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Some International Evidence on Deviations from Pocketbook Voting and Its Relevance for the Political Economy

Wei-Kang Wong

Abstract: This paper empirically investigates whether individuals indeed vote with their pocketbooks. Individual level data from the General Social Survey and the World Values Survey show significant deviations from pocketbook voting even among the poorest and the richest individuals in the sample. Differences in income status, education status, and perceived social mobility explain only a small fraction of the cross-country variation in the preference for income equality. Economically large and statistically significant country effects remain. There is no evidence that the median preference for income equality is more intense when incomes are more unequal or when the regimes are more democratic, a finding that rules out redistributive pressure as an important mechanism through which inequality affects growth under majority rule.

1   Introduction

This paper investigates whether individuals indeed vote with their pocketbooks. The assumption of pocketbook voting underlies most, if not all, political economy models. The conclusions of these models typically depend sensitively on this assumption. Thus, it is important for this assumption to be reasonably realistic, otherwise the results are suspect. To investigate the validity of this assumption, I propose two tests based on survey responses to a specific question related to the preference for income equality. Both tests reveal that deviations from pocketbook voting are indeed too large for this assumption to be realistic, and for the models based crucially on it to yield accurate predictions.

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. For example, Romer (1975) shows that when income taxes are proportional and transfers are lump sum, anybody with income above the mean would vote for a zero tax rate, whereas everyone with income below the mean would favor a higher marginal tax rate. Thus, an examination of how accurate an individual's income status predicts his preference for more income equality is a test for the validity of the assumption of pocketbook voting.[1]

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 individuals do vote with their pocketbooks, the median preference for income equality should be more intense when incomes are more unequal. Thus, an examination of how accurate income inequality predicts the median preference for income equality yields another test

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[1]Alesina and La Ferrara (2001) argue that it is important to control for social mobility when examining this relationship if redistribution policies do not change often, as forward looking individuals may regard social mobility and redistribution as alternatives in maximizing their lifetime utility.

for the validity of pocketbook voting at the macroeconomic level. The result from this test bears directly on the Median Voter Theorem.

To illustrate the importance of the assumption of pocketbook voting, consider, for example, the models of inequality and growth by Persson and Tabellini (1994) and Alesina and Rodrik (1994). Their models assume that individuals vote with their pocketbooks. As I pointed out earlier, under this assumption, the median preference for income equality and redistribution should be greater in more unequal societies. Therefore, the Median Voter Theorem implies that, under the majority rule, these societies would adopt a higher tax rate. A higher tax rate would in turn lead to greater distortion of economic incentives and less accumulation. Furthermore, since democratization typically involves enfranchisement of the poor and the disadvantaged, if people do vote with their pocketbooks, the pressure to redistribute would be greater under the democratic regimes.[2] However, if a sufficient number of people deviate from pocketbook voting, then the mechanisms postulated by these models would fail.

Indeed, these political economy models typically do not perform very well empirically; there is some evidence that higher inequality is not associated with more government transfers and redistribution.[3] To understand this finding, I try to answer two questions: first, is pocketbook voting a good approximation at the individual level? Second, if there are deviations from pocketbook voting at the individual level, is there still a reduced form relationship between inequality and redistributive preference at the aggregate level? It turns out that deviations from pocketbook voting are indeed so large and so prevalent that higher inequality is not necessarily associated with greater preference for income equality.

In examining self-reported preference for income equality, it is important that the survey questions explicitly incorporate the costs involved in making incomes more equal; otherwise, one may

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[2]See, for example, Acemoglu and Robinson (2000).

[3]See Perotti (1996).

express a preference that, so to speak, allows him to have the cake and eat it too. Certainly, as it is with other preferences, the preference for income equality is only meaningful if it is backed by the willingness to pay. In principle, greater income equality can be achieved only if the society is willing to tolerate a loss in economic efficiency. This tradeoff between income equality and economic efficiency arises because incomes can be made more equal only through some forms of government intervention, such as government taxation and transfers. These government interventions inevitably create distortions in the economy, by driving a wedge between the true economic incentives and the actual incentives facing the economic agents, thus resulting in deadweight losses. I shall argue that the specific survey questions used here are designed such that this tradeoff is explicitly incorporated.[4]

Using data from the *General Social Survey* and the *World Values Survey*, significant deviations from pocketbook voting are found at the individual level, across *all* income classes and in *all* countries. More importantly, income variables only explain a small fraction of the cross-country differences in the preference for income equality. Economically large and statistically significant country fixed effects remain even after taking into account characteristics such as income, educational status, and perceived social mobility. While the Median Voter Theorem may still apply given these deviations from pocketbook voting, the median voter for issues on income equality is not the median agent in the income distribution, as there is no longer a monotonic relationship between one's income position and his preference for income equality. Instead, I directly identify the median preference for income equality for each country under different voter turnout assumptions. There is no evidence that the median preference for income equality is associated with existing inequality.

