

Deviations from Pocketbook Voting in Income Redistribution: Evidence and Implications*

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Abstract

This paper empirically investigates to what extent individuals vote with their pocketbooks in income redistribution. Survey data on preferences for redistribution show significant deviations from pocketbook voting in the poorest and the richest income groups. Differences in income status, education status, and other factors related to perceived social mobility cannot fully explain cross-country variations in the preference for more income equality. Large and statistically significant deviations remain across countries. More importantly, there is no evidence that the median preference for more income equality is significantly more intense where incomes are more unequal or where the regimes are more democratic. These results cast doubt on redistributive pressure as the main channel through which inequality affects growth under majority rule.

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1 Introduction

This paper investigates to what extent individuals vote with their pocketbooks in the context of income redistribution. The assumption of pocketbook voting underlies most political economy models of inequality and growth. The conclusions of these models depend sensitively on this assumption. Thus, it is important for this assumption to work consistently across countries, otherwise the results are suspect. To investigate how well this assumption works across countries, I propose two tests based on survey responses to a specific question related to the preference for more income equality. The results suggest that deviations from pocketbook voting may cause these models to yield inaccurate predictions, especially in cross-country comparison.

The first test is at the individual level. Since the poor gain and the rich lose if incomes were made more equal, if individuals vote with their pocketbooks, then the poor would support greater income equality, while the rich would oppose them. Thus, I can determine whether pocketbook voting is an adequate approximation at the individual level by examining whether an individual's income status is an important determinant of his preference for more income equality. While income status is statistically significant at the conventional levels, it turns out that large and statistically significant deviations from pocketbook voting remain.

Second, since the median income is further below the average income in more unequal societies, the median voters in these societies have more to gain from government policies which make incomes more equal. Thus, if pocketbook voting is a good first-order approximation at the aggregate level, then the median preference for more income equality should be more intense where incomes are more unequal. Thus, an examination of how accurate income inequality predicts the median preference for more income equality yields a test of the relevance of pocketbook voting for the political economy. The result from this test bears directly on the Median Voter Theorem. It turns out that the cross-country correlation between inequality and the median preference is quantitatively small and highly statistically insignificant.

Nevertheless, the "prospect of upward mobility" (POUM) hypothesis suggests that people may only

appear to vote against their pocketbooks; self-interested voters with below-average incomes may oppose lasting redistribution because they expect themselves to move up in the income distribution and therefore be hurt by such redistribution in the long run. Specifically, Bénabou and Ok (2001) show that such actions may be consistent with rational expectations if the mobility process is sufficiently concave and if voters have sufficiently low degrees of risk aversion.

While the POUM hypothesis is clearly relevant, there are two reasons why the POUM hypothesis cannot adequately explain the deviations identified above. First, there are significant deviations at the tails of the income distribution, where the prospect of mobility is very limited. Second, these deviations remain even after controlling for educational attainment and other factors related to perceived mobility. Education is closely linked to permanent income, especially when mobility is perceived to be due to individual efforts. While statistically significant, differences in income status, education status, and perceived social mobility cannot fully explain cross-country variations in the preference for more income equality. It turns out that the unexplained variation is large enough to break down the reduced-form relationship between income inequality and the median preference for more equality that is predicted by the Median Voter Theorem.

To illustrate the importance of the assumption of pocketbook voting in the political economy models, consider, for example, Meltzer and Richard (1981) and the models of inequality and growth by Persson and Tabellini (1994) and Alesina and Rodrik (1994). These models assume that individuals vote with their pocketbooks. Under this assumption, they predict that the median preference for redistribution should be greater in more unequal societies. Therefore, the Median Voter Theorem implies that these societies would redistribute more under the majority rule. Furthermore, since democratization typically involves enfranchisement of the poor and the disadvantaged, democratization tends to move the position of the median voter to the lower tail of the income distribution, resulting in a larger gap between the mean income and the income of the median voter. Thus, if people do vote with their pocketbooks, the pressure to redistribute would tend to be greater under the democratic regimes (see, for example, Meltzer and Richard (1981) and Acemoglu and

Robinson (2001)). This paper tests these predictions empirically.

The evidence provides little support for these mechanisms. When there are deviations from pocketbook voting, the monotonic relationship between one's income position and his preference for redistribution breaks down. Consequently, the median *income* voter is not the median voter on issues related to redistribution. Instead, I directly identify the median preference for more income equality for each country under different voter turnout assumptions. There is no evidence that the median preference is related to existing inequality. There is also no evidence that the median preference is more pronounced in democracies. These results suggest that deviations from pocketbook voting may be why Perotti (1996) finds virtually no correlation between government redistribution and inequality in democracies, leading to the breakdown of the particular mechanism linking inequality to growth posited by Persson and Tabellini (1994) and Alesina and Rodrik (1994).

1.1 Related Empirical Literature

The empirical analysis is related to Alesina and La Ferrara (2001), Fong (2001), Luttmer (2001), Alesina, Glaeser, and Sacerdote (2001), and Corneo and Grüner (2002). Alesina and La Ferrara (2001) and Fong (2001) examine individual preference for redistribution, while Luttmer (2001) investigates the preference for welfare spending, all within the United States. On the other hand, Alesina, Glaeser, and Sacerdote (2001) are concerned with different redistributive preferences between the United States and Europe, and Corneo and Grüner (2002) with different preferences between socialist and non-socialist countries. All these studies conclude that factors other than current income are important in determining individual preference for redistribution.¹ Fong (2001), in particular, stresses that financial self-interest cannot adequately explain

¹Alesina and La Ferrara (2001) argue that since social mobility makes some of today's poor into tomorrow's rich, if redistribution policies do not change often, then greater prospect for social mobility should weaken the support for redistribution for forward looking individuals, especially when the mobility process is perceived to be fair.

Alesina, Glaeser, and Sacerdote (2001) emphasize racial animosity and political institutions as the main determinants of less redistribution in the United States compared to Europe. Corneo and Grüner (2002) find that the desire to act in accordance with public values and the desire to obtain high social standing are at least as important as an individual's income position in explaining the observed international differences in the preference for redistribution. They show that fixed country effects are what explain

the demand for redistribution in the United States – social preferences and beliefs on the causes of poverty are quantitatively important.

Nevertheless, neither Alesina and La Ferrara (2001), Corneo and Grüner (2002), nor Luttmer (2001) examine the implications of these deviations on making inferences using the Median Voter Theorem. This paper attempts to fill this gap. Fong (2001) argues that her results cast doubt on the prediction of the Median Voter Theorem but the paper did not pursue the idea further. Although Alesina, Glaeser, and Sacerdote (2001) concur that the Median Voter Theorem cannot explain why European governments redistribute more than the United States, their conclusion is based on a different argument – one that is based on social mobility of the median *income* voter and the assumption of pocketbook voting. Specifically, they argue that there are not enough differences between the United States and Europe in mobility for the middle income classes to explain their different tendencies to redistribute. In contrast, this paper emphasizes that the median *income* voter is not the median voter on issues related to redistribution because there are significant deviations from pocketbook voting. More importantly, the evidence suggests that the Median Voter Theorem may fail for a more fundamental reason: because of these deviations, pocketbook voting may not predict the preference for redistribution accurately across countries.

