrast to the result for the belief in a just allocation system (*success_luck*), the belief that poverty results from an unfair society (*poor_unfair*), increases the probability for strong preferences for redistribution. Accordingly, hypothesis H9a and H9b are both supported by the data.

The perceived level of individual autonomy and control is also considered as an important explanatory determinant for the support of redistribution. The results shown in Table 8 support this point of view. The belief that one has "free choice and control" over ones life, decreases the support for redistribution. In contrast, the feeling that own actions can not change outcomes, has a significant positive effect on the probability for strong preferences for redistribution. Hypotheses H10a and H10b are both corroborated. Fong (2001) arrives at similar conclusions and states "that the belief about the prevalence of poverty is usually significant whether or not we control for self- and exogenous-determination beliefs, but it is not as robust to sample size and specification changes as the self and exogenous-determination beliefs" (Fong 2001, p. 242). Following hypothesis H11, higher levels of altruism should be associated with stronger support for redistribution. The results for the respective variable (*child_unselfish*) presented in Table 9, do not allow a final conclusion. All estimated coefficients are positive. However, for the two models with most observations (not controlling for education) results are insignificant. The appropriate answer to H11 remains ambiguous.

Table 9. Focus Variables: altruism

	M1	M2	M3	M4	M5	M6
child_unselfish	0.016	0.056*	0.068**	0.031	0.072**	0.072**
	(0.65)	(2.46)	(2.91)	(1.18)	(3.16)	(3.10)
N	157353	116334	98573	129380	94650	92633

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

Do the estimation results considered in H1-H5 and discussed earlier, change if focus variables are included? Table 10 provides a quick overview. The symbol indicates the sign of a significant coefficient; a zero indicates an insignificant estimate. In column six the first symbol refers to some attendance of religious services, the second one to regular attendance. As can be seen, the results for income, education and self-employment are robust to the inclusion of any of the focus variables. Being married does not show a statistical significant effect on preferences for redistribution if social identity or moral worth of the poor is taken into account. The effect for some religious activity is also not robust to the inclusion of beliefs about moral worth (*poor_lazy* and *poor_unfair*).

Table 10. Result Overview (H1-H5)

	income	education	self-employed	married	religious
class_	-	-	-	-	-/-
proud_bin1	-	-	-	0	-/0
hard_work	-	-	-	-	-/0
poor_	-	-	-	0	0/0
control	-	-	-	-	-/0
child_unselfish	-	-	-	-	-/0

We now turn to the central part of the analysis. How do the focus variables perform in explaining the preferences for redistribution, if included jointly in the estimation equation? The biggest obstacle to this exercise is data availability: simultaneously including all focus variables and socio-economic controls dramatically reduces sample size. To see whether the estimated effects are driven by sample attrition, the three models, M1, M4 and M6 are used to estimate the cumulated effects of all focus variables. These configurations with six specifications each will be referred to as cumulated M1, cumulated M4 and cumulated M6. Model M1 only includes respondents' gender and age; M4 adds marriage status, job-status and income. Model M6 includes all socioeconomic controls used in the basic configuration. Since *hard_work (*i.e. *success_luck, success_work)*, the variable measuring the belief in the fairness of the allocation mechanism, is missing for a considerable number of observations, M1, M4 and M6 with cumulated focus variables will be estimated with and without this variable. Since the sample size is bigger, we only present those results without *hard_work*. For M1 and M4 only the estimates of the focus variables will be depicted (Table 11 and 12), for M6 all estimated coefficients will be shown (Table 13). In the cumulated configurations, at first the dummies for social class are included. Then stepwise the variables for nationalism

(*proud_bin1*), individual autonomy and control (*control_*), moral worth of the poor (*poor_*) and altruism (*child_unselfish*) are included. In addition to all these focus variables, a measure of individual *trust* is added in model (6). Trust might capture unobserved ethnical heterogeneity of the respondents social environment or her degree of reciprocity and the like and is only included as a robustness check.

As can be seen from inspection of Table 11 and Table 12, the estimates obtained for the focus variables are qualitatively very similar for cumulated M1 and M4. The social rivalry effect is present in all estimations; the social identity hypothesis is also accepted in Table 11 and 12. The feeling of autonomy and control decreases the support for redistribution, the lack thereof increases support. If the poor are viewed as morally unworthy and responsible for their poverty due to laziness, the probability to have strong preferences for redistribution decreases. If on the other hand, an unfair society is seen as the reason for poverty, stronger support for redistribution becomes more likely. Finally, the degree of altruism as measured by (the admittedly imperfect measure) *child-unselfish* does not have an effect on the preferences for redistribution. The effect of altruism as formulated in hypothesis H11 was ambivalent already in the last step. Given the present negative results, hypothesis H11 has to be rejected. However, I do not want to conclude that altruism has no effect on preferences for redistribution, but rather posit that the measure used is not a good proxy for individual altruism.

Table 11. Ordered Logit estimation: cumulate M1

	(1)	(2)	(3)	(4)	(5)	(6)
equal_income						
class_upper	-0.633***	-0.643***	-0.645***	-0.672***	-0.676***	-0.681***
	(-13.00)	(-12.42)	(-12.30)	(-11.09)	(-11.10)	(-11.33)
class_middle	-0.280***	-0.291***	-0.297***	-0.338***	-0.343***	-0.349***
	(-8.09)	(-8.13)	(-8.40)	(-10.02)	(-9.91)	(-9.92)
class_lower	0.234***	0.250***	0.235***	0.187***	0.186***	0.182***
	(4.29)	(4.52)	(4.25)	(3.39)	(3.31)	(3.30)
proud_bin1		-0.108***	-0.101**	-0.069*	-0.068*	-0.068*
		(-3.36)	(-2.83)	(-2.24)	(-2.17)	(-2.19)
control_no			0.278***	0.293***	0.307***	0.305***
			(4.47)	(4.15)	(4.18)	(4.03)
control_yes			-0.115***	-0.150***	-0.147***	-0.145***
			(-3.39)	(-3.92)	(-3.83)	(-3.80)
poor_lazy				-0.112**	-0.111**	-0.113**
				(-3.14)	(-3.12)	(-3.23)
poor_unfair				0.293***	0.298***	0.291***
				(9.52)	(9.64)	(9.42)
child_unselfish					0.013	0.017
					(0.53)	(0.73)
trust						-0.003
						(-0.10)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	103440	96517	92147	58456	57602	55346

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

Table 12. Ordered Logit estimation: cumulate M4

equal_income	(1)	(2)	(3)	(4)	(5)	(6)
class_upper	-0.443***	-0.454***	-0.464***	-0.499***	-0.503***	-0.509***
	(-8.89)	(-8.72)	(-8.24)	(-7.52)	(-7.54)	(-7.75)
class_middle	-0.224***	-0.237***	-0.243***	-0.282***	-0.288***	-0.295***
	(-6.42)	(-6.47)	(-6.51)	(-7.56)	(-7.49)	(-7.59)
class_lower	0.179**	0.192***	0.176**	0.126*	0.122*	0.120*
	(3.14)	(3.34)	(3.11)	(2.19)	(2.09)	(2.11)
proud_bin1		-0.137***	-0.130***	-0.088**	-0.088**	-0.087**
		(-4.25)	(-3.65)	(-2.75)	(-2.70)	(-2.79)
control_no			0.248***	0.270***	0.283***	0.284***
			(4.23)	(3.62)	(3.61)	(3.57)
control_yes			-0.132***	-0.165***	-0.161***	-0.157***
			(-3.43)	(-3.87)	(-3.78)	(-3.79)
poor_lazy				-0.089*	-0.088*	-0.090*
				(-2.37)	(-2.36)	(-2.51)
poor_unfair				0.274***	0.279***	0.272***
				(7.75)	(7.86)	(7.78)
child_unselfish					0.015	0.018
					(0.59)	(0.71)
trust						0.004
						(0.11)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	86923	81302	78563	48481	47653	45812

t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

The estimates for cumulate model M6 are shown in Table 13. Note that the sample size is comparatively small. In specification (6) there are only 21,160 observations left.[15] It is obvious that income and education still have the hypothesized effect. Being self-employed has a significantly negative effect (both in M6 and in M4). Being married, however, does not result in robust effects. While estimates in M6 are mostly insignificant, unreported estimates for being married (*stat_married*) in M4 even change their sign. I conclude that marriage is not a robust determinant for the preferences for redistribution.