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[4]However, it is not necessary for the respondent to be *conscious* of the exact tradeoff involved. What is required is that he cannot express a preference that is not backed by the willingness to pay, because of the way the survey question is designed. Thus, the respondent need not be aware of the tradeoff between income equality and economic efficiency, that he is making a choice between the two. Nevertheless, it is important that he cannot choose high economic efficiency and high income equality at the same time.

Thus, there is no evidence that supports the particular mechanism linking inequality to growth posited by Persson and Tabellini (1994) and Alesina and Rodrik (1994). Finally, there is also no evidence that the median preference for income equality is more pronounced in democracies.

This paper is related to Alesina and La Ferrara (2001) and Corneo and Grüner (2000), who study individual preference for redistribution in the United States and in twelve countries respectively. Both studies stress that factors other than current income are important in determining individual preference for redistribution. Alesina 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. Similarly, Corneo and Grüner (2000) 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. Furthermore, they show that fixed country effects are what explain most of the cross-country differences in attitudes towards redistribution. They also claim that the former socialist countries tend to have stronger preference for income equality.

However, neither Alesina and La Ferrara (2001) nor Corneo and Grüner examine the implications of these deviations on making inferences under the Median Voter Theorem. This paper attempts to fill this gap. This paper also differs from Corneo and Grüner (2000) in that the specific survey question I use explicitly incorporates the tradeoff between equality and efficiency. I show that once the tradeoff between income equality and economic efficiency is explicitly taken into consideration, most former socialist countries tend to have lower, not higher, preference for income equality.

The rest of the paper is organized as follows. Section 2 describes the surveys and the data.

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Section 3 contains the empirical analyses. Section 4 concludes.

2   The Data on Individual Preference for Income Equality

2.1   General Social Survey

The General Social Survey is an almost annual "omnibus" personal interview survey of U.S. house-holds 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 assitance 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 goverment should not concern itself with reducing income differences. What score between 1 and 7 comes closest to the way you feel?

Note that this question informs the respondent the tradeoff involved in reducing income differences between the rich and the poor. I denote the preference for income equality by $EQUAL$, so that higher scores indicate greater preference for income equality.[5] Following Alesina and La Ferrara (2001), I define a dummy variable $GOVRED$ to indicate support for government redistribution.[6]

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[5]Thus, 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 reduceing income differences. What score between 1 and 7 comes closest to the way you feel?

[6]$GOVRED$ equals one if $5 \leq EQUAL \leq 7$.

2.2 World Values Survey

The *World Values Survey* is a survey on human values on a wide-ranging issues. It was conducted around 1990. 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.

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 income equality by $EQUAL$, so that higher scores indicate greater preference for income equality.[7] Note that the response to this question incorporates the respondents' implicit willingness to pay for greater income equality because if they choose greater income equality, they would not be able to choose more private incentives or economic efficiency at the same time. I also create a dummy variable $EQUALDUM$ to indicate the preference for income equality.[8]

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.[9] 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."

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[7]Thus, if the response to the previous question is denoted as *V250*, then $EQUAL = 11 - V250$.

[8]$EQUALDUM$ equals one if $6 \leq EQUAL \leq 10$, and zero otherwise.

[9]Thus, if the response to the previous question is denoted by *V255*, then *Hard Work Pays* = 11 - V255.

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.

3   Empirical Analyses

I begin by using the survey data to characterize deviations from pocketbook voting. I then investigate how much of the cross-country variation in the preference for income equality can be explained by income status and perceived social mobility. It turns out that large and statistically significant country effects remain even after taking into account factors such as income status, educational attainment, and perceived social mobility. Finally, I identify the median preference for income equality for each country, and estimate the reduced form relationship between the median preference and existing inequality.

3.1   Characterizing Deviations from Pocketbook Voting

Table 1 shows the distribution of the preference for income equality 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.[10]

Figure 1 plots the proportion of respondents with *GOVRED* equal to one by detailed income classes in the year 1978. Pocketbook voting implies that everybody with income less than average will prefer government redistribution, while anyone with income above average will be against government redistribution. However, in contrast to the prediction of pocketbook voting, the pattern in Figure 1 is much smoother.

Similarly, Table 2 characterizes the preference for income equality by income classes for all the OECD countries included in the *World Values Survey*. 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. Second, the income variable is categorical. It ranges from one to ten, from low to high, for most countries. However, the exact income thresholds separating one category from the next are unclear in the documentation of the survey. To make the income variable more comparable across countries, 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. Table 2 reveals that there are significant differences among the OECD countries in the support for income equality, both in the aggregate as well as across income classes. For example, Portugal and Turkey have the strongest support for income equality among the OECD countries, with roughly two thirds of the population in favor of it. However, the distribution of

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[10]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. On the other hand, those in the fifth income decile have about 41 percent chance of rising above the median income.

support for more income equality is different even for these two countries; relatively more people in the lower income class in Portugal support income equality than Turkey. On the other hand, the United States has the lowest support for more income equality: less than one third of the population support it.