The rest of the paper is organized as follows. Section 2 describes the survey data. Section 3 contains the empirical analysis. Section 4 concludes.

most of the cross-country differences in attitudes towards redistribution. Furthermore, they claim that the former socialist countries tend to have stronger preference for income equality.

Finally, Luttmer (2001) highlights the importance of interpersonal preferences – preferences that depend on the characteristics of others – in determining American’s attitudes toward welfare spending. Specifically, he finds that individuals tend to decrease their support for welfare as the welfare reciprocity rate in their community rises. He also finds a racial group loyalty effect, i.e., individuals increase their support for welfare spending as the share of local recipients from their own racial group rises. The racial group loyalty effect is consistent with the racial animosity argument emphasized by Alesina, Glaeser, and Sacerdote (2001). He argues that these effects are important – over 30 percent of the variation in the levels of welfare benefits across the US states can be explained by applying his estimates of interpersonal preferences to differences in demographic composition of different states. However, it is not clear how one should interpret his quantitative estimates since he applies ordinary least squares to an ordinal dependent variable.

2 The Data on Individual Preference for Income Equality

2.1 General Social Survey

The *General Social Survey* (GSS) is an almost annual “omnibus” personal interview survey of U.S. households conducted by the National Opinion Research Center. I use the response to a specific question regarding whether the government should reduce income differences to measure the preference for income equality.

This question is worded as follows:

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. Here is a card with a scale from 1 to 7. Think of a score of 1 as meaning that the government ought to reduce the income differences between rich and poor, and a score of 7 meaning that the government should not concern itself with reducing income differences. What score between 1 and 7 comes closest to the way you feel?

I denote the preference for income equality by *EQUAL*, so that higher scores indicate greater preference for income equality.² Following Alesina and La Ferrara (2001), I define a dummy variable *GOVRED* to indicate support for government redistribution.³

2.2 World Values Survey

The *World Values Survey 1990–1993* is a survey on human values on a wide-ranging issues. It covers about forty countries, including most OECD countries. The principal investigator is typically the Gallup organization, the local university, or the local research institute.

²Thus, if the response to the previous question is denoted by *EQWLTH*, then $EQUAL = 8 - EQWLTH$. The *General Social Survey* also contains another question on income equality in selected years. It is included and treated as the same as the previous question. The alternative question is worded as follows:

Some people think that the income differences between the rich and the poor ought to be reduced, 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. Here is a card with a scale from 1 to 7. Think of a score of 1 as meaning that the government ought to reduce the income differences between rich and poor, and a score of 7 meaning that the government should not concern itself with reducing income differences. What score between 1 and 7 comes closest to the way you feel?

³*GOVRED* equals one if $5 \leq EQUAL \leq 7$.

To survey the preference for income equality, the respondents are asked to indicate his preference by an integer on a scale of 1 to 10, where a score of 1 means that “incomes should be made more equal,” and a score of 10 means that “there should be greater incentives for individual effort.” I denote the preference for more income equality by *EQUAL*, so that higher scores indicate greater preference for more equality.⁴ I also create a dummy variable *EQUALDUM* to indicate the preference for more equality.⁵

There are two questions related to perceived social mobility. First, the respondents are asked to indicate his preference by an integer on a scale of 1 to 10, where a score of 1 means that “in the long run, hard work usually brings a better life,” and a score of 10 means that “hard work doesn’t generally bring success – it’s more a matter of luck and connections.” I denote the first variable for perceived social mobility by *Hard Work Pays*, so that higher scores indicate stronger belief that hard work does pay off.⁶ In the second question, the respondent is asked the following:

Some people feel they have completely free choice and control over their lives, and other people feel that what they do has no real effect on what happens to them. Please use the scale (any integer from 1 to 10) to indicate how much freedom of choice and control you feel you have over the way your life turns out, where a score of 1 indicates “none at all,” and a score of 10 means “a great deal.”

I denote the second variable for perceived social mobility by *Control over Life*; a higher score indicates stronger belief that one has control over how his life turns out. People are likely to perceive greater social mobility based on private effort if they think that hard work (instead of luck and connections) usually brings success and that they have a lot of control over how their lives turn out (instead of generally feeling helpless). Thus, they are less likely to resort to government intervention. Moreover, I will use a person’s educational attainment to control for his prospect of upward mobility.

⁴Thus, if the response to the previous question is denoted by *V250*, then $EQUAL = 11 - V250$.

⁵*EQUALDUM* equals one if $6 \leq EQUAL \leq 10$, and zero otherwise.

⁶Thus, if the response to the previous question is denoted by *V255*, then $Hard\ Work\ Pays = 11 - V255$. Corneo and Grüner (2002) also use a similar variable.

3 Empirical Analysis

I begin by using the survey data to characterize deviations from pocketbook voting. I then investigate how much of the cross-country variations in the preference for more income equality can be explained by income status and perceived social mobility. It turns out that large and statistically significant country effects remain after taking into account factors such as income status, educational attainment, perceived social mobility, and other personal characteristics. More importantly, I show that this finding has serious repercussion on making inferences using the Median Voter Theorem – cross-country correlation between existing inequality and the median preference for more income equality is quantitatively negligible and statistically insignificant.

3.1 Characterizing Deviations from Pocketbook Voting

Using data from the *General Social Survey*, Table 1 shows the distribution of the preference for redistribution in the United States for the year 1978 by detailed income classes. The average income in 1978 is \$9,451. Clearly, one's position in the income distribution cannot fully explain one's preference for redistribution. Moreover, substantial deviations from pocketbook voting can be found in the tails of the income distribution. About one third of the sample with income less than \$1,000 is not inclined to support government reduction of income differences; they have a preference range of 1 – 3. Similarly, about one third of the sample with income greater than \$25,000 is inclined to support government redistribution to reduce income inequality; they have a preference range of 4 – 7.