Table 13. Ordered Logit estimation: cumulate M6

equal_income	(1)	(2)	(3)	(4)	(5)	(6)
age	0.015***	0.015***	0.014***	0.007	0.007	0.006
	(3.51)	(3.31)	(3.33)	(1.10)	(1.14)	(0.94)
age_sqr	-0.000***	-0.000***	-0.000***	-0.000	-0.000	-0.000
	(-3.95)	(-3.71)	(-3.81)	(-1.19)	(-1.22)	(-1.00)
female	0.146***	0.148***	0.152***	0.176***	0.175***	0.174***
	(4.92)	(4.83)	(4.96)	(5.30)	(5.21)	(5.14)
edu_prime	-0.095*	-0.086+	-0.073+	-0.094	-0.088	-0.066
	(-2.32)	(-1.81)	(-1.66)	(-1.16)	(-1.10)	(-0.78)
edu_somesec	-0.233**	-0.227*	-0.211*	-0.284*	-0.281*	-0.271*
	(-2.75)	(-2.53)	(-2.46)	(-2.36)	(-2.36)	(-2.21)
edu_sec	-0.274**	-0.268**	-0.252**	-0.372*	-0.372*	-0.366*
	(-2.90)	(-2.65)	(-2.58)	(-2.52)	(-2.54)	(-2.41)

[15] There are still 22 countries in the sample of specification 6: Australia, Austria, Belgium, Chile, Czech Republic, Estonia, Finland, France, Germany, Italy, Luxembourg, Mexico, New Zealand, Norway, Poland, Slovakia, Spain, Sweden, Turkey, United Kingdom, United States.

edu_uni	-0.281*	-0.298*	-0.283*	-0.518**	-0.518***	-0.501**
	(-2.46)	(-2.52)	(-2.47)	(-3.25)	(-3.30)	(-3.13)
stat_married	-0.079*	-0.057+	-0.068*	-0.038	-0.035	-0.017
	(-2.56)	(-1.93)	(-2.37)	(-0.99)	(-0.92)	(-0.39)
stat_divorced	-0.071+	-0.062	-0.065	0.003	0.008	0.029
	(-1.85)	(-1.53)	(-1.61)	(0.04)	(0.11)	(0.43)
stat_widowed	-0.033	-0.018	-0.036	0.006	0.009	0.025
	(-0.61)	(-0.35)	(-0.73)	(0.08)	(0.14)	(0.40)
jobstat_part	0.063	0.075+	0.075+	-0.042	-0.040	-0.051
	(1.45)	(1.77)	(1.73)	(-0.57)	(-0.55)	(-0.72)
jobstat_self	-0.167***	-0.163***	-0.149**	-0.204**	-0.205**	-0.216***
	(-3.74)	(-3.77)	(-3.18)	(-3.11)	(-3.11)	(-3.37)
jobstat_retired	0.093*	0.097*	0.105*	0.128+	0.130+	0.127+
	(2.23)	(2.24)	(2.43)	(1.93)	(1.94)	(1.80)
jobstat_wife	-0.033	-0.033	-0.031	-0.103+	-0.102+	-0.110+
	(-0.76)	(-0.76)	(-0.77)	(-1.91)	(-1.91)	(-1.95)
jobstat_student	0.072	0.089*	0.092*	0.029	0.029	0.034
	(1.46)	(2.14)	(2.15)	(0.52)	(0.52)	(0.63)
jobstat_unemp	0.075+	0.062	0.062	0.067	0.069	0.074
	(1.70)	(1.52)	(1.53)	(1.08)	(1.11)	(1.19)
jobstat_other	-0.065	-0.072	-0.058	-0.030	-0.035	-0.009
	(-0.92)	(-1.12)	(-0.92)	(-0.30)	(-0.36)	(-0.09)
inc_quint1	0.148**	0.162**	0.147**	0.156+	0.155+	0.146+
	(3.18)	(3.25)	(2.66)	(1.78)	(1.79)	(1.67)
inc_quint2	0.066*	0.074**	0.069*	0.052	0.052	0.055
	(2.41)	(2.59)	(2.22)	(1.39)	(1.41)	(1.42)
inc_quint4	-0.111***	-0.112***	-0.109***	-0.078	-0.078	-0.087+
	(-3.97)	(-3.84)	(-3.66)	(-1.56)	(-1.55)	(-1.82)
inc_quint5	-0.291***	-0.284***	-0.280***	-0.253***	-0.254***	-0.249***
	(-6.45)	(-6.64)	(-6.60)	(-4.04)	(-4.07)	(-4.08)
religion_some	-0.102***	-0.101***	-0.097***	-0.069+	-0.066+	-0.059+
	(-4.95)	(-5.02)	(-4.58)	(-1.95)	(-1.87)	(-1.68)
religion_reg	-0.063*	-0.054+	-0.052	-0.009	-0.006	-0.000
	(-1.99)	(-1.67)	(-1.59)	(-0.17)	(-0.12)	(-0.01)
class_upper	-0.456***	-0.467***	-0.463***	-0.363***	-0.365***	-0.380***
	(-7.45)	(-7.80)	(-7.35)	(-6.41)	(-6.49)	(-6.94)
class_middle	-0.226***	-0.237***	-0.238***	-0.239***	-0.242***	-0.249***
	(-5.35)	(-5.55)	(-5.45)	(-5.23)	(-5.33)	(-5.40)
class_lower	0.103	0.101	0.083	0.014	0.011	0.011
	(1.32)	(1.28)	(1.07)	(0.14)	(0.11)	(0.11)
proud_bin1		-0.121**	-0.119*	-0.032	-0.031	-0.035
		(-2.84)	(-2.52)	(-0.61)	(-0.59)	(-0.67)
control_no			0.184***	0.133*	0.139*	0.135*
			(4.33)	(2.22)	(2.27)	(2.30)
control_yes			-0.128**	-0.152*	-0.153*	-0.149**
			(-2.77)	(-2.49)	(-2.52)	(-2.61)
poor_lazy				-0.062	-0.061	-0.065
				(-1.26)	(-1.25)	(-1.37)
poor_unfair				0.368***	0.365***	0.359***
				(8.32)	(8.47)	(8.84)
child_unselfish					0.092**	0.095**
					(2.58)	(2.97)
trust						0.041
						(1.28)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	54807	51349	50143	21688	21672	21160

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

Comparing the resulting estimates from cumulative M6 with those of cumulative M1 and M4, the social rivalry effect remains significant and important. Nationalism (*proud_bin1*),

which is used to test the hypothesis on social identity (H7), still has a negative coefficient. However, results are insignificant for specification (4), (5) and (6). The perception of individual control and autonomy in life increases, the absence of this perception decreases the probability for strong preferences for redistribution. The belief that society is unfair has a significant positive effect on the support for redistribution. In contrast, the belief that poverty is caused by laziness of the poor does not have a significant effect on redistributive preferences. While the influence of altruism, as formulated in hypothesis H11 was already rejected, estimations now show a significant positive effect of altruism on the support of redistribution. These results clearly differ from those obtained for the cumulated models M1 and M4. Now, is this difference due to sample attrition or do the additional control variables drive these results? In unreported regressions I add educational achievements to the cumulated M1 specifications and obtain qualitatively similar results as those from M6 cumulated.[16] However, if cumulated M1 is estimated without using the information of educational achievements but restricting the sample to only include those observations with valid information on education, results for altruism (*child_unselfish*) are likewise significant. The same is true if the sample is restricted to only include those cases used in specification 6 of M6 cumulated. From this I derive that the differences between cumulated M1 and M4 on the one hand, and cumulated M6 on the other, derive mainly from sample attrition. Still, only those results will be considered robust which show a significant effect in all estimations of cumulated M1, M4 and M6. Altruism, as measured here, will accordingly not be considered a robust determinant for preferences of redistribution.

As already mentioned, the hard-work variable, measuring the belief in the fairness of the distribution system, has been excluded from the estimations of cumulated M1, M4 and M6 as presented in Table 11, 12 and 13. Including the *hard-work* variable (*success_luck*, *success_work*) does not change the conclusions on hypothesis H1-H7 and H9-H11, but drastically reduces the number of observations. What about the variable itself and the associated hypotheses H8a and H8b? Table 14 reports the estimated coefficients for the two hard-work dummies. It can be seen that the belief that success is only determined by luck never has a statistical significant effect. In contrast, believing that hard work results in success, i.e. that the distribution system is fair, significantly reduces the probability for strong support for redistribution in the estimation of cumulated M1 and M4.

---

[16] Regression results are available from the author upon request.

Table 14. Estimates for *hard-work* from Cumulated M1 M4 M6

	(1)	(2)	(3)	(4)	(5)	(6)
M1 success_work	-0.211***	-0.191***	-0.179***	-0.155**	-0.153**	-0.147**
	(-3.90)	(-3.60)	(-3.65)	(-2.93)	(-2.89)	(-2.93)
M1 success_luck	0.055	0.060	0.062	0.039	0.057	0.054
	(0.62)	(0.71)	(0.77)	(0.59)	(0.91)	(0.86)
N	76287	71873	69108	46704	45880	44018
M4 success_work	-0.215***	-0.188***	-0.182***	-0.160**	-0.158**	-0.147**
	(-3.87)	(-3.49)	(-3.60)	(-2.82)	(-2.78)	(-2.80)
M4 success_luck	0.019	0.029	0.025	0.007	0.025	0.024
	(0.21)	(0.33)	(0.29)	(0.09)	(0.36)	(0.34)
N	64225	60369	58870	38814	38008	36452
M6 success_work	-0.150+	-0.113	-0.110	-0.050	-0.047	-0.039
	(-1.67)	(-1.39)	(-1.48)	(-0.52)	(-0.49)	(-0.41)
M6 success_luck	-0.001	0.024	0.007	0.044	0.046	0.050
	(-0.01)	(0.20)	(0.06)	(0.47)	(0.49)	(0.50)
N	34896	32277	31327	12520	12520	12251

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

If sample size is reduced and/or additional controls included, these results are no longer statistically significant. In contrast, Alesina and Giuliano (2009) find that the belief that success is determined by luck has a significant positive effect on preferences for redistribution. This finding most likely results from the use of a different dependent variable (*responsibility*) and the inclusion of *hard-work* as a numeric variable.

The gender effect, hypothesized in H12, is strongly significantly and robustly present in all estimations based on the OECD sample. Accordingly, women are found to have a higher probability of strong preferences for redistribution than men.

5.2 Robustness checks for the OECD sample

To further assure robustness of results, the three analytical steps outlined above (estimation of basic configuration, individual estimation of each focus variable, estimation of cumulated models), have been repeated without controlling for time effects, with the inclusion of some additional micro and macro controls and the use of standard OLS estimation techniques.[17] The results based on OLS are qualitatively similar. To get a feeling for the size of respective effects, the models of cumulated M6 have been re-estimated using OLS. For some coefficients the level of significance is slightly higher or lower. However, no modification of the conclusions derived from the ordered logit results is necessary. Results for the OLS estimations are shown in Table A2 in the Appendix I. The same holds true for the ordered logit estimations without year fixed effects. Results remain qualitatively similar. Only

---

[17] Neither the estimates without year fixed effects, nor most OLS estimates, nor the regressions with additional controls will be reported and can be obtained from the author upon request.

for the estimation of the cumulated models, the variable indicating the belief that poverty results from laziness (*poor_lazy*) does not produce any significant results.