Figure 4 in the appendix depicts the distribution of preference for income equality across the original income categories for each country in the *World Values Survey*. Consistent with the finding from the *General Social Survey*, the distributions of the preferences for income equality are smoother than pocketbook voting would imply.[11] In short, the evidence thus far suggests that there are deviations from pocketbook voting at the individual level in a fairly large cross-section of countries. Nonetheless, a cursory examination of Table 2 also suggests that at the aggregate level, there appears to be greater preference for more income equality over private incentives in countries that are relatively more equal, such as Sweden and Finland, and vice versa. Could it be that despite deviations from pocketbook voting at the individual level, pocketbook voting still provides a good approximation at the aggregate level? This is the question I turn to next.

3.2 Logistic Regression and Post Regression Accounting of International Preference for Income Equality

Table 3 presents the logistic regression of the international preference for 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. Income status is indeed statistically significant. There are two income variables, i.e., the lower income dummy and the upper income dummy. In particular, population in the lower one third of the

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[11]Admittedly, measurement of income in terms of household rather than personal income in the *World Values Survey* could have contributed to the smoothness too, due to differences in household size. However, the finding from the *General Social Survey* is exempted from this criticism as income refers to personal income there.

income distribution tend to support more equality, while those in the upper one third tend to oppose it. In terms of personal characteristics, age, marital status, and the number of children in the household have no significant effect on preferences. Women feel more strongly about income equality than men. This is not surprising since women have historically been treated unequally from men. Education status has a statistically significantly negative effect on preference for 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.

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. Given the choice between more income equality and greater private incentives, the self-employed do tend to favor more private incentive. The unemployed and the retired tend to prefer more income equality over greater private incentives, although the latter is not statistically significant.

More importantly, other factors still enter significantly, even after controlling for income and employment status. First, consistent with the findings in Alesina and Ferrara (2001) and Corneo and Grüner (2000), perceived social mobility and its fairness have 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 greater individual incentives over more income equality.

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 Status. 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 income equality, three – Slovenia, Hungary, Romania – have significantly more preference for income equality,

and three – Russia, Latvia, and Bulgaria – have preferences which are not statistically different.[12]

Nevertheless, the crucial question is not whether the relationships between income, inequality, and the preference for income equality are *statistically significant*, but whether they are *quantitatively large*. The important question is whether a *sufficiently large* number of individuals deviate from pocketbook voting, so that models based on this assumption tend to lead to inaccurate predictions. It is whether income is an *important* determinant of the preference for income equality. It is whether existing inequality explains *sufficient* amount of variations in the support for more income equality across jurisdictions with the power to redistribute.

To determine the relative importance of each determinant in explaining the observed international differences in preference between income equality and economic efficiency, we follow Corneo and Grüner's (2000) post-regression accounting methodology. The contribution of the ith determinant in explaining the average difference in preference between country j and the United States is given by $\hat{\beta}_i(\bar{x}_i^j - \bar{x}_i^{US})$, where $\bar{x}_i^j$ is the average value of the ith determinant in country j, and $\hat{\beta}_i$ is the marginal effect of a change in the ith regressor on the probability that $EQUALDUM$ equals one.[13] The United States is the benchmark country to which all comparisons are made. This measure provides a linear approximation of the contribution of an exogenous variable in explaining the average cross-country difference in preferences. The results from the post accounting exercise are reported in Table 4.

The results show that income variables only explain a tiny fraction of the cross-country differences in preferences for income equality. Moreover, quantitatively large and statistically significant

[12]The 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.

[13]The marginal effect is calculated as the product of the coefficient estimate on the ith 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 $\Lambda(.)$ is the logistic cumulative distribution function, and β_i the coefficient estimate of determinant i.

country effects remain even after taking into account differences in personal and household characteristics, income status, education status, and perceived social mobility. Thus, this confirms the findings in Corneo and Grüner (2000) 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 significantly 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. As a result, higher inequality need not lead to higher tax rates across jurisdictions with the power to redistribute, as posited by Persson and Tabellini (1994) and Alesina and Rodrik (1994). Assuming that the Median Voter Theorem still applies, the median voter in the income distribution would no longer hold the median preference for income equality because of these deviations; one's income position would no longer determine his preference for redistribution. To investigate whether existing inequality is still an important determinant of the median preference for income equality at the aggregate level, the median preference for income equality is directly identified from the distribution of the variable $EQUAL$ for each country.[14]

Figure 2 plots the median preference for more income equality versus the Gini coefficient. 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 appears to be an outlier in the upper right hand corner. Excluding South Africa, the pairwise correlation coefficient becomes 0.12, which is again not statistically significant at conventional levels.

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[14]Recall 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.

An ordered logit model is run with the median preference for income equality as the dependent variable to determine if existing inequality level has any significant effect on the intensity of preference for greater income equality.[15] The independent variables include the usual controls, i.e., the logarithm of income per worker and average years of schooling. In addition, the growth rate of GDP per worker during the past five years is included to see if recent growth performance changes societal choice between equality and efficiency. A democracy dummy is included to investigate whether redistritive pressure is greater under democratic regimes. The democracy dummy indicates the most democratic countries; 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. No 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.