Such deviations at the tails of the income distribution cannot be attributed to uncertainty about one's position in the income distribution because, given that the true average income is \$9,451, attributing these deviations to uncertainty would imply an unreasonably large error in predicting the average income. These deviations also rule out social mobility as the explanation because social mobility is a poor substitute for government redistribution for people in the tails of the income distribution: Alesina and La Ferrara (2001)

show that social mobility is extremely low for these people. For example, their calculation indicates that, over a five year period, those in the lowest income decile have about 92 percent chance of staying below the median income. Similarly, those in the highest income decile have about 94 percent chance of remaining above the median income. In other words, there appears to be a lot of inertia in the tails of the income distribution.⁷

To show that deviations from pocketbook voting are in fact quite prevalent, Table 2 pools the data during 1974–1994 and re-classifies the observations according to whether the respondent would tend to benefit from government redistribution, i.e., whether the respondent’s income falls below or above the average income.⁸ Significant deviations remain in the pooled data.

Figure 1 plots the proportion of respondents with *GOVRED* equal to one by detailed income classes in the year 1978. Specifically, assuming static and linear redistribution, simplistic pocketbook voting implies that everybody with below average income will prefer government redistribution, while anyone with above average income will be against government redistribution. Not surprisingly, in contrast to this prediction, the pattern in Figure 1 is much smoother.⁹

Figure 2 depicts the distribution of preference for more income equality across the original income categories for each country in the *World Values Survey*.¹⁰ Again, significant deviations remain at the tails of the income distribution. These findings are hard to reconcile with either simplistic pocketbook voting or the POUM hypothesis. A few caveats concerning the income variable should be made. First, the income variable refers to household income, rather than personal income of the respondent. So I control for household size in

⁷Fong (2001) reports similar deviations using the 1998 Gallup Poll Social Audit Survey in the United States.

⁸Pooling the data while keeping the original income categories would confound the pattern of pocketbook voting by introducing substantial measurement errors into income status because of the way GSS records the respondent’s income – only his income category (as defined in Table 1) but not his income level, is available. More importantly, this self-classification must be based on his nominal, not real, income. Average income has changed over time. For example, average income increased from \$9,451 in 1978 to \$18,049 in current dollars in just 10 years. Thus, these nominal income categories recorded in the GSS would imply different income status of the respondents over time.

⁹Allowing for proportional taxation or convex deadweight loss, pocketbook voting implies that the support for redistribution falls continuously with rising income. In contrast, both Table 1 and Figure 1 show non-monotonic preferences over some income ranges.

¹⁰Interestingly, the preference for income equality does not increase monotonically with income level in some countries.

the regression that follows. Second, the income variable is categorical. It ranges from one to ten, from low to high, for most countries. However, these income categories do not seem to correspond to income deciles.¹¹ Thus, to make the income variable more comparable when cross-country comparison is called for, in what follows, the sample for each country is sorted and re-classified into three income groups – lower, middle, and upper income groups – such that each group contains approximately one third of the sample.

The evidence thus far suggests that there are important deviations from pocketbook voting at the individual level in many countries. A natural question is whether these individual-level deviations may somehow cancel out and become unimportant when the data are aggregated so that pocketbook voting still predicts well in cross-country comparison. This is the question I turn to next.

3.2 Logistic Regression of International Preference for More Income Equality

Table 3 presents the logistic regression of international preference for more income equality, using data from the *World Values Survey*. The dependent variable is *EQUALDUM*, which equals one for preference for more income equality, and zero for preference for greater private incentive. The independent variables include two income variables, i.e., the lower income dummy and the upper income dummy. The estimates show that population in the lower one third of the income distribution tend to support more equality, while those in the upper one third tend to oppose it. Both effects are statistically significant.

Not surprisingly, women feel more strongly about income equality than men, since women have historically been discriminated against. Education status has a statistically significant negative effect on preference for more income equality, even after controlling for income status. *Educ12* is a dummy which equals one if the respondent finishes education between thirteen and eighteen years of age. Similarly, *Educ14* equals one if the respondent completes education at nineteen years of age or above. Other personal characteristics – age, marital status, and the number of children in the household – have no significant effect on preferences.

¹¹See the survey's codebook for descriptions of the income categories for individual countries.

Employment status also enters significantly. Alesina and La Ferrara (2001) argue that the self-employed tend to have lower risk aversion and this leads them to place lower value on the social insurance provided by inequality reduction. The self-employed do tend to be less favorable towards redistribution. On the other hand, the unemployed and the retired tend to prefer more income equality, although the latter is not statistically significant. Consistent with the findings in Alesina and Ferrara (2001), Corneo and Grüner (2002), and Fong (2001), perceived social mobility due to individual's effort has a significant effect as well. People who feel that hardwork usually brings a better life, and those who feel greater control in the way life turns out tend to prefer less redistribution.

Finally, almost all the country specific constants are still statistically significant, even after controlling for all the above determinants. The benchmark country is the United States.¹² It turns out that relative to the United States, six of the former socialist economies – Poland, Czech Republic, Estonia, China, East Germany, and Lithuania – have significantly less preference for more income equality, three – Slovenia, Hungary, Romania – have significantly greater preference for more income equality, and three – Russia, Latvia, and Bulgaria – have preferences which are not statistically different.

Nevertheless, the crucial question is not whether the relationships between income, inequality, and the preference for more income equality are *statistically significant*, but whether they are *quantitatively large*, so that the assumption of pocketbook voting provides a good first-order approximation. In other words, the crucial question is whether income is a sufficiently important determinant of the preference for more equality, not whether income is a statistically significant determinant.

To measure the relative importance of each determinant in explaining the observed international differences in preference for more income equality, we calculate $\hat{\beta}_i$, the marginal effect of a change in the i^{th}

¹²The country-effect in favor of more income equality is the strongest in Portugal, followed by Spain, Turkey, France, South Korea, South Africa, Austria, India, Slovenia, Chile, Hungary, Japan, Romania, Norway, Mexico, Belgium, West Germany, Brazil, Denmark, Finland, Italy, Sweden, the Netherlands, Ireland, Argentina, Bulgaria, Canada, the United States, Britain, Latvia, Russia, Nigeria, Lithuania, East Germany, China, Estonia, Czech Republic, and Poland.

regressor on the probability that *EQUALDUM* equals one.¹³ Table 4 reports the results. While the income variables and the education variables have marginal effects that are quite large, it turns out that the country dummies also show large marginal effects in general. Thus, this confirms the findings in Corneo and Grüner (2002) for a larger cross-section of countries.

3.3 Median Preference for Income Equality and Existing Inequality

I have shown that people do indeed deviate from pocketbook voting. Moreover, the large country effects found in the previous section suggest that countries do differ significantly in their degree of deviations from pocketbook voting. What remains unclear is whether these deviations are economically significant, i.e., whether they are large enough to render the predictions of the Median Voter Theorem inaccurate. Assuming that the Median Voter Theorem still applies, the median *income* voter would no longer hold the median preference for income equality because of these deviations. To investigate whether existing inequality is still an important determinant of the median preference for *more* income equality at the aggregate level, the median preference is directly identified from the distribution of the variable *EQUAL* for each country. It is worth emphasizing that because the median preference is identified directly, it does not depend on the measurement of income.