Also the inclusion of additional control variables in the ordered logit estimations does not alter results. We briefly discuss the estimated coefficients for the additional controls. A dummy that indicates the presence of children in the household (*child_present*) has a mostly negative but insignificant coefficient. In contrast, the political attitude of the respondent has a statistically significant and robust effect (Alesina and Giuliano 2009). People who position themselves on the left (right) of the political spectrum have a significantly higher (lower) probability for strong preferences for redistribution than those in the middle. In the political science literature it is sometimes stated that political attitudes are formed prior to preferences over actual policies (Jaeger 2008). However, this timing of preference formation is hard to prove. Also the explanatory value of political attitudes is not obvious. For this reasons, political attitudes are not included in the main analysis.[18] The inclusion of macro controls also leave results qualitatively unchanged. At first, only the log of per capita GDP is included. While some estimated coefficients for this macro variable are significant, the sign changes and depends on the specification. The log of per capita GDP is then supplemented with additional macro controls. These are the ratio of trade to GDP and the stock of foreign net investments, the growth rate of GDP and the unemployment rate, social expenditure over GDP, social expenditure over GDP ten years ago, the Gini coefficient of gross household incomes and ten year lags thereof. All these macro variables do not exhibit a systematic statistical relation with preferences for redistribution and do not change the conclusion with respect to hypothesis H1-H12.

In sum, for the OECD we find that higher income and education levels reduce the support for redistribution (H1 and H2 corroborated). Being self-employed also reduced the probability for strong redistributive preferences (H3 corroborated). Being married and more actively involved in religious activities do not result in a robust effect on preferences for redistribution (H4 and H5 not corroborated). The social rivalry effect is found to be an important determinant for redistributive preferences (H6 corroborated). Social identity in the form of national pride is shown to have a statistical effect on preferences for redistribution over a large group of specifications. However, results are not fully robust so that hypothesis H7 is not supported. Regarding the fairness of the distribution system the belief that success is a matter of luck rather than hard work does not have any effect on support for redistribution (H8b not corroborated). The contrary believe that hard work brings success shows a statistical

---

[18] Individual satisfaction with own financial situation is another variable that has a strong statistical relation with redistributive preferences, but is not included due to questionable explanatory meaning.

association in most, but not all specifications. Accordingly, hypothesis H8a can not be substantiated. The idea that poverty results from laziness does not have a robust association with support for redistribution (H9a not corroborated). On the contrary, people who think that poverty is the results of an unfair society have a systematically higher probability for strong preferences for redistribution (H9b corroborated). The feeling of autonomy and control over ones life decreases support for redistribution (H10a corroborated). The lack of autonomy and control does have a positive effect on redistributive preferences. However, since results are not robust over all specifications hypothesis H10b is not corroborated. A significant positive effect of altruism is found for some, but nor for all specifications, so that hypothesis H11 is not supported. Finally, respondent's sex is found to be a highly robust predictor for the support of redistribution. In line with hypothesis H12, women show significant stronger preferences for redistribution than men in all performed estimations.[19]

6. Results for non-OECD countries

Exploiting the merits of the WVS data, the analysis is now performed with the large sample of non-OECD countries. For these countries the mean of the dependent variable *equal-income* by country and wave is presented in Table 15. There are 196,712 valid observations in 66 countries. The sample is quite heterogeneous. Following World Bank categories, about ten percent of the observations come from high income countries, about 82% from middle income countries and about eight percent from low income countries. Per capita GDP in constant international 2005 Dollar is as low as 247$ for Zimbabwe and up to 26,000$ for Northern Cyprus and Northern Ireland. The mean per capita GDP over all available country-year observations is 6,617$ as compared to 23,793$ for the OECD sample. The average preferences for redistribution is lower in these non-OECD countries as compared to the OECD countries, as can be seen at the end of Table 15. Algeria has the lowest average preference for redistribution in the sample, Northern Cyprus the highest.

Table 15. Mean of *equal-income* by country and wave

country \ wave	2	3	4	5	6	Total
Albania	.	6.115	5.041	.	6.094	5.796
Algeria	.	.	2.911	.	.	2.911
Andorra	.	.	.	4.856	.	4.856
Argentina	3.995	5.044	6.101	5.671	.	5.257
Armenia	.	4.604	.	.	4.692	4.642

---

[19] Basically all empirical studies find the positive association of female gender on preferences for redistribution. These findings are in line with those on gender effects in altruism (Andreoni and Versterlund 2001) and competition (Gneezy et al. 2009).

Azerbaijan	.	5.103	.	.	6.310	5.636
Bangladesh	.	3.893	3.439	.	.	3.669
Belarus	3.652	4.374	5.734	.	5.367	4.753
Bosnia	.	5.504	4.897	.	6.678	5.765
Brazil	5.140	5.289	.	5.325	.	5.242
Bulgaria	4.282	5.604	4.637	5.326	3.465	4.567
Burkina Faso	.	.	.	3.922	.	3.922
China	3.127	5.958	4.737	5.227	.	4.938
Colombia	.	4.798	.	5.500	.	5.150
Croatia	.	5.995	6.572	.	6.803	6.476
Cyprus	.	.	.	5.728	6.043	5.877
Dominican Rep.	.	3.288	.	.	.	3.288
Egypt	.	.	2.768	4.239	.	3.505
El Salvador	.	4.173	.	.	.	4.173
Ethiopia	.	.	.	4.386	.	4.386
Georgia	.	3.401	.	4.126	3.313	3.586
Ghana	.	.	.	3.237	.	3.237
Guatemala	.	.	.	3.928	.	3.928
Hong Kong	.	.	.	6.222	.	6.222
India	5.012	7.345	6.822	6.210	.	6.230
Indonesia	.	.	3.821	3.632	.	3.697
Iran	.	.	5.336	6.833	.	6.201
Iraq	.	.	5.575	.	.	5.575
Jordan	.	.	3.736	4.031	.	3.882
Kosovo	.	.	.	.	6.564	6.564
Kyrgyz Republic	.	.	5.557	.	.	5.557
Latvia	3.696	4.532	.	.	4.406	4.285
Lithuania	3.665	5.766	5.857	.	5.622	5.268
Macedonia	.	5.888	5.687	.	.	5.784
Malaysia	.	.	.	4.337	.	4.337
Mali	.	.	.	3.465	.	3.465
Malta	3.159	.	.	.	4.279	4.041
Moldova	.	.	.	.	5.962	5.962
Montenegro	.	.	.	.	5.249	5.249
Morocco	.	.	3.254	5.652	.	4.084
Nigeria	3.341	4.223	4.751	.	.	4.262
Northern Cyprus	.	.	.	.	6.919	6.919
Northern Ireland	4.128	.	5.354	.	5.956	5.310
Pakistan	.	3.738	7.174	.	.	6.027
Peru	.	4.371	3.484	3.521	.	3.746
Philippines	.	5.000	4.443	.	.	4.722
Puerto Rico	.	4.773	3.514	.	.	4.287
Moldova	.	3.970	4.296	5.198	.	4.504
Romania	4.540	4.716	7.313	6.337	7.436	6.133
Russia	4.006	4.536	3.918	4.600	4.568	4.299
Rwanda	.	.	.	5.029	.	5.029
Saudi Arabia	.	.	4.283	.	.	4.283
Serbia	.	5.783	5.497	4.903	6.437	5.672
Singapore	.	.	4.043	.	.	4.043
South Africa	5.267	5.942	5.580	5.334	.	5.536
Taiwan	.	4.942	.	4.150	.	4.455
Thailand	.	.	.	3.933	.	3.933
Trinidad and Tobago	.	.	.	3.817	.	3.817
Uganda	.	.	3.807	.	.	3.807
Ukraine	.	4.329	3.604	4.116	3.339	3.921

Tanzania	.	.	6.032	.	.	6.032
Uruguay	.	5.850	.	5.647	.	5.750
Venezuela	.	5.446	5.421	.	.	5.433
Vietnam	.	.	4.670	5.012	.	4.878
Zambia	.	.	.	4.772	.	4.772
Zimbabwe	.	.	4.161	.	.	4.161
Total	4.348	4.986	4.776	4.860	5.428	4.904
OECD-Total	4.892	5.584	5.758	5.557	5.950	5.516

The descriptive statistics of the dependent and explanatory variables for this sample is relegated to the Appendix I, Table A3. Table 16 depicts the distribution of the preferences for redistribution (*equal-income*) for the non-OECD sample and for the OECD sample to allow comparison. While in the OECD only 10% of respondents demand higher income differences as incentives, in the non-OECD sample 20% of respondents do so. Apparently, there is a perception that incentive costs of redistribution are high in these countries. One reason might be that in less developed economies incentives are perceived as more important due to an economy wide inefficient use of labour (e.g. over-employment in the public sector in resource-abundant countries).