The results are reported in column 1 in Table 5. The results show that richer countries tend to have a higher median preference for 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.

Certainly, given the fact that voter turnout at elections is typically rather low, the relevant

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[15]In an ordered logit regression, the probability of observing the preference indicator equals j for the ith 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 ith 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.

[16]The 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).

median voter may not be the median 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 the past election. 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.

Since South Africa appears to be an outlier in Figure 2, it is omitted from the estimation as a robustness check. The results are reported in Panel B of Table 5. Recent economic growth is now statistically significant. The Gini coefficient 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 and highly insignificant at the aggregate level. Since

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higher existing inequality is not associated with stronger preference for income equality, the evidence does not support models which posit redistributive distortions as channels through which inequality hurts growth, such as the political economy models by Persson and Tabellini (1994) and Alesina and Rodrik (1994).

3.4 Inequality and Polarization of Preferences

Although income inequality is not significantly correlated with redistribution pressure, higher inequality can still be harmful if it leads to more polarized preferences in the society and makes distributional conflicts more likely. If that happens, more resources will have to be set aside for conflict resolution. To investigate this possibility, I use the inter-quartile range of the preferences for income equality to measure the extent to which preferences are polarized. Figure 3 shows the simple correlation between the inter-quartile range of preferences versus the Gini coefficient. A positive association is clearly discernable. An ordered logit model is estimated with the inter-quartile range of preference as the dependent variable, and the same set of right hand side variables as before. Table 7 reports the results.

Most of the coefficients are not statistically significant. However, there is some evidence that preferences are less polarized under democracy and in more educated societies. This may be because democracy and education lead to better conflict resolution. The Gini coefficient is positively correlated with the dispersion of preferences. However, the effect is not statistically significant. In short, there is no strong evidence that higher inequality is associated with greater distributional conflict.

4   Conclusions

A few stylized facts emerge from the analyses of the preference for income equality 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. However, on average, proportionally more poor prefer greater income equality than the rich. Second, a large fraction of the cross-country differences in the preference for income equality cannot be explained by differences in income status, educational status, social mobility, and perceived fairness of the mobility process. Large country specific effects remain. There is no evidence that distributive pressure is more intense under democratic regimes. Third, most former socialist countries have lower preference for more income equality. Finally, there is no evidence that higher inequality is associated with stronger median preferences for income equality. Thus, the evidence does not support the political economy models on inequality and growth proposed by Alesina and Rodrik (1994) and Persson and Tabellini (1994), as their mechanisms work through redistributive pressures due to pocketbook voting.

References

[1] Acemoglu, Daron, and James A. Robinson, "A Theory of Political Transitions," Mimeo, March 2000.

[2] Alesina, Alberto and Dani Rodrik, "Distributive Politics and Economic Growth," *Quarterly Journal of Economics*, May 1994, 109(2), 465–490.

[3] Alesina, Alberto, and Eliana La Ferrara, "Preferences for Redistribution in the Land of Opportunities," *NBER Working Paper No. 8267*, May 2001.

[4] Corneo, Giacomo, "Inequality and the State: Comparing U.S. and German Preferences," *CESifo Working Paper No. 398*, December 2000.

[5] Corneo, Giacomo, and Hans Peter Grüner, "Individual Preferences for Political Redistribution," Mimeo, October 2000, *Forthcoming in Journal of Public Economics.*

[6] Inglehart, Ronald, Miguel Basa nez, and Alejandro Moreno, *Human Values and Beliefs: A Cross-Cultural Sourcebook: Political, Religious, sexual, and Economic Norms in 43 Societies; Findings from the 1990-1993 World Value Survey*, Ann Arbor: University of Michigan Press, 1998.

[7] Perotti, Roberto, "Growth, Income Distribution, and Democracy: What the Data Say," *Journal of Economic Growth*, 1(2), June 1996, 149–187.

[8] Persson, Torsten, and Guido Tabellini, "Is inequality Harmful for Growth?" *American Economic Review*, June 1994, 84(3), 600–621.

[9] Romer, Thomas, "Individual Welfare, Majority Voting, and the Properties of a Linear Income Tax," *Journal of Public Economics*, February 1975, 4(2), 163 – 185.

5 Data Appendix

5.1 Data from the *World Values Survey*

EQUAL: Variable ranging from one to ten, where '1' indicates that "there should be greater 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 $6 \leq EQUAL \leq 10$.

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).

EDUC12: Dummy variable which equals one if the respondent completed education between 13 to 18 years of age. For East and West Germany, it equals one if the respondent completed education between 15 to 18 years of age. For Turkey, it equals one if the respondent completed education between 14 and 17 years of age (all the above are recoded from V356, which reports school leaving age). For South Korea, it equals one if the respondent completed middle school and high school (recoded from V375).

EDUC14: Dummy variable which equals one if the respondent completes education at 19 years of age or above (recoded from V356). For Turkey, it equals one if the respondent completed education between 18 and 21 years of age (all the above are recoded from V356, which reports school leaving age). For South Korea, it equals one if the respondent completed two or four years of college, or graduate school (recoded from V375).