Figure 3 plots the median preference for more income equality versus the Gini coefficient.¹⁴ There appears to be a weak correlation between the median preference and the Gini coefficient; they have a pairwise correlation coefficient of 0.30, which is not statistically significant at the five percent level. South Africa (denoted as "ZAF") appears to be an outlier. Excluding South Africa, the pairwise correlation coefficient becomes 0.12, which is again not statistically significant at conventional levels.

¹³The marginal effect is calculated as the product of the coefficient estimate on the i^{th} determinant in the logistic regression and the density function of the error term evaluated at the means of the entire sample, with all country specific constants set to zero. Mathematically, $\hat{\beta}_i = \Lambda(\beta' \bar{x})(1 - \Lambda(\beta' \bar{x}))\beta_i$, where $\Lambda(\cdot)$ is the logistic cumulative distribution function, and β_i the coefficient estimate of determinant i .

¹⁴Recall that the variable *EQUAL* is defined such that a score in the range 6 – 10 indicates preference for more income equality over greater private incentives, whereas a score in the range 1 – 5 means preference for greater private incentives over more income equality. Thus a higher score indicates a stronger preference for more income equality.

To determine whether existing inequality has any significant correlation with the intensity of preference for more equality, I estimate an ordered logit model using the median preference for more income equality as the dependent variable.¹⁵ The right-hand-side variables include the usual controls, i.e., the logarithm of income per worker and average years of schooling. In addition, I include the growth rate of GDP per worker during the past five years to see if recent growth performance intensifies the pressure for redistribution. A democracy dummy is included to investigate whether redistributive pressure is greater under democratic regimes. The democracy dummy is an indicator variable for the most democratic countries. Specifically, it equals one for countries that receive a score of one for political rights in Freedom House's *Freedom in the World Survey*. Finally, the Gini coefficient is included to measure existing inequality level.¹⁶ All the variables are measured in 1990.¹⁷

Since almost all of the variables in the regression are endogenous, the coefficients only indicate correlations – not causations. Nevertheless, absent drastic reform or policy changes, one may argue that existing inequality and political institutions are largely predetermined in the short run. The results are reported in column 1 in Table 5. The results show that richer countries tend to have a higher median preference for more income equality, while countries with higher educational attainment tend to have a lower median preference. Both effects are statistically significant at the five percent level. Recent economic growth is associated with stronger preference for income equality, but the effect is not statistically significant. There is no evidence that redistributive pressure is stronger under democratic regimes. Finally, existing inequality is virtually unrelated to the median preference.

Since voter turnout at elections is typically rather low, the relevant median voter may not be the median

¹⁵In an ordered logit regression, the probability of observing the preference indicator equals j for the i^{th} observation is $Pr(EQUAL_i = j) = Pr(k_{j-1} < \beta'x_i + u_i \leq k_j)$, where where $EQUAL_i$ is the preference indicator for the i^{th} observation, x_i is a column vector of the determinants of preferences, and u_i is assumed to be logistically distributed. Higher preference indicator j indicates stronger preference.

¹⁶The data for income per worker come from *Penn World Table 5.6*. Education data come from Barro and Lee (1993). Data on inequality come from Deiniger and Squire (1996).

¹⁷No separate control for the former Socialist countries is included, as I believe that any systematic differences between former Socialist and non-Socialist countries should have been captured by the controls already included.

agent from the entire population, but the median agent among those who actually show up to vote. If people do not randomly decide whether to vote in an election, then the median voter may be systematically different from the median agent in the population. Since the probability of being the pivotal voter in any election is trivially small, it is likely that noneconomic factors, such as values and identity, have important influences on the propensity to vote. I assume that people do differ in their propensity to vote and ask if the median preference among the voters is different from the median preference of the general population.

Unfortunately, the *World Values Survey* does not ask if the respondent voted in past elections. However, it does ask the respondent how interested he is in politics. It is reasonable to assume that those who either answer they “do not know” or are “not at all interested” are unlikely to vote in an election. Thus our first definition of voters consists of those who say that they are either “very interested,” “somewhat interested,” or “not very interested” in politics. Our second definition drops the group that are “not very interested” in politics as well. The resulting median voter is identified for each case and their preferences are reported in Table 6.

It turns out that the median preference of the voters is not significantly different from the median preference of the general population. The ordered logit model is re-estimated using the median preference under alternative definitions of the voters. The results are reported in columns (2) and (3) in Table 5. Evidently, the qualitative results from before remain unchanged, although only average schooling remains statistically significant at the conventional levels.

Since South Africa appears to be an outlier in Figure 3, it is dropped from the sample as a robustness check. The results are reported in Panel B of Table 5. Recent economic growth is now statistically significant. The Gini coefficient still has virtually no effect on the median preference. In conclusion, both pairwise and partial correlations between existing inequality and the median preference for income equality are negligible at the aggregate level. Since higher existing inequality is not associated with stronger preference for more income equality, the evidence provides little support for redistributive pressure as the main

channels through which inequality hurts growth, as proposed in the models by Persson and Tabellini (1994) and Alesina and Rodrik (1994).

4 Conclusions

This paper argues that the assumption of pocketbook voting leads to poor *first-order* approximation in cross-country comparison of redistributive preferences. A few stylized facts emerge from the analysis of the preference for redistribution in the *General Social Survey* and the *World Values Survey*.

First, there are significant deviations from pocketbook voting. In particular, even among those who will undoubtedly gain from a more equal income distribution, a significant number of them do not prefer government redistribution; similarly, even among those who will undoubtedly lose from a more equal income distribution, a significant number of them tend to favor some government redistribution.

Second, a large fraction of the cross-country differences in the preference for more income equality cannot be explained by differences in income status, educational status, and social mobility. Large country-specific effects remain.

Third, there is no evidence that redistributive pressure is more intense under democratic regimes.

Finally, there is no evidence that higher inequality is associated with stronger median preferences for more income equality. Thus, the deviations are economically significant. These deviations may explain why Perotti (1996) finds virtually no correlation between actual redistribution and inequality in democracies.

Many papers, including this paper, have shown that the regression estimate of pocketbook voting has the right sign and is highly statistically significant. However, consistent with other papers in the literature, the evidence also suggests that an important fraction of the cross-country differences in preferences for redistribution is not explained by pocketbook voting. This paper examines the implications of these unexplained variations across countries and shows that these deviations may cause the Median Voter Theorem to predict

poorly with respect to the cross-country differences in the preference for more income equality – an issue that is ignored so far.