Table 16. Distribution of *equal-income* in the non-OECD and OECD Sample

equal_income	NON-OECD Sample			OECD Sample		
	Freq.	Percent	Cum.	Freq.	Percent	Cum.
incentives to individual efforts (1)	38,824	19.74	19.74	16,237	10.01	10.01
2	15,899	8.08	27.82	9,460	5.83	15.83
3	24,979	12.7	40.52	22,495	13.86	29.7
4	18,864	9.59	50.11	18,539	11.42	41.12
5	14,974	7.61	57.72	14,455	8.91	50.03
6	23,618	12.01	69.73	21,394	13.18	63.21
7	11,480	5.84	75.56	12,942	7.98	71.19
8	12,114	6.16	81.72	14,950	9.21	80.4
9	9,879	5.02	86.74	10,563	6.51	86.91
incomes more equal (10)	26,081	13.26	100	21,246	13.09	100
Total	196,712	100		162,281	100	

Employing the same econometric approach as used above, we directly turn to the estimation results for the non-OECD sample. A first surprise is that sample attrition, i.e. sample size reduction due to the inclusion of more explanatory variables, is less of a problem in the present sample as compare to the OECD sample.[20] The estimation results for the basic configuration are shown in Table 17. Income (H1) and education (H2) have the expected significant effect. However, self-employment (H3), marriage (H4) and religion (H5) do not

---

[20] At first sight, less item non-response might be interpreted as indication of better data quality. However, higher item response could also result from forged data not obtained in the field, but invented by the interviewer. On issues of survey data quality in developing countries see Judge and Schechter (2009).

show any statistical relation to preferences for redistribution. Instead, being unemployed or retired has a significant positive effect on preferences for redistribution.

Table 17. Basic: Ordered logit estimations of Model M1 – M6

	M1	M2	M3	M4	M5	M6
equal_income						
age	-0.007**	-0.006*	-0.006*	-0.001	0.002	0.001
	(-2.77)	(-2.13)	(-2.45)	(-0.56)	(0.95)	(0.46)
age_sqr	0.000***	0.000*	0.000*	0.000	-0.000	-0.000
	(4.08)	(2.28)	(2.53)	(1.21)	(-1.19)	(-0.65)
female	0.080***	0.045**	0.045**	0.040*	0.032*	0.032+
	(5.13)	(3.00)	(3.05)	(2.18)	(2.00)	(1.92)
edu_prime		-0.132**	-0.113**		-0.114**	-0.088*
		(-3.07)	(-2.93)		(-3.01)	(-2.34)
edu_somesec		-0.379***	-0.330***		-0.340***	-0.324***
		(-6.91)	(-7.09)		(-7.11)	(-6.79)
edu_sec		-0.499***	-0.435***		-0.444***	-0.409***
		(-6.38)	(-6.76)		(-6.77)	(-7.54)
edu_uni		-0.683***	-0.582***		-0.591***	-0.551***
		(-7.79)	(-8.17)		(-8.09)	(-8.31)
inc_quint1			0.097	0.173*	0.088	0.072
			(1.53)	(2.44)	(1.38)	(1.40)
inc_quint2			0.121***	0.169***	0.125***	0.110***
			(3.83)	(4.93)	(3.97)	(4.28)
inc_quint4			-0.144***	-0.187***	-0.139**	-0.114***
			(-3.35)	(-4.51)	(-3.29)	(-3.90)
inc_quint5			-0.281***	-0.336***	-0.270***	-0.274***
			(-5.27)	(-6.13)	(-5.06)	(-4.82)
stat_married				0.024	-0.001	0.006
				(0.92)	(-0.04)	(0.27)
stat_divorced				-0.013	-0.034	-0.018
				(-0.34)	(-1.05)	(-0.60)
stat_widowed				0.118**	0.076*	0.078*
				(2.83)	(2.04)	(2.10)
jobstat_part				0.060	0.061+	0.060+
				(1.51)	(1.67)	(1.83)
jobstat_self				0.017	-0.048	-0.034
				(0.53)	(-1.45)	(-1.05)
jobstat_retired				0.147***	0.148***	0.152***
				(3.80)	(3.83)	(3.95)
jobstat_wife				0.122***	0.019	0.038
				(4.02)	(0.63)	(1.38)
jobstat_student				0.077*	0.082*	0.064*
				(2.20)	(2.46)	(2.25)
jobstat_unemp				0.144***	0.093***	0.096***
				(5.60)	(4.03)	(3.94)
jobstat_other				0.208**	0.117	0.148*
				(2.84)	(1.59)	(2.16)
religion_some						-0.027
						(-1.06)
religion_reg						0.024
						(0.89)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	196375	185164	165805	171618	161772	152181

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

The importance of income, education, unemployment and retirement can also be observed in the estimations including each focus variable individually. The estimation results

for each focus variable individually, will now be discussed. As can be seen in Table 18 the social rivalry effect and the social identity effect are both supported by the data.

Table 18. Focus Variables: social rivalry effect and social identity

	M1	*M 2*	*M 3*	*M 4*	*M 5*	*M 6*
class_upper	-0.364***	-0.243***	-0.152***	-0.246***	-0.159***	-0.176***
	(-8.38)	(-6.87)	(-3.60)	(-5.29)	(-3.80)	(-4.21)
class_middle	-0.166***	-0.109***	-0.084***	-0.127***	-0.081***	-0.083***
	(-6.67)	(-5.38)	(-3.99)	(-5.02)	(-3.98)	(-4.18)
class_lower	0.119***	0.058*	0.043	0.074*	0.040	0.044
	(3.83)	(2.05)	(1.46)	(2.43)	(1.34)	(1.49)
N	141119	135917	123584	124289	119964	113310
proud_bin1	-0.096**	-0.108***	-0.116***	-0.109***	-0.116***	-0.106***
	(-2.98)	(-3.44)	(-3.75)	(-3.51)	(-3.70)	(-3.55)
N	188226	177470	159257	164817	155342	145957

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

As reported in Table 19, the perception of a fair allocation system does not result in a meaningful relation with preferences for redistribution. Respondents believing that hard work results in success (*success_work*) have weaker preferences for redistribution. However, respondents who think that success is a matter of luck (*success_luck*) also have significantly less support for redistribution. This relation is contrary to the hypothesized one and is difficult to make sense of. The beliefs in the moral worth of the poor show the same effects as in the OECD sample. If poverty is thought to be the result of laziness (*poor_lazy*), support for redistribution decreases. If, on the other hand an unfair society is seen as the reason for poverty (*poor_unfair*), the probability for strong redistributive preferences is higher.

Table 19. Focus Variables: just world beliefs, moral worth and self-control

	M1	*M 2*	*M 3*	*M 4*	*M 5*	*M 6*
success_work	-0.176*	-0.154*	-0.158*	-0.179*	-0.155*	-0.191**
	(-2.40)	(-2.04)	(-2.11)	(-2.46)	(-2.05)	(-2.66)
success_luck	-0.315***	-0.323***	-0.326***	-0.327***	-0.329***	-0.358***
	(-7.52)	(-7.15)	(-6.51)	(-6.75)	(-6.16)	(-6.29)
N	108642	98101	88022	94240	84878	76042
poor_lazy	-0.114*	-0.138**	-0.131**	-0.093*	-0.134**	-0.131**
	(-2.45)	(-3.04)	(-3.17)	(-2.27)	(-3.22)	(-3.00)
poor_unfair	0.148**	0.154**	0.156**	0.148**	0.155**	0.147**
	(2.79)	(3.03)	(3.05)	(2.88)	(3.06)	(2.84)
N	93619	84335	74767	80398	72235	67693
control_no	0.155+	0.127	0.128	0.137+	0.126	0.098
	(1.80)	(1.52)	(1.57)	(1.71)	(1.56)	(1.24)
control_yes	-0.331***	-0.313***	-0.310***	-0.319***	-0.307***	-0.312***
	(-9.35)	(-8.84)	(-8.61)	(-8.76)	(-8.44)	(-8.33)
N	189674	179751	161243	165991	157317	148660

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

As is the case in OECD countries, individuals who feel autonomous and in control of their life (*control_yes*) have a lower probability for strong preferences for redistribution. However, the opposite is not true. Lacking the feeling of control and autonomy does not robustly increase the support for redistribution. Finally, altruism as captured by *child-unselfish* has the

hypothesized positive effect on preferences for redistribution (Table 20).

Table 20. Focus Variables: altruism

	M1	*M 2*	*M 3*	*M 4*	*M 5*	*M 6*
child_unselfish	0.038*	0.050**	0.047*	0.039*	0.049**	0.045*
	(2.14)	(2.70)	(2.54)	(2.15)	(2.58)	(2.39)
N	192107	180927	161791	167697	157877	148321

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

Turning to the cumulated models, the results for the estimation of cumulated M1 in Table 21 show a robust effect of the social rivalry effect. The social identity effect has some statistical backing but is not significant for all estimations. This however, might be driven by sample attrition, since with the inclusion of *poor-lazy* and *poor-unfair* about two third of the observations are lost. Control over life and autonomy have the expected effect, albeit the effect is weak for individuals lacking the feeling of control. Perceptions about the reasons of poverty (laziness and unfair society) and altruism have no effect whatsoever.

Table 21. Ordered logit estimation cumulate M1

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
equal_income						
age	-0.008**	-0.008**	-0.007**	-0.009+	-0.010+	-0.011*
	(-2.90)	(-2.90)	(-2.79)	(-1.77)	(-1.89)	(-2.09)
age_sqr	0.000***	0.000***	0.000***	0.000*	0.000**	0.000**
	(3.68)	(3.72)	(3.74)	(2.57)	(2.67)	(2.85)
female	0.074***	0.070***	0.059***	0.065***	0.067***	0.071***
	(4.78)	(4.57)	(4.22)	(3.43)	(3.45)	(3.61)
class_upper	-0.364***	-0.362***	-0.329***	-0.401***	-0.394***	-0.385***
	(-8.38)	(-8.28)	(-7.77)	(-5.87)	(-5.80)	(-5.64)
class_middle	-0.166***	-0.166***	-0.156***	-0.202***	-0.198***	-0.187***
	(-6.67)	(-6.88)	(-6.88)	(-5.40)	(-5.28)	(-5.00)
class_lower	0.119***	0.106***	0.087**	0.138***	0.141***	0.139***
	(3.83)	(3.35)	(2.98)	(4.16)	(4.28)	(4.03)
proud_bin1		-0.105**	-0.085*	-0.046	-0.046	-0.046
		(-2.81)	(-2.31)	(-1.03)	(-1.01)	(-0.99)
control_no			0.093	0.162*	0.158*	0.149*
			(1.17)	(2.34)	(2.30)	(2.21)
control_yes			-0.331***	-0.322***	-0.332***	-0.332***
			(-8.90)	(-6.44)	(-6.64)	(-6.77)
poor_lazy				-0.156	-0.166	-0.153
				(-1.63)	(-1.62)	(-1.51)
poor_unfair				0.061	0.049	0.065
				(0.59)	(0.45)	(0.59)
child_unselfish					0.023	0.015
					(1.02)	(0.65)
trust						0.128***
						(4.36)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	141119	136492	132046	46650	45718	44227

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

The estimation results for cumulated M6, with all socioeconomic controls from the basic configuration, by and large corroborate the findings from cumulated M1. The social

rivalry effect is important (*class_upper-class_lower*); the social identity effect has some support. Feelings of individual control (*control_yes, control_no*) significantly affect preferences for redistribution. The view that poverty results from an unfair society (*poor_unfair*) has no effect on support for redistribution. Neither has altruism (*child_unselfish*). The perception that poverty results from laziness (*poor_lazy*) however has a weakly significant, negative effect on the support for redistribution. Finally, income and education have the expected negative effects. The effect of unemployment is not robust, the positive and significant effect of retirement is. It is also noteworthy that the effect of gender is not robust in the sample of non-OECD countries.