LOWER INCOME: Dummy variable which equals one if the respondent belongs to the lower one third of the population (recoded from V363).

UPPER INCOME: Dummy variable which equals one if the respondent belongs to the lower one third of the population (recoded from V363). V363 reports the income of the respondent's household, counting all wages, salaries, pensions and other incomes, before taxes and other deductions. Responses have been classified into categories 1 to 10, from low to high. The exact classification depends on the country. The exact classification is unknown for some countries.

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: Argentina, Austria, Belarus, Belgium, Brazil, Britain, Bulgaria, Canada, Chile, China, Czech Republic, Denmark, East Germany, Estonia, Finland, France, Hungary, India, Ireland, Italy, Japan, Latvia, Mexico, Netherlands, Nigeria, Norway, Poland, Portugal, Romania, Russia, Slovenia, South Africa, South Korea, Spain, Sweden, Turkey, and 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 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 - EQWLTH* as the intensity of preference for income equality. We further define *EQUALDUM* as a dummy which equals one if *EQWLTHY* $\leq$ 3 or *EQWLTHY* $\leq$ 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, $EQUAL$ (%)							Cumulative Income Distribution[a] (%)
	1	2	3	4	5	6	7	
$\ll$ $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
$\geq$ $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. Average Income in 1978 = $9451. '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: Percentage of Respondents Who Prefer Income Equality By Income Classes for OECD countries

| Country | % Prefer Income Equality ($EQUALDUM = 1$) | | | |
	Lower Income	Middle Income	Upper Income	All Income
Austria	64.9	47.6	44.6	51.7
	(2.4)	(2.1)	(2.4)	(1.3)
Belgium	48.8	46.6	30.8	43.3
	(2.4)	(2.5)	(2.8)	(1.5)
Britain	39.5	26.5	22.1	30.2
	(2.6)	(2.8)	(2.6)	(1.6)
Canada	36.3	31.3	20.9	29.4
	(2.5)	(1.9)	(1.9)	(1.2)
Denmark	38.7	37.7	29.9	36.0
	(2.6)	(2.8)	(3.0)	(1.6)
Finland	41.8	38.8	15.6	32.2
	(3.9)	(3.2)	(2.7)	(2.0)
France	67.1	56.1	41.6	56.3
	(2.6)	(3.1)	(3.2)	(1.7)
Germany, West	49.1	40.1	33.3	40.7
	(2.0)	(2.0)	(1.8)	(1.1)
Ireland	48.7	36.0	23.4	35.1
	(3.1)	(2.8)	(2.3)	(1.6)
Italy	47.7	35.2	19.5	39.5
	(2.4)	(2.8)	(4.3)	(1.7)
Japan	55.4	45.7	33.1	43.8
	(3.6)	(2.9)	(2.9)	(1.8)
Netherlands	49.5	34.2	23.6	36.0
	(3.3)	(3.6)	(3.3)	(2.0)
Norway	50.3	41.7	28.9	40.4
	(2.9)	(2.4)	(2.6)	(1.5)
Portugal	79.2	68.3	52.5	64.8
	(2.7)	(2.8)	(3.1)	(1.8)
Spain	69.4	60.3	49.5	60.6
	(1.6)	(1.5)	(1.7)	(0.9)
Sweden	23.7	42.2	35.9	32.5
	(2.1)	(2.9)	(3.2)	(1.6)
Turkey	70.9	63.8	59.4	64.8
	(2.5)	(2.5)	(2.8)	(1.5)
USA	34.3	27.1	25.7	28.9
	(2.1)	(1.9)	(2.0)	(1.2)

Note: Standard errors of the percentage estimates are in parentheses.

Source: World Values Survey.