If an assumption should be judged based on how well it predicts, then the breakdown of the reduced-form relationship between existing inequality and the median preference for more equality suggests that the assumption does not predict well enough. Because pocketbook voting is used as a first-order approximation to behavior in the redistribution literature, it calls for a more stringent criterion than statistical significance. The evidence suggests that the assumption may not live up to the more stringent criterion.¹⁸

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¹⁸In other words, some may read the evidence as saying that the glass is half full, while others may see it as half empty. But the real question is whether a half-full glass is good enough? Of course, whether a half-full glass is good enough depends on what it is used for. In this case, a half-full glass may not be good enough.

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5 Data Appendix

5.1 Data from the *World Values Survey*

EQUAL: Variable ranging from one to ten, where ‘1’ indicates that “we need larger income differences as incentives for individual effort”, and ‘10’ indicates that “incomes should be made more equal” (recoded from V250).

EQUALDUM: Dummy variable that indicates preference for more income equality over private incentives. It equals one if $6 \leq \text{EQUAL} \leq 10$.

AGE: The age of the respondent (V355).

FEMALE: Dummy variable which equals one if respondent is female (Recoded from V353).

MARRIED: Dummy variable which equals one if respondent is married (Recoded from V181).

NCHILD: Number of children the respondent has had (Recoded from V211).

EDUC: Educational level, ordinal variable from 1 (no formal education) to 9 (university degree) (V356).

INCOME: Income category (from low to high) of the respondent (V363). This income variable refers to household income, including all wages, salaries, pensions, and other incomes that come in, but before taxes and other deductions.

SELF-EMPLOYED: Dummy variable which equals one for the self-employed (recoded from V358).

UNEMPLOYED: Dummy variable which equals one for the unemployed (recoded from V358).

RETIRED: Dummy variable which equals one for the retired (recoded from V358).

HARD WORK PAYS: Variable which ranges from one to ten, where ‘1’ indicates that “hard work doesn’t generally bring success – it’s more a matter of luck and connections”, and ‘10’ indicates that “in the long run, hard work usually brings a better life” (recoded from V255).

CONTROL OVER LIFE: Ordered variable which ranges from one to ten, where ‘1’ indicates that the respondent feels that he has no freedom of choice and no control over the way his life turns out, while ‘10’ indicates a great deal of freedom of choice and control (V95).

COUNTRY SPECIFIC CONSTANTS: Dummy variables which equal one for the respective countries. The list includes: Armenia, Australia, Azerbaijan, Bangladesh, Belarus, Brazil, Chile, China, Croatia, Dominican Republic, East Germany, Estonia, Finland, Georgia, India, Latvia, Lithuania, Mexico, Moldova, Nigeria, Norway, Peru, Russia, Spain, Sweden, Turkey, Ukraine, Uruguay, Venezuela, West Germany.

POLITICS: Categorical variable which measures the respondent’s level of interest in politics. ‘1’ indicates very interested, ‘2’ somewhat interested, ‘3’ not very interested, ‘4’ not at all interested, and ‘9’ don’t know. It is assumed that agents who gives responses 3, 4 and 9 are nonvoters (V241).

WEIGHT: Weight variable in the *World Values Survey*. It is intended to compensate for over- or under-sampling of certain social groups, and to correct for various deviations from national population parameters. It has been used in all of the empirical analyses using data from the *World Values Survey* (V376).

5.2 Data from the *General Social Survey*

EQWLTH and *EQWLTHY*: Categorical variable which ranges between 1 to 7. Think of a score of ‘1’ as meaning that the government ought to reduce the income differences between rich and poor, “perhaps by raising the taxes of wealthy families or by giving income assistance to the poor”, and a score of 7 meaning that the government should not concern itself with reducing income differences. We define $EQUAL = 8 - EQWLTH$ or $8 - EQWLTHY$ as the intensity of preference for income equality. We further define *EQUALDUM* as a dummy which equals one if $EQWLTHY \leq 3$ or $EQWLTH \leq 3$.

RINCOME: Income of the respondent in income classes.

FORMWT: Weight variable in the *General Social Survey*.

5.3 Other Sources of Data

U.S. data on median and mean personal income in current dollars come from the website of the Census Department.

<http://www.census.gov/hhes/income/histinc/p04.html>

Table 1: Support for Redistribution By Income Classes in the United States in 1978

Income Category	Preference for Redistribution, <i>EQUAL</i> (%)							Cumulative Income Distribution ^a (%)
	1	2	3	4	5	6	7	
< \$1000	8.0	12.1	12.4	19.0	17.1	5.8	25.6	7.2
\$1000 – 2999	8.6	7.1	14.0	22.1	21.3	3.2	23.6	20.5
\$3000 – 3999	8.8	4.6	11.1	28.2	10.2	7.6	29.3	25.6
\$4000 – 4999	9.8	4.8	9.6	24.3	25.8	13.6	12.2	31.4
\$5000 – 5999	17.8	2.7	9.8	27.3	20.0	8.6	13.9	36.7
\$6000 – 6999	6.4	6.9	7.9	37.3	14.0	9.0	18.5	41.0
\$7000 – 7999	25.2	6.3	9.5	6.0	20.3	7.8	24.9	45.4
\$8000 – 9999	15.9	4.0	14.8	18.4	16.9	10.3	19.7	53.8
\$10000 – 14999	13.0	8.1	13.4	16.9	20.2	13.0	15.4	72.8
\$15000 – 19999	19.2	8.1	21.2	16.5	11.8	12.4	10.9	85.8
\$20000 – 24999	16.2	17.3	8.4	27.5	19.6	6.2	4.8	92.9
≥ \$25000	23.3	27.0	11.7	6.0	11.0	18.6	2.5	100.0
Total	14.2	9.1	13.1	19.8	17.6	9.9	16.3	–

Note: Sample Size = 926. Mean income in 1978 = \$9,451 (current dollars). Median income in 1978 = \$6,813 (current dollars).

'1': Government should not concern itself with reducing income differences. '7': Government ought to reduce income differences between rich and poor.

^a The cumulative income distribution refers to the percentage of people who belong to that income category or below.

Source: *General Social Survey*.

Table 2: Support for Redistribution By Income Status in the U.S. During 1974–1994

Income Category	Preference for Redistribution, <i>EQUAL</i> (%)						
	1	2	3	4	5	6	7
Below Average Income	9.5	5.9	11.0	20.5	19.2	11.5	22.4
Above Average Income	16.9	10.2	15.6	17.4	17.3	10.0	12.6
Total	13.0	8.0	13.2	19.0	18.3	10.8	17.7

Note: Sample Size = 8,731.

'1': Government should not concern itself with reducing income differences. '7': Government ought to reduce income differences between rich and poor.

Source: *General Social Survey*. U.S. data on average personal income in current dollars come from the *Historical Income Tables of the Census Department*.