Table 22. Ordered logit estimation cumulate M6

	(1)	*(2)*	*(3)*	*(4)*	*(5)*	*(6)*
equal_income						
age	-0.000	-0.001	-0.000	0.001	0.000	-0.000
	(-0.10)	(-0.27)	(-0.08)	(0.16)	(0.01)	(-0.02)
age_sqr	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
	(-0.32)	(-0.10)	(-0.20)	(-0.39)	(-0.25)	(-0.32)
female	0.022	0.019	0.013	-0.001	0.000	0.000
	(1.37)	(1.13)	(0.80)	(-0.06)	(0.01)	(0.00)
edu_prime	-0.071$^+$	-0.069$^+$	-0.045	-0.024	-0.031	-0.043
	(-1.83)	(-1.78)	(-1.31)	(-0.55)	(-0.71)	(-1.00)
edu_somesec	-0.280***	-0.282***	-0.253***	-0.298***	-0.304***	-0.307***
	(-5.88)	(-5.93)	(-5.74)	(-4.67)	(-4.71)	(-4.88)
edu_sec	-0.329***	-0.334***	-0.308***	-0.331***	-0.338***	-0.343***
	(-6.56)	(-6.73)	(-6.78)	(-5.74)	(-5.85)	(-6.31)
edu_uni	-0.459***	-0.468***	-0.437***	-0.480***	-0.477***	-0.497***
	(-7.78)	(-8.15)	(-8.30)	(-6.56)	(-6.40)	(-6.41)
stat_married	0.017	0.023	0.015	0.064	0.065	0.069
	(0.68)	(0.87)	(0.58)	(1.40)	(1.37)	(1.44)
stat_divorced	-0.008	-0.005	-0.007	0.041	0.042	0.057
	(-0.18)	(-0.10)	(-0.17)	(0.50)	(0.50)	(0.69)
stat_widowed	0.133**	0.125**	0.119**	0.193**	0.190**	0.197**
	(3.11)	(2.78)	(2.77)	(2.72)	(2.63)	(2.72)
jobstat_part	0.064$^+$	0.067$^+$	0.070$^+$	-0.003	0.002	-0.016
	(1.77)	(1.88)	(1.93)	(-0.04)	(0.02)	(-0.24)
jobstat_self	-0.023	-0.015	-0.005	-0.104*	-0.101*	-0.097*
	(-0.69)	(-0.46)	(-0.17)	(-2.33)	(-2.25)	(-2.03)
jobstat_retired	0.120**	0.123**	0.119**	0.138*	0.139*	0.151*
	(2.95)	(2.89)	(2.88)	(2.32)	(2.26)	(2.45)
jobstat_wife	0.053$^+$	0.050$^+$	0.044$^+$	0.024	0.028	0.025
	(1.88)	(1.88)	(1.66)	(0.44)	(0.51)	(0.47)
jobstat_student	0.085**	0.086**	0.080*	0.038	0.040	0.044
	(2.66)	(2.61)	(2.37)	(0.60)	(0.61)	(0.65)
jobstat_unemp	0.089***	0.091***	0.089***	0.047	0.042	0.046
	(3.60)	(3.72)	(3.66)	(0.95)	(0.82)	(0.91)
jobstat_other	0.139$^+$	0.134$^+$	0.088	0.027	0.016	0.008
	(1.74)	(1.70)	(1.37)	(0.29)	(0.17)	(0.08)
inc_quint1	0.076	0.076	0.071	0.135$^+$	0.143$^+$	0.141$^+$
	(1.50)	(1.48)	(1.44)	(1.72)	(1.79)	(1.83)
inc_quint2	0.099***	0.102***	0.098***	0.136***	0.137**	0.132**
	(3.76)	(3.86)	(3.83)	(3.34)	(3.23)	(3.25)
inc_quint4	-0.096***	-0.094**	-0.091**	-0.099*	-0.100*	-0.108*
	(-3.44)	(-3.27)	(-3.16)	(-2.22)	(-2.20)	(-2.40)
inc_quint5	-0.246***	-0.246***	-0.230***	-0.168*	-0.163*	-0.157*
	(-4.37)	(-4.28)	(-4.23)	(-2.25)	(-2.16)	(-2.11)

religion_some	-0.026	-0.018	-0.012	0.023	0.021	0.023
	(-1.08)	(-0.75)	(-0.50)	(0.57)	(0.51)	(0.55)
religion_reg	0.012	0.017	0.025	0.059	0.064	0.074$^+$
	(0.43)	(0.63)	(0.98)	(1.53)	(1.62)	(1.95)
class_upper	-0.176***	-0.172***	-0.143***	-0.213**	-0.209**	-0.196**
	(-4.21)	(-4.10)	(-3.56)	(-2.83)	(-2.75)	(-2.69)
class_middle	-0.083***	-0.083***	-0.069***	-0.107***	-0.103***	-0.090**
	(-4.18)	(-4.39)	(-3.85)	(-3.82)	(-3.64)	(-3.21)
class_lower	0.044	0.032	0.017	0.071	0.074	0.072
	(1.49)	(1.05)	(0.55)	(1.51)	(1.54)	(1.40)
proud_bin1		-0.111**	-0.089**	-0.064	-0.065	-0.064
		(-3.26)	(-2.60)	(-1.21)	(-1.19)	(-1.19)
control_no			0.094	0.198**	0.194**	0.189**
			(1.14)	(2.96)	(2.89)	(2.85)
control_yes			-0.320***	-0.309***	-0.321***	-0.318***
			(-8.02)	(-5.42)	(-5.47)	(-5.60)
poor_lazy				-0.179$^+$	-0.195$^+$	-0.191$^+$
				(-1.79)	(-1.78)	(-1.77)
poor_unfair				0.097	0.078	0.090
				(0.81)	(0.59)	(0.69)
child_unselfish					0.037	0.028
					(1.26)	(0.98)
trust						0.168***
						(5.75)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	113310	109556	106760	34680	33849	32850

*t statistics in parentheses; + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001*

7. Conclusion

The present study corroborates earlier findings on determinants of preferences for redistribution using survey data in breadth (across countries) and depth (across time) so far not applied to this question. Accordingly, it is possible to distinguish determinants that are valid either only in OECD countries or only in non-OECD countries or universally in one hundred nations around the world. Also, different hypotheses on determinants of preferences for redistribution are jointly tested to prevent missing variable bias and get an idea about possible substitutive relations between respective potential determinants.

In line with basic economic reasoning and previous empirical research, discussed in section 2, the analysis confirms that higher incomes and higher educational attainments reduce the support for redistribution. This result is highly robust and true on a global scale. A similar robust and universal validity is found for the social rivalry effect and the perception of individual control and autonomy. There is some support for the social identity hypothesis, which states that national identification might decrease the support for redistribution. The social identity hypothesis however is not robust to all variations in specification and sample size.

In the OECD being self-employed is a significant and robust predictor for weaker preferences for redistributions. Also important are subjective beliefs about the reasons for

poverty. While the idea that poverty results from laziness is not robust to all specifications, the belief that poverty results from an unfair society consistently, significantly and robustly increases support for redistribution. The effect of altruism has some weak, but not robust support from the data. While the belief that success is a matter of luck has no effect, the belief that hard work results in success decreases support for redistribution in most, but not in all estimated models. The same is true for religious activity and marriage which are both hypothesised to provide some substitute for social insurance. However, while there are significant results for some specifications, theses are not robust over all steps of the analysis.

Besides the already mentioned commonalities, there are considerable differences for non-OECD countries: Self-employment, marriage and religion show no statistical effect whatsoever. Beliefs about the reasons for poverty have significant effects if individually added to the socioeconomic controls. However, these effects are not robust to the inclusion of additional focus variables. This is also true for our measure of altruism. Individually included, altruism has a significant positive effect on the support for redistribution. There is however no effect if additional focus variables are added. Both, the opinion that success is the result of hard work and that it is a matter of luck, significantly decrease the support for redistribution. The meaning of this is hard to interpret. Finally, in the non-OECD countries a robust positive effect of retirement emerges from the data.

The present study identifies income, education, social class and the subjective perception of autonomy and control over life as universal determinants for preferences about income inequality and implicitly about redistribution. An important next step is to understand how individual preferences translate into redistributive policies.

References

Alesina, A., and G. **Angeletos** (2005), Fairness and Redistribution. American Economic Review, 95(4): 960–980.

Alesina, A. and E. **La Ferrara** (2005), Preferences for redistribution in the land of opportunities. Journal of Public Economics 89 (5-6): 897-931.