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

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

Country	Percent Prefer Income Equality	Percent Explained	Personal Characteristics	Educational Attainment	Income Status	Employment Status	Social Mobility	Country Effect
Argentina	3.9	4	0.1	1.9	0.2	-0.7	0.9	1.5
Austria	22.8	23.8	0.1	0.6	0.2	-0.3	2.2	21
Belgium	14.4	15.2	-0.2	0.6	0.7	0	2	12.1
Brazil	17.5	16.9	0.6	6.9	0.4	-0.4	1.8	7.7
Britain	1.1	2.2	-0.2	1.7	1.5	-0.1	1.4	-2.1
Bulgaria	3.6	3.9	-0.4	-0.1	0.6	-0.2	2.9	1.1
Canada	-0.6	-0.8	0.1	-0.5	-0.4	-0.1	0.2	-0.1
Chile	18.1	19	0.5	0.9	0.6	-0.6	1	16.6
China	-9.6	-11.8	-0.7	0.4	0.6	-1.1	1	-12.1
Czech	-12.3	-12	0	0.2	0.3	-0.3	2.2	-14.5
Denmark	7.1	7.8	-0.2	-1.9	0.6	0	2	7.3
East Germany	-8.1	-8.2	-0.1	1	-0.7	-0.1	1.1	-9.4
Estonia	-12.6	-12.8	0.1	-2.1	1.4	-0.3	1.8	-13.8
Finland	2.2	2.9	-0.1	-1.8	-0.7	-0.3	0.2	5.6
France	28.3	29.4	0.1	0.8	0.5	0	2	25.9
Hungary	16.8	17.5	-0.4	1.9	-0.9	0.2	1.7	15
India	28.6	18.4	0.2	-0.2	-0.7	-0.8	1.3	18.7
Ireland	4.4	4.7	0.4	1.9	-0.4	-0.3	1.1	2
Italy	12.7	14.6	-0.5	5.3	3.2	-0.2	2.3	4.5
Japan	13.3	14.4	-0.4	0.1	-1.1	-0.9	2.9	13.9
Latvia	-4.4	-4.4	0	-2.9	-0.9	-0.4	2.2	-2.4
Lithuania	-6.4	-6.3	-0.2	-1.4	1.7	-0.2	2.1	-8.3
Mexico	17.9	18	0.3	4	1.7	-0.9	0.7	12.1
Netherlands	3.6	4.6	-0.1	-0.1	-0.2	-0.3	2.6	2.8
Nigeria	-4.8	-8.3	0.7	-2.3	0.7	-0.9	1.3	-7.7
Norway	10	11.3	-0.4	-1.4	-0.7	-0.2	1.1	12.8
Poland	-12.1	-11.8	-0.1	0.5	0.6	-0.5	2.4	-14.7
Portugal	39.8	42.2	-0.1	5.3	0.5	-0.3	2.2	34.7
Romania	12.6	13.5	-0.4	0.6	-0.5	-0.4	1.6	12.6
Russia	-1.5	-1.7	-0.1	-0.9	0.8	-0.2	1.9	-3.2
Slovenia	19.4	20.2	-0.1	-0.3	1.6	0.1	1.7	17.3
South Africa	27.9	24	0.7	0.8	0.6	0.1	0.2	21.6
South Korea	22.7	24.2	0.2	0.2	0.1	-0.6	0.2	24.1
Spain	33.8	34.2	0	3.4	0.2	-0.3	1.7	29.3
Sweden	2.3	3	-0.3	-1.6	1.5	-0.1	0.8	2.7
Turkey	38	38.8	0.4	6.2	0.4	-0.6	3.8	28.7
West Germany	11.6	12.1	-0.4	1.5	-0.3	0	1.1	10.1

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

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

Table 7: Divergence of Preferences For Income Equality and Macroeconomic Environment – Ordered Logit by MLE

	Entire Population	Voting Population I	Voting Population II
Growth During Past Five Years	0.11	0.18	0.20
	(0.19)	(0.24)	(0.20)
ln (Income per Worker)	2.37	2.06	3.01
	(1.31)	(1.34)	(1.67)
Average Years of Schooling	-0.57	-0.52	-0.49
	(0.22)*	(0.30)	(0.32)
Democracy Dummy	-4.24	-3.18	-3.80
	(1.68)*	(1.86)	(2.10)
Gini Coefficient	0.09	0.06	0.08
	(0.06)	(0.06)	(0.06)
N	30	30	30

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

Figure 1: Support for Redistribution by Income Classes in the U.S. in 1978
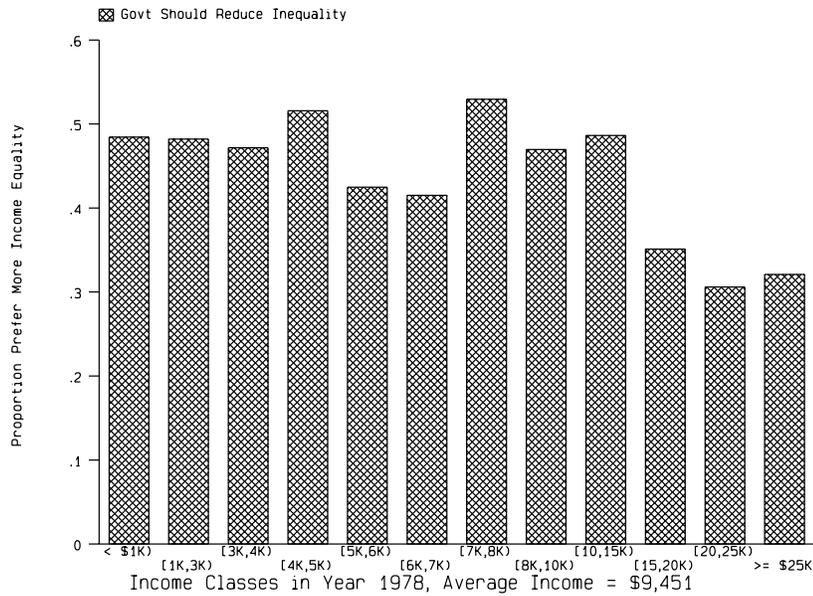
Source: General Social Survey.