<http://www.census.gov/hhes/income/histinc/p04.html>

Table 3: International Preference for More Income Equality (Logit)

Dependent Variable: Dummy Variable for Redistribution					
Regressor	Estimate	Regressor	Estimate	Regressor	Estimate
Age	0.00 (0.00)	Britain	-0.1 (0.11)	Lithuania	-0.43 (0.12)**
Female	0.21 (0.03)**	Bulgaria	0.05 (0.11)	Mexico	0.53 (0.10)**
No. of Children	0.03 (0.01)	Canada	0.00 (0.1)	Netherlands	0.13 (0.14)
Married	-0.04 (0.04)	Chile	0.71 (0.09)**	Nigeria	-0.4 (0.20)*
Educ12	-0.25 (0.05)**	China	-0.67 (0.15)**	Norway	0.55 (0.10)**
Educ14	-0.62 (0.06)**	Czech	-0.84 (0.11)**	Poland	-0.85 (0.13)**
Lower Income	0.3 (0.04)**	Denmark	0.33 (0.11)**	Portugal	1.45 (0.12)**
Upper Income	-0.35 (0.04)**	East Germany	-0.5 (0.10)**	Romania	0.55 (0.10)**
Self-Employed	-0.15 (0.06)*	Estonia	-0.79 (0.13)**	Russia	-0.16 (0.1)
Unemployed	0.26 (0.08)**	Finland	0.25 (0.13)*	Slovenia	0.74 (0.10)**
Retired	0.1 (0.05)	France	1.08 (0.11)**	South Africa	0.91 (0.09)**
Hard Work Pays	-0.02 (0.01)**	Hungary	0.64 (0.10)**	South Korea	1.01 (0.10)**
Control over Life	-0.06 (0.01)**	India	0.79 (0.13)**	Spain	1.22 (0.08)**
Argentina	0.07 (0.12)	Ireland	0.09 (0.11)	Sweden	0.13 (0.11)
Austria	0.88 (0.09)**	Italy	0.21 (0.12)	Turkey	1.2 (0.12)**
Belgium	0.53 (0.10)**	Japan	0.6 (0.11)**	West Germany	0.45 (0.09)**
Brazil	0.35 (0.10)**	Latvia	-0.12 (0.13)	Constant	-0.04 (0.13)

Note: N = 32,124. Robust standard errors of the percentage are in parentheses. *Significantly different from zero at the five percent level. **Significantly different from zero at the one percent level.

Table 4: Marginal Effects of Explanatory Variables (Logit)

Variable	Marginal Effects
Age	-0.00054
Female	0.04380
No. of Children	0.00560
Married	-0.00894
Educ12	-0.05278
Educ14	-0.12521
Lower Income	0.06518
Upper Income	-0.07252
Self-Employed	-0.03076
Unemployed	0.05783
Retired	0.02102
Hard Work Pays	-0.00437
Control over Life	-0.01181
Argentina	0.01564
Austria	0.21073
Belgium	0.12218
Brazil	0.07809
Britain	-0.02121
Bulgaria	0.01104
Canada	-0.00081
Chile	0.16667
China	-0.12262
Czech	-0.14751
Denmark	0.07401
East Germany	-0.09554
Estonia	-0.14041
Finland	0.05623
France	0.26022
Hungary	0.15102
India	0.18788
Ireland	0.02045
Italy	0.04545
Japan	0.13957
Latvia	-0.02420
Lithuania	-0.08371
Mexico	0.12195
Netherlands	0.02782
Nigeria	-0.07838
Norway	0.12863
Poland	-0.14918
Portugal	0.34697
Romania	0.12710
Russia	-0.03243
Slovenia	0.17381
South Africa	0.21663
South Korea	0.24166
Spain	0.29348
Sweden	0.02746
Turkey	0.28771
West Germany	0.10219

Note: “Marginal effects” refer to the implied derivatives of the probability with respect to the independent variables. For dummy variables, the marginal effect is calculated for a discrete change of the dummy variable from 0 to 1. For the other variables, the marginal effect is evaluated at sample means.

Table 5: Median Preference For Income Equality and Macroeconomic Environment – Ordered Logit by MLE

Dependent Variable: Median Preference for Redistribution			
	Entire Population (1)	Voting Population I (2)	Voting Population II (3)
<u>A. All Available Observations</u>			
Growth During Past Five Years	0.48 (0.25)	0.46 (0.25)	0.42 (0.22)
ln (Income per Worker)	2.07 (1.03)*	1.74 (1.13)	2.32 (1.65)
Average Years of Schooling	-0.92 (0.28)**	-0.81 (0.27)**	-0.81 (0.25)**
Democracy Dummy	-1.33 (1.45)	-0.69 (1.58)	-1.31 (1.68)
Gini Coefficient	0.00 (0.06)	0.04 (0.05)	0.03 (0.05)
N	30	30	30
<u>B. Outlier South Africa Omitted</u>			
Growth During Past Five Years	0.74 (0.32)*	0.62 (0.25)*	0.56 (0.22)*
ln (Income per Worker)	2.22 (1.14)	1.87 (1.18)	2.41 (1.69)
Average Years of Schooling	-1.18 (0.32)**	-0.96 (0.29)**	-0.92 (0.27)**
Democracy Dummy	-0.87 (1.86)	-0.64 (1.69)	-1.18 (1.71)
Gini Coefficient	-0.02 (0.06)	0.01 (0.04)	0.00 (0.04)
N	29	29	29