Alesina, A. and P. **Giuliano** (2009), Preferences for redistribution. NBER Working Papers 14825, National Bureau of Economic Research, Inc.

Andreoni, J. and L. **Vesterlund** (2001), Which Is The Fair Sex? Gender Differences In Altruism. The Quarterly Journal of Economics 116(1): 293-312.

Bavetta, S., D.M.A. **Patti**, R. **Mudambi** and P. **Navarra** (2007), Autonomy Freedom and Preferences for Redistribution. mimeo.

Becker, G. S. (1983), A theory of competition among pressure groups for political influence. Quarterly Journal of Economics 98 (3): 371-400.

Bénabou, R. and E. A. **Ok** (2001), Social mobility and the demand for redistribution: The POUM hypothesis. The Quarterly Journal of Economics 116 (2): 447-487.

Bénabou, R. and J. **Tirole** (2006), Belief in a Just World and Redistributive Politics. The Quarterly Journal of Economics 121(2): 699-746.

Bertrand, M. and S. **Mullainathan** (2001), Do People Mean What They Say? Implications for Subjective Survey Data. American Economic Review 91(2): 67-72.

Clark, A. and O. **Lelkes** (2005), Deliver us from evil: religion as insurance. PER Working Paper 06/03, European Center for Social Welfare Policy and Research.

Corneo, G. (2001), Inequality and the State: Comparing US and German Preferences, Annales d'Economie et de Statistique, issue 63-64

Corneo, G. (2004), Wieso Umverteilung? Einsichten aus ökonometrischen Umfrageanalysen. in: **Genser**, Bernd (ed.): Finanzpolitik und Umverteilung, Duncker & Humblot, Berlin.

Corneo, G. and H. P. **Grüner** (2000), Social limits to redistribution. American Economic Review (90): 1491-1507.

Corneo, G. and H. P. **Grüner** (2002), Individual preferences for political redistribution. Journal of Public Economics (83): 83-107.

Dahlberg, M., K. **Edmark** and H. **Lundqvist** (2011), Ethnic Diversity and Preferences for Redistribution. CESifo Working Paper no. 3325: 1-34.

Dehejia, R., T. **DeLeire** and E.F.P. **Luttmer** (2007), Insuring consumption and happiness through religious organizations, Journal of Public Economics (91): 259-279

Durante, R. and L. **Putterman** (2007), Preferences For Redistribution and Perception of Fairness: An Experimental Study. Working Papers 2007-13, Brown University.

Fong, C. (2001), Social Preferences, Self-Interest, and the Demand for Redistribution. Journal of Public Economics 82(2): 225-246.

Fong, C. (2006), Prospective mobility, fairness and the demand for redistribution. mimeo.

Fong, C. (2007), Evidence from an Experiment on Charity to Welfare Recipients: Reciprocity, Altruism and the Empathic Responsiveness Hypothesis. Economic Journal 117(522): 1008-1024.

Fong, C., S. **Bowles**, and H. **Gintis** (2005), The Behavioural Motives for Income Redistribution. Australian Economic Review 38(3): 285-197.

Fong, C. M., and E.F.P. **Luttmer** (2009), What Determines Giving to Hurricane Katrina Victims? Experimental Evidence on Racial Group Loyalty. American Economic Journal: Applied Economics 1: 64–87.

Fong, C. M. and E.F.P. **Luttmer** (2011), Do fairness and race matter in generosity? Evidence from a nationally representative charity experiment. Journal of Public Economics (95): 372-394.

Gneezy, U., K.L. **Leonard** and J.A. **List** (2009), Gender Differences in Competition: Evidence From a Matrilineal and a Patriarchal Society. Econometrica 77(5): 1637-1664.

Guillaud, E. (2008), Preferences for Redistribution: a European Comparative Analysis. mimeo.

Guiso, L., P. **Sapienza**, and L. **Zingales** (2006), Does Culture Affect Economic Outcomes? Journal of Economic Perspectives (20): 23–49.

Hess, G. D. (2004), Marriage and Consumption Insurance: What's Love Got to Do with It? Journal of Political Economy (112): 290-318.

Hirschman, A.O. and M. **Rothschild** (1973), The Changing Tolerance for Income Inequality in the Course of Economic Development; with a Mathematical Appendix. The Quarterly Journal of Economics 87(4): 544-566.

Isaksson, A.-S. and A. **Lindskog** (2009), Preferences for redistribution--A country comparison of fairness judgements. Journal of Economic Behavior & Organization 72(3): 884-902.

Jaeger, M.M. (2008), Does left-right orientation have a causal effect on support for redistribution? Causal analysis with cross-sectional data using instrumental variables. International Journal of Public Opinion Research (20): 363–373.

Judge, G., and L. **Schechter**, 2009. Detecting problems in survey data using Benford's law. Journal of Human Resources (44): 1-24.

Keely, L.C. and C.M. **Tan** (2008), Understanding preferences for income redistribution. Journal of Public Economics 92(5-6): 944-961.

Klor, E.F. and M. **Shayo** (2010), Social identity and preferences over redistribution. Journal of Public Economics (94): 269-278.

Krawczyk, M. (2010), A glimpse through the veil of ignorance: Equality of opportunity and support for redistribution. Journal of Public Economics 94(1-2): 131-141.

Lübker, M. (2007), Inequality and the demand for redistribution: Are the assumptions of the New Growth Theory valid? Socio-Economic Review 5(1): 117-148.

Luttmer, E.F.P. (2001), Group loyalty and the taste for redistribution. Journal of Political Economy 109 (3): 500-528.

Luttmer, E.F.P. and M. **Singhal** (2011), Culture, Context, and the Taste for Redistribution. American Economic Journal: Economic Policy 3(1): 157-179.

Meltzer, A.H. and S.F. **Richard** (1981), A Rational Theory of the Size of Government. The Journal of Political Economy 89(5): 914–927.

Moulton, B. (1990), An Illustration of a Pitfall in Estimating the Effects of Aggregate Variables on Micro Unit. Review of Economics and Statistics (72): 334–338.

Murthi, M. and E. T. **Tiongson** (2008), Attitudes to Equality: The 'Socialist Legacy' evisited. mimeo, World Bank.

OECD (2008), Social Expenditure: Aggregated data. OECD Social Expenditure Statistics (database), doi: 10.1787/data-00166-en (Accessed on 14 Februar 2011).

Patti, D.M.A. and P. **Navarra** (2010), Endogenizing Fairness to Explain Preferences for Redistribution. mimeo.

Persson, T. and G. **Tabellini** (1999), The size and scope of government: Comparative politics with rational politicians. European Economic Review 43 (4-6): 699-735.

Piketty, T. (1995), Social mobility and redistributive politics. The Quarterly Journal of Economics 110(3): 551-584.

Ravallion, M. and M. **Lokshin** (2000), Who wants to redistribute?: The tunnel effect in 1990s Russia. Journal of Public Economics 76 (1): 87-104.

Rey-Biel, P., R. **Sheremetab** and N. **Ulerc** (2011), (Bad) Luck or (Lack of) Effort?: Comparing Social Sharing Norms between US and Europe. mimeo.

Romer, T. (1975), Individual Welfare, Majority Voting, and the Properties of a Linear Income Tax. Journal of Public Economics 4: 163-85.

Roberts, K.W.S. (1977), Voting over income tax schedules. Journal of Public Economics 8: 329 – 340

Rueda, D. and J. **Pontusson** (2010), Individual Preferences for Redistribution in Western Europe: Self-Interest, Political Articulation, Altruism, and Identity. Princeton University Working Paper.

Scheve, K. and D. **Stasavage** (2006), Religion and Preferences for Social Insurance. Quarterly Journal of Political Science 1(3): 255-286.

Senik, C., H. **Stichnoth** and K. **Van der Straeten** (2009), Immigration and natives' attitudes towards the welfare state: evidence from the European Social Survey. Social Indicators Research (91): 345-370.

Shayo, M. (2009), A model of social identity with an application to political economy: nation, class, and redistribution. American Political Science Review 103(2): 147–174.

Shelton, C.A. (2007), The size and composition of government expenditure. Journal of Public Economics 91(11-12): 2230-2260.

Sinn, H.-W. (1995), A theory of the welfare state. Scandinavian Journal of Economics 95(4): 495–526.

Sobel, J. (2005), Interdependent preferences and reciprocity. Journal of Economic Literature, 392–436.

Solt, F. (2011), Diversionary Nationalism: Economic Inequality and the Formation of National Pride. The Journal of Politics (73): 821-830.

Stichnoth, H. and K. **Van der Straeten** (forthcoming), Ethnic Diversity, Public Spending, and Individual Support for the Welfare State: A Review of the Empirical Literature, Journal of Economic Surveys.

SWIID (2009), The Standardized World Income Inequality Database. by Frederick Solt: http://hdl.handle.net/1902.1/11992 V3 [Version].

Varian, H. (1980), Redistributive taxation as social insurance. Journal of Public Economics (14): 49–68.

WDI (2010), World Development Indiators, World Bank. (Accessed on 12. January 2011).