Figure 2: Simple Correlation Between the Median Preference for Income Equality and the Gini Coefficient
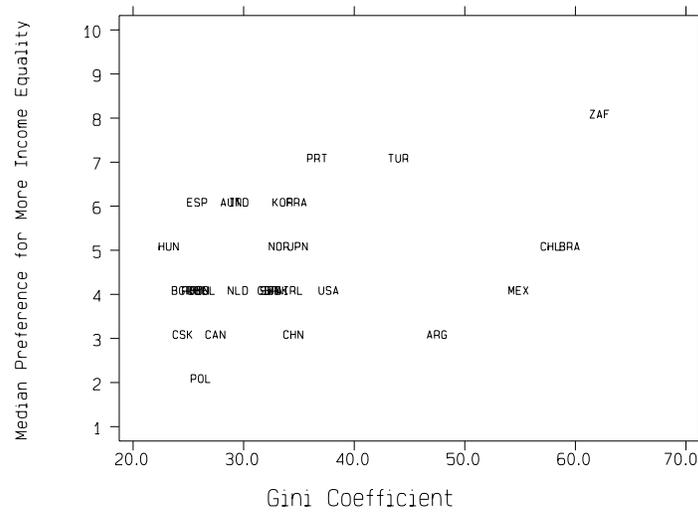
Figure 3: Simple Correlation Between the Inter-quartile Range of Preferences for More Income Equality and the Gini Coefficient
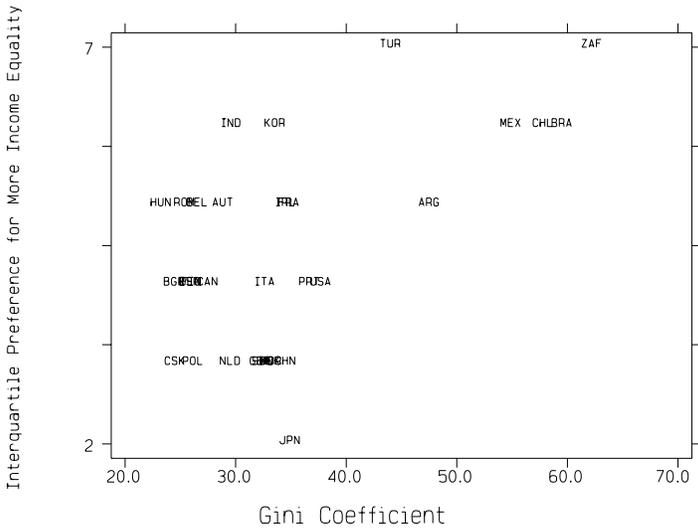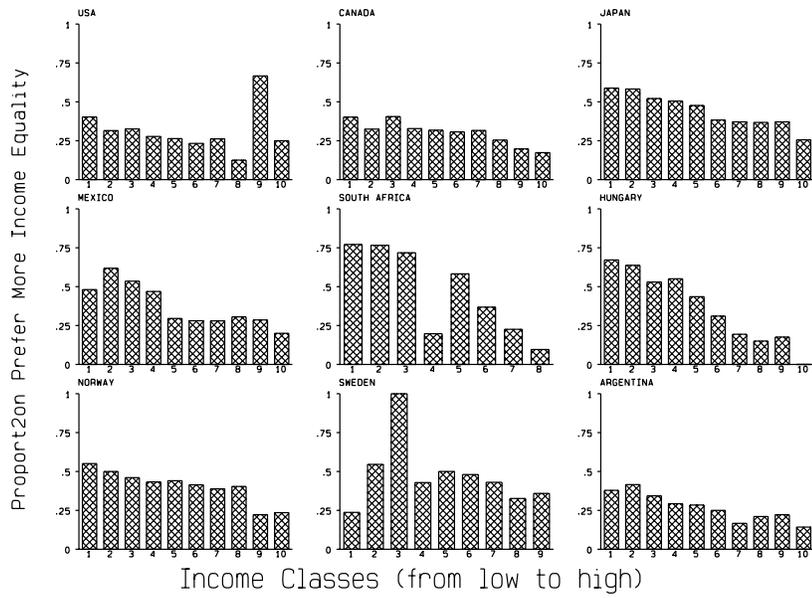