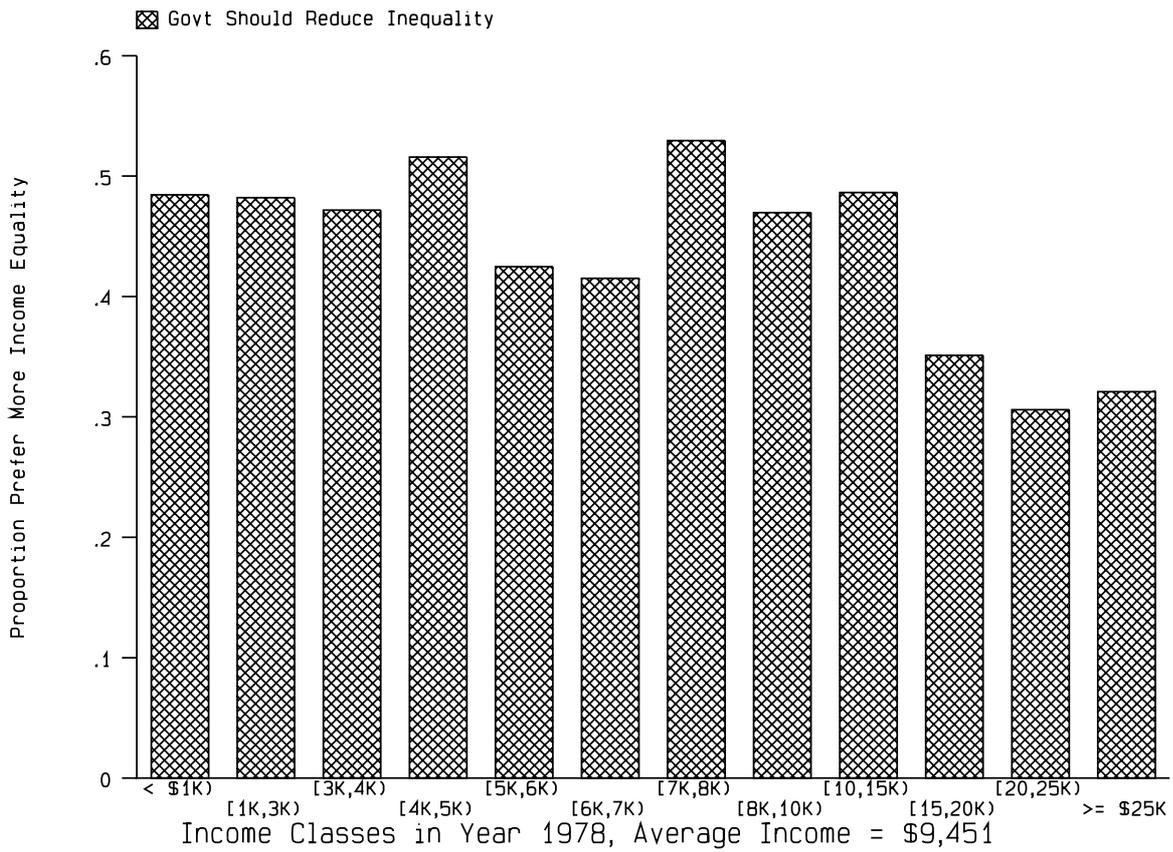
Note: Robust standard errors are in parentheses. *Significant at 5%. **Significant at 1%.

Table 6: Gini Coefficient and Median Preference for Income Equality

Country	Code	Gini Coeff.	Median Preference			Interquartile Preference
			Entire Pop.	Voting Pop. I	Voting Pop. II	
Argentina	ARG	47.6	3	3	3	5
Austria	AUT	28.9	6	5	5	5
Belgium	BEL	26.6	4	4	4	5
Bulgaria	BGR	24.5	4	3	3	4
Brazil	BRA	59.6	5	5	5	6
Canada	CAN	27.6	3	3	3	4
Chile	CHL	57.9	5	5	5	6
China	CHN	34.6	3	3	2	3
Czech	CSK	24.6	3	3	3	3
West Germany	DEU	26.0	4	4	4	4
Denmark	DNK	33.2	4	4	4	3
Spain	ESP	25.9	6	6	6	4
Finland	FIN	26.1	4	4	4	4
France	FRA	34.9	6	6	6	5
Britain	GBR	32.3	4	4	4	3
Hungary	HUN	23.3	5	4	4	5
India	IND	29.7	6	6	6	6
Ireland	IRL	34.6	4	4	4	5
Italy	ITA	32.7	4	4	4	4
Japan	JPN	35.0	5	5	5	2
South Korea	KOR	33.6	6	6	6	6
Mexico	MEX	55.0	4	4	4	6
Nigeria	NGA	41.2	2	2	3	4
Netherlands	NLD	29.6	4	4	4	3
Norway	NOR	33.3	5	5	5	3
Poland	POL	26.2	2	2	2	3
Portugal	PRT	36.8	7	6	6	4
Romania	ROM	25.5	4	3	3	5
Sweden	SWE	32.5	4	4	4	3
Turkey	TUR	44.1	7	7	7	7
United States	USA	37.8	4	4	4	4
South Africa	ZAF	62.3	8	8	7	7

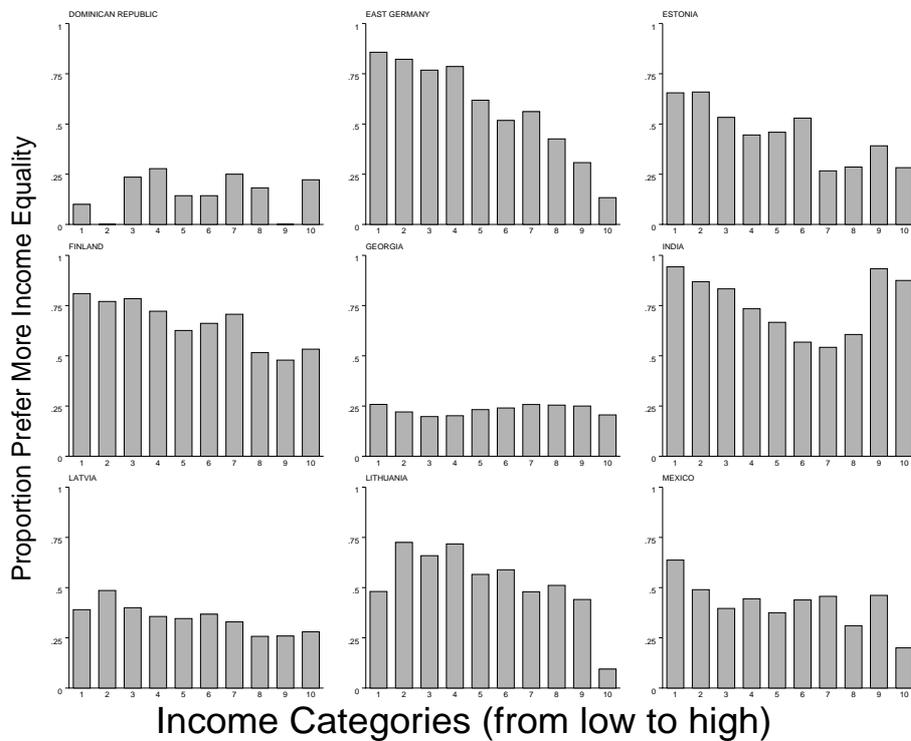
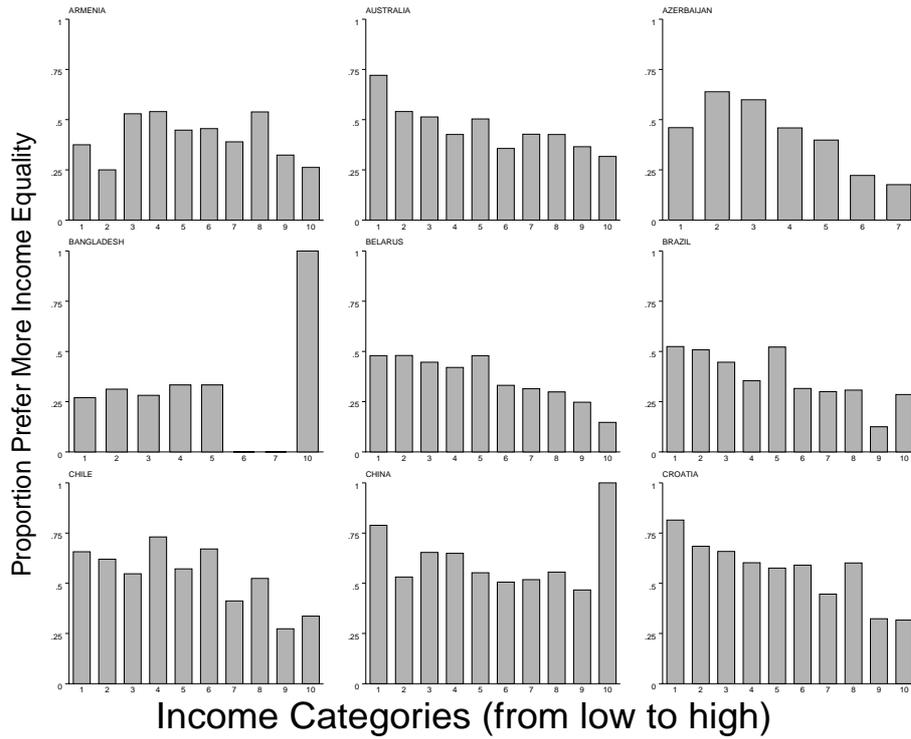
Notes: The preference for income equality has a scale from one to ten, where '1' indicates preference that "there should be greater incentives for individual effort," and '10' indicates preference that "incomes should be made more equal." In other words, higher score indicates stronger preference for income equality.