Appendix I

Table A1. Year – wave structure of WVS/EVS data.

year	1	2	3	4	5	6	Total
1981	14,827	0	0	0	0	0	14,827
1982	8,008	0	0	0	0	0	8,008
1983	467	0	0	0	0	0	467
1984	1,932	0	0	0	0	0	1,932
1989	0	2,336	0	0	0	0	2,336
1990	0	50,805	0	0	0	0	50,805
1991	0	7,417	0	0	0	0	7,417
1992	0	1,035	0	0	0	0	1,035
1993	0	1,103	0	0	0	0	1,103
1994	0	0	780	0	0	0	780
1995	0	0	16,671	0	0	0	16,671
1996	0	0	33,122	0	0	0	33,122
1997	0	0	14,173	0	0	0	14,173
1998	0	0	12,600	0	0	0	12,600
1999	0	0	1,254	41,367	0	0	42,621
2000	0	0	0	18,025	0	0	18,025
2001	0	0	0	31,573	0	0	31,573
2002	0	0	0	6,300	0	0	6,300
2003	0	0	0	2,544	0	0	2,544
2004	0	0	0	2,325	933	0	3,258
2005	0	0	0	0	18,385	0	18,385
2006	0	0	0	0	32,050	0	32,050
2007	0	0	0	0	24,447	0	24,447
2008	0	0	0	0	7,076	55,878	62,954
2009	0	0	0	0	0	9,988	9,988
Total	25,234	62,696	78,600	102,134	82,891	65,866	417,421

Note: Numbers indicate numbers of observations surveyed in the respective year, full sample.

Table A2. OLS estimation of Cumulate M6 (as shown in Table 13)

	(1)	(2)	(3)	(4)	(5)	(6)
age	0.024**	0.023**	0.022**	0.009	0.009	0.008
	(3.50)	(3.39)	(3.58)	(1.08)	(1.11)	(0.92)
age_sqr	-0.000***	-0.000**	-0.000***	-0.000	-0.000	-0.000
	(-3.82)	(-3.67)	(-3.97)	(-1.03)	(-1.05)	(-0.85)
female	0.230***	0.233***	0.238***	0.289***	0.286***	0.286***
	(5.77)	(5.70)	(5.82)	(6.72)	(6.57)	(6.49)
edu_prime	-0.109*	-0.091	-0.076	-0.097	-0.090	-0.060
	(-2.13)	(-1.52)	(-1.37)	(-0.83)	(-0.78)	(-0.50)
edu_somesec	-0.305*	-0.291*	-0.271*	-0.378*	-0.374*	-0.362*
	(-2.72)	(-2.47)	(-2.42)	(-2.22)	(-2.23)	(-2.10)
edu_sec	-0.377**	-0.365*	-0.345*	-0.544*	-0.545*	-0.539*
	(-2.97)	(-2.68)	(-2.66)	(-2.62)	(-2.65)	(-2.53)
edu_uni	-0.398*	-0.422*	-0.405*	-0.783**	-0.786**	-0.761**
	(-2.53)	(-2.63)	(-2.61)	(-3.39)	(-3.44)	(-3.27)
stat_married	-0.135**	-0.103*	-0.120**	-0.071	-0.067	-0.038
	(-3.16)	(-2.54)	(-3.01)	(-1.36)	(-1.28)	(-0.64)
stat_divorced	-0.114+	-0.101	-0.105+	-0.001	0.007	0.043
	(-1.95)	(-1.61)	(-1.72)	(-0.01)	(0.06)	(0.37)
stat_widowed	-0.063	-0.039	-0.066	-0.023	-0.016	0.009
	(-0.74)	(-0.48)	(-0.87)	(-0.23)	(-0.16)	(0.10)

jobstat_part	0.107	0.122^{+}	0.121^{+}	-0.070	-0.065	-0.083
	(1.64)	(1.95)	(1.90)	(-0.61)	(-0.58)	(-0.75)
jobstat_self	-0.231***	-0.238***	-0.216**	-0.302**	-0.303**	-0.321**
	(-4.07)	(-4.08)	(-3.35)	(-3.30)	(-3.26)	(-3.57)
jobstat_retired	0.147*	0.148*	0.157*	0.181^{+}	0.183^{+}	0.177
	(2.30)	(2.24)	(2.37)	(1.77)	(1.78)	(1.62)
jobstat_wife	-0.077	-0.082	-0.077	-0.196^{+}	-0.194^{+}	-0.207*
	(-0.98)	(-1.04)	(-1.05)	(-2.04)	(-2.04)	(-2.09)
jobstat_student	0.110	0.144*	0.149*	0.059	0.058	0.070
	(1.41)	(2.27)	(2.32)	(0.60)	(0.60)	(0.71)
jobstat_unemp	0.112^{+}	0.092	0.096^{+}	0.078	0.081	0.087
	(1.85)	(1.65)	(1.72)	(0.85)	(0.87)	(0.95)
jobstat_other	-0.094	-0.098	-0.078	-0.060	-0.068	-0.029
	(-0.82)	(-0.94)	(-0.75)	(-0.38)	(-0.44)	(-0.18)
inc_quint1	0.214**	0.234**	0.213*	0.222^{+}	0.222^{+}	0.208
	(3.06)	(3.18)	(2.65)	(1.75)	(1.78)	(1.66)
inc_quint2	0.108*	0.120*	0.113*	0.078	0.080	0.083
	(2.48)	(2.65)	(2.33)	(1.35)	(1.39)	(1.39)
inc_quint4	-0.188***	-0.192***	-0.186***	-0.139	-0.138	-0.152^{+}
	(-3.81)	(-3.80)	(-3.73)	(-1.67)	(-1.65)	(-1.92)
inc_quint5	-0.480***	-0.475***	-0.459***	-0.442***	-0.442***	-0.435***
	(-5.85)	(-5.86)	(-5.80)	(-4.07)	(-4.07)	(-4.09)
religion_some	-0.167***	-0.161***	-0.152***	-0.110^{+}	-0.105^{+}	-0.094
	(-5.12)	(-5.09)	(-4.70)	(-1.92)	(-1.85)	(-1.63)
religion_reg	-0.098*	-0.083^{+}	-0.079	-0.020	-0.016	-0.007
	(-2.16)	(-1.77)	(-1.66)	(-0.27)	(-0.22)	(-0.09)
class_upper	-0.701***	-0.713***	-0.705***	-0.569***	-0.572***	-0.595***
	(-7.08)	(-7.39)	(-7.01)	(-6.15)	(-6.24)	(-6.75)
class_middle	-0.353***	-0.367***	-0.368***	-0.380***	-0.384***	-0.397***
	(-5.37)	(-5.52)	(-5.44)	(-4.81)	(-4.91)	(-5.05)
class_lower	0.126	0.118	0.094	-0.018	-0.022	-0.025
	(1.12)	(1.03)	(0.83)	(-0.12)	(-0.15)	(-0.16)
proud_bin1		-0.188*	-0.182*	-0.039	-0.038	-0.043
		(-2.62)	(-2.32)	(-0.47)	(-0.45)	(-0.51)
control_bin2			0.167**	0.105	0.113	0.111
			(2.91)	(1.35)	(1.43)	(1.47)
control_bin9			-0.197***	-0.235**	-0.237**	-0.231**
			(-4.10)	(-3.28)	(-3.32)	(-3.52)
poor_lazy				-0.090	-0.089	-0.094
				(-1.20)	(-1.19)	(-1.28)
poor_unfair				0.581***	0.576***	0.569***
				(9.91)	(10.12)	(10.66)
child_unselfish					0.153*	0.157**
					(2.64)	(2.98)
trust						0.057
						(1.06)
_cons	6.072***	6.116***	4.950***	6.653***	6.608***	6.528***
	(24.54)	(22.77)	(13.59)	(21.12)	(20.82)	(19.65)
Country Dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year Dummies	Yes	Yes	Yes	Yes	Yes	Yes
N	54807	51349	50143	21688	21672	21160

Notes: OLS regression with equal-income as dependent variable; t statistics in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table A3. Descriptive Statistics – non-OECD Sample

Variable	Obs	Mean	Mean-OECD	Std. Dev.	Min	Max
equal__income	196712	4.904	5.516	3.083	1	10
equal_income_bin2	196712	0.183	0.196	0.387	0	1
equal_income_bin9	196712	0.278	0.158	0.448	0	1

female	216425	0.523	0.529	0.499	0	1
age	215024	40.132	44.287	15.910	15	100
age_sqr	215024	1863.701	2260.769	1450.041	225	10000
edu_no	201334	0.145	0.063	0.352	0	1
edu_prime	201334	0.182	0.243	0.386	0	1
edu_somesec	201334	0.246	0.233	0.431	0	1
edu_sec	201334	0.273	0.300	0.445	0	1
edu_uni	201334	0.155	0.161	0.362	0	1
stat_married	212825	0.631	0.623	0.483	0	1
stat_divorced	212825	0.047	0.068	0.211	0	1
stat_widowed	212825	0.069	0.075	0.254	0	1
stat_single	212825	0.253	0.233	0.435	0	1
jobstat_full	210296	0.350	0.411	0.477	0	1
jobstat_part	210296	0.067	0.076	0.250	0	1
jobstat_self	210296	0.109	0.068	0.311	0	1
jobstat_retired	210296	0.119	0.184	0.324	0	1
jobstat_wife	210296	0.143	0.127	0.350	0	1
jobstat_student	210296	0.080	0.060	0.271	0	1
jobstat_unemp	210296	0.114	0.056	0.318	0	1
jobstat_other	210296	0.020	0.019	0.139	0	1
inc_quint1	192161	0.295	0.197	0.456	0	1
inc_quint2	192161	0.289	0.284	0.453	0	1
inc_quint3	192161	0.237	0.239	0.425	0	1
inc_quint4	192161	0.129	0.176	0.336	0	1
inc_quint5	192161	0.049	0.103	0.215	0	1
religion_never	202663	0.265	0.403	0.441	0	1
religion_some	202663	0.273	0.268	0.446	0	1
religion_reg	202663	0.462	0.329	0.499	0	1
class_upper	156427	0.176	0.189	0.381	0	1
class_middle	156427	0.370	0.355	0.483	0	1
class_working	156427	0.282	0.317	0.450	0	1
class_lower	156427	0.172	0.139	0.377	0	1
proud_bin1	206690	0.595	0.491	0.491	0	1
trust	207038	0.236	0.350	0.425	0	1
child_unselfish	212013	0.290	0.279	0.454	0	1
poor_lazy	99260	0.282	0.276	0.450	0	1
poor_unfair	99260	0.533	0.402	0.499	0	1
control_no	204380	0.080	0.046	0.272	0	1
control_yes	204380	0.269	0.240	0.444	0	1
success_work	111851	0.394	0.278	0.489	0	1
success_luck	111851	0.124	0.098	0.329	0	1
child_present	202719	0.730	0.744	0.444	0	1
politic_left_bin2	138220	0.117	0.076	0.322	0	1
politic_right_bin9	138220	0.156	0.082	0.363	0	1