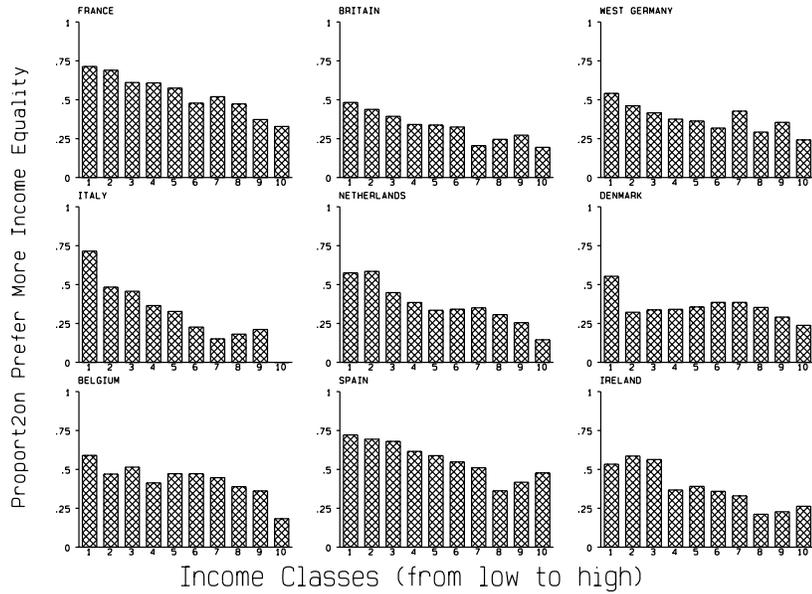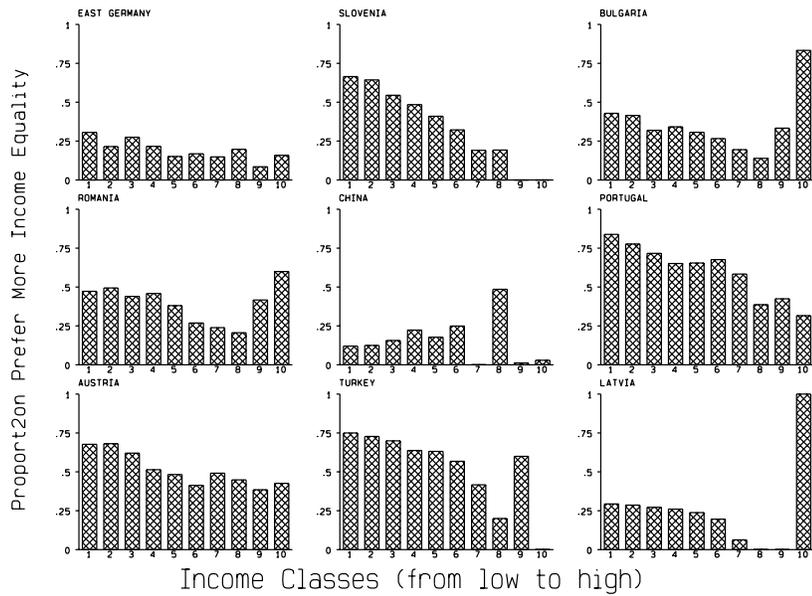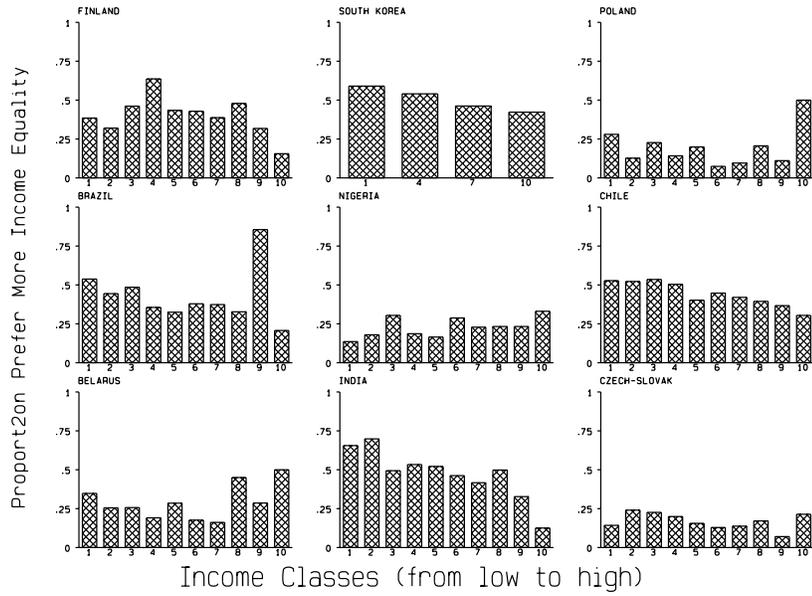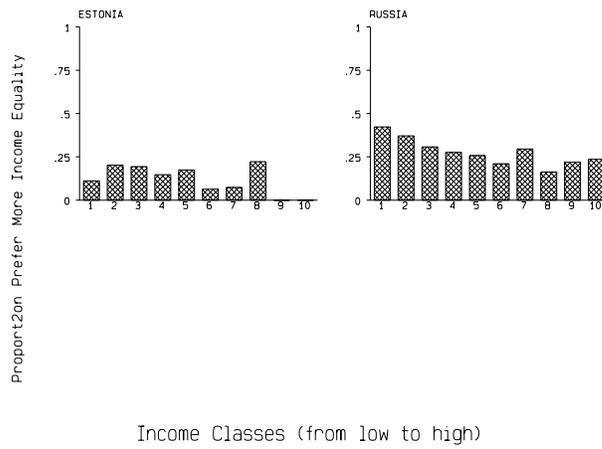
Figure 4: Support for Redistribution by Income Classes for All Countries in the *World Values Survey* in 1990

Income Classes (from low to high)

Source: World Values Survey.