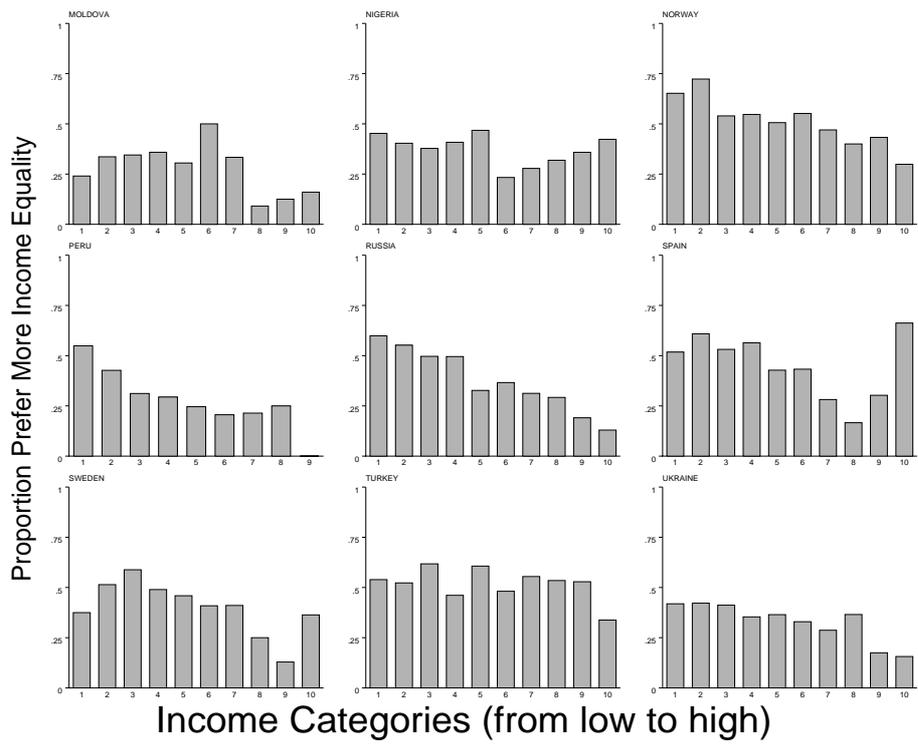
Figure 1: Support for Redistribution by Income Classes in the U.S. in 1978

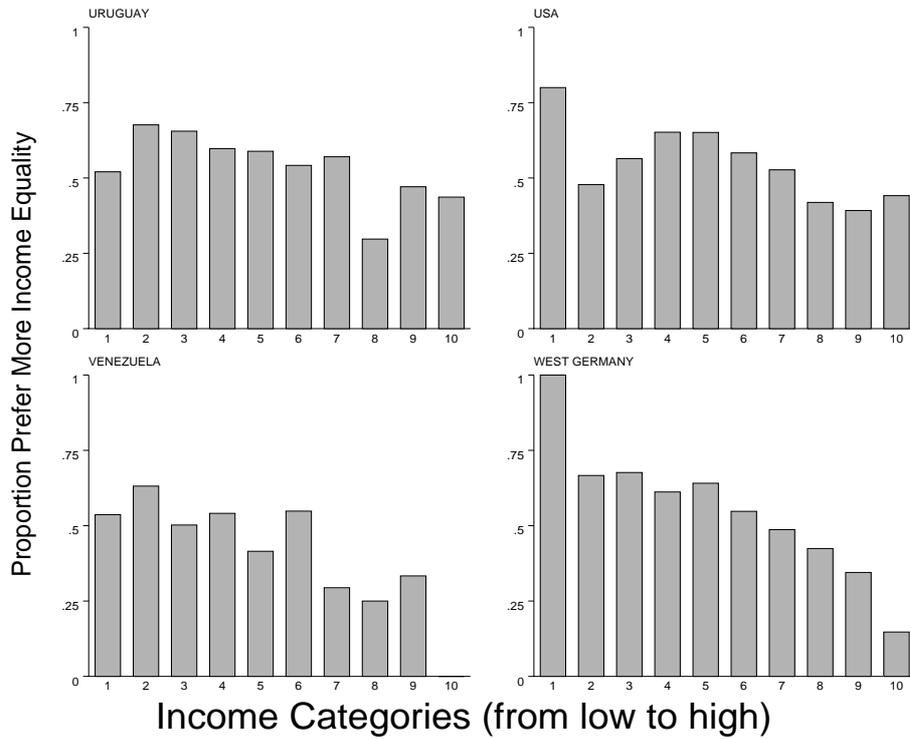


Source: General Social Survey.

Figure 2: Support for Redistribution by Income Categories







Source: World Values Survey.

Note: The graphs for Bangladesh, China, and Spain show a spike in the tenth income category. Instead of interpreting it as strong preference of the top income earners for redistribution, the spike merely reflects the problem of small sample size in the top income category in these countries. Bangladesh has only one respondent in the highest income category, China has three, and Spain has seven. All other countries have substantially larger number of respondents at the top income category. In any case, these few observations should not affect the regression results when the data is pooled cross-sectionally.

Figure 3: Simple Correlation Between the Median Preference for Income Equality and the Gini Coefficient