Appendix II – Variable Coding

Table B1. Variable coding

Question	
Variable	Coding
female	coded 1 of respondent reports sex "female"
age	-in WVS age is provided in variable *x003* -in EVS age is calculated: *age=year of survey – year born*
Education (WVS: x025): "What is the highest educational level that you have attained?"	
edu_no	coded 1 if respondent states: (1) 'Inadequately completed elementary education'
edu_prime	coded 1 if respondent states: (2) 'Completed (compulsory) elementary education' or (3) 'Incomplete secondary school: technical/vocational type/(Compulsory) elementary education and basic vocational qualification'
edu_somesec	coded 1 if respondent states: (4) 'Complete secondary school: technical/vocational type/Secondary, intermediate vocational qualification' or (5) 'Incomplete secondary: university-preparatory type/Secondary, intermediate general qualification'
edu_sec	coded 1 if respondent states: (6) 'Complete secondary: university-preparatory type/Full secondary, maturity level certificate' or (7) 'Some university without degree/Higher education - lower-level tertiary certificate'
edu_uni	coded 1 if respondent states: (8) 'University with degree/Higher education - upper-level tertiary certificate'
Education (EVS: v336): "What is the highest level you have completed in your education?"	
edu_no	coded 1 if respondent states: (0) 'Pre-primary education or none education'
edu_prime	coded 1 if respondent states: (1) 'Primary education or first stage of basic education'
edu_somesec	coded 1 if respondent states: (2) 'Lower secondary or second stage of basic education'
edu_sec	coded 1 if respondent states: (3) ' (Upper) secondary education' or (4) 'Post-secondary non-tertiary education'
edu_uni	coded 1 if respondent states: (5) 'First stage of tertiary education' or (6) 'Second stage of tertiary education'
Income (WVS: x047): "Here is a scale of incomes. We would like to know in what group your household is, counting all wages, salaries, pensions and other incomes that come in."	
inc_quint1	coded 1 if respondent states: (1) "Lower step" or (2) "second step"
inc_quint2	coded 1 if respondent states: (3) "Third step" or (4) "Fourth step"
inc_quint3	coded 1 if respondent states: (5) "Fifth step" or (6) "Sixth step"
inc_quint4	coded 1 if respondent states: (7) "Seventh step" or (8) "Eighth step"
inc_quint5	coded 1 if respondent states: (9) "Ninth step" or (10) "Tenth step"
Income (EVS: v353): "Here is a list of incomes and we would like to know what group your household is, counting all wages, salaries, pensions and other incomes that come in."	
inc_quint1	coded 1 if respondent states: (1) "Lower step" or (2) "second step" or (3) "Third step"
inc_quint2	coded 1 if respondent states: (4) " Fourth step" or (5) "Fifth step"
inc_quint3	coded 1 if respondent states: (6) " Sixth step" or (7) "Seventh step"
inc_quint4	coded 1 if respondent states: (8) or (9)
inc_quint5	coded 1 if respondent states: (10) or (11) or (12)
Marriage status (WVS: x007 EVS: v313) "Are you currently…"	
stat_married	coded 1 if respondent states: married or registered partnership
stat_single	coded 1 if respondent states: 'Single/Never married' or never registered

	partnership
stat_divorced	coded 1 if respondent states: separated or divorced
stat_widowed	coded 1 if respondent states: widowed

Labour market status (WVS: x028): Are you employed now or not? IF YES: About how many hours a week? If more than one job: only for the main job

jobstat_full	coded 1 if respondent states: (1) 'Full time'
jobstat_part	coded 1 if respondent states: (2) 'Part time'
jobstat_self	coded 1 if respondent states: (3) 'Self employed'
jobstat_retired	coded 1 if respondent states: (4) 'Retired'
jobstat_wife	coded 1 if respondent states: (5) 'Housewife'
jobstat_student	coded 1 if respondent states: (6) 'Students'
jobstat_unemp	coded 1 if respondent states: (7) 'Unemployed'
jobstat_other	coded 1 if respondent states: (8) 'Other'

Labour market status (EVS: v337): Are you yourself gainfully employed at the moment or not? Please select from the card the employment status that applies to you

jobstat_full	coded 1 if respondent states: (1) '30 hours a week or more'
jobstat_part	coded 1 if respondent states: (2) 'Less than 30 hours a week'
jobstat_self	coded 1 if respondent states: (3) 'Self employed'
jobstat_retired	coded 1 if respondent states: (5) 'Retired/pensioned'
jobstat_wife	coded 1 if respondent states: (6) 'Housewife not otherwise employed'
jobstat_student	coded 1 if respondent states: (7) 'Student'
jobstat_unemp	coded 1 if respondent states: (8) 'Unemployed'
jobstat_other	coded 1 if respondent states: (9) 'Disabled' or 10 'Other'

Religion (WVS: f028 EVS: v109): Apart from weddings, funerals and christenings, about how often do you attend religious services these days?

religion_never	coded 1 if respondent states: 'Less often' or 'Never, practically never'
religion_some	coded 1 if respondent states: 'Only on special holy days/Christmas/Easter days' or 'Other specific holy days' or 'Once a year'
religion_reg	coded 1 if respondent states: 'More than once a week' or 'Once a week' or 'Once a month'

Fairness of the allocation mechanism (only WVS: e040): How would you place your views on this scale? 1 means you agree completely with the statement on the left; (10) means you agree completely with the statement on the right; and if your views fall somewhere in between, you can chose any number in between.
(1) 'In the long run, hard work usually brings a better life' , …
(10) 'Hard work doesn't generally bring success - it's more a matter of luck and connections'

hard_work	numeric variable coded 1 to 10 as e040
success_work	coded 1 if respondent states: (1) 'In the long run, hard work usually brings a better life' or (2)
success_luck	coded 1 if respondent states: (10) 'Hard work doesn't generally bring success - it's more a matter of luck and connections' or (9)

Social Class (only WVS: x045): People sometimes describe themselves as belonging to the working class, the middle class, or the upper or lower class. Would you describe yourself as belonging to the:
(1) 'Upper class' (2) 'Upper middle class' (3) 'Lower middle class' (4) 'Working class' (5) 'Lower class'
Social Class (only WVS: x046): Socio-economic status of respondent.
(1) 'AB Upper/Upper middle class', (2) 'C1 Middle, no manual workers', (3) 'C2 Middle, manual workers', (4) 'DE Manual workers/Unskilled, unemployed'

class_upper	coded 1 if respondent states: (1) 'Upper class' or (2) 'Upper middle class'
class_middle	coded 1 if respondent states: (3) 'Lower middle class' or (2) 'C1 Middle, no manual workers'
class_working	coded 1 if respondent states: (4) 'Working class' or (3) 'C2 Middle, manual

	workers'
class_lower	coded 1 if respondent states: (5) 'Lower class' or (4) 'DE Manual workers / Unskilled, unemployed'

Social Identity (WVS: g006): How proud are you to be [Nationality]?	
Social Identity (EVS: v256): How proud are you to be a [COUNTRY] citizen?	
proud_bin1	coded 1 if respondent states: (1) 'Very proud'

Moral worth of the poor (WVS: e131): Why, in your opinion, are there people in this country who live in need? Here are two opinions: Which comes closest to your view? (1) 'Poor because of laziness and lack of will power', (2) 'Poor because of an unfair society', (3) 'Other answer'

poor_lazy	coded 1 if respondent states: (1) 'Poor because of laziness and lack of will power'
poor_unfair	coded 1 if respondent states: (2) 'Poor because of an unfair society'

Moral worth of poor (WVS: e190 EVS: v67): Why are there people in this country who live in need? Here are four possible reasons. Which one reason do you consider to be most important?
(1) 'Unlucky', (2) 'Laziness or lack of willpower', (3) 'Injustice in society', (4) 'Part modern progress', (5) 'None of these'

poor_lazy	coded 1 if respondent states: (2) 'Laziness or lack of willpower'
poor_unfair	coded 1 if respondent states: (3) 'Injustice in society'

Subjective freedom and autonomy (WVS: a173; EVS: v65): Some people feel they have completely free choice and control over their lives, while other people feel that what they do has no real effect on what happens to them. Please use this scale where 1 means "none at all" and 10 means "a great deal" to indicate how much freedom of choice and control you feel you have over the way your life turns out.

control	coded like original variable
control_no	coded 1 if respondent states: (1) "none at all" or (2)
control_yes	coded 1 if respondent states: (10) "a great deal" or non

Altruism (WVS: a041 EVS: v179): Here is a list of qualities that children can be encouraged to learn at home. Which, if any, do you consider to be especially important? Please choose up to five.

child_unselfish	coded 1 if respondent states: unselfishness

Trust (WVS: a165 EVS: v62): Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?

trust	coded 1 if respondent states: (1) 'Most people can be trusted'

Child present (WVS: x011): Have you had any children? If yes, how many?	
Child present (EVS: v321): How many children do you have?	
child_present	coded 1 if respondent states: one or more

Political ideology (WVS: e033 EVS: v193): In political matters, people talk of "the left" and "the right." How would you place your views on this scale, generally speaking? (1) 'Left' – (10) 'Right'

politic_left_bin2	coded 1 if respondent states: (1) 'Left' or (2)
politic_right_bin9	coded 1 if respondent states: (10) 'Right' or (9)