

# Democratic Representation, Opinion Liberalism, and the Size of Welfare<sup>1</sup>

Jungho Roh

Departments of Political Science  
Massachusetts Institute of Technology

March, 2009

<sup>1</sup>Paper prepared for presentation at the annual meeting of the Midwest Political Science Association, Chicago, IL, 2 April 2009. I am grateful to Jim Snyder, Jonathan Rodden, and Orit Kedar for their helpful comments. This is a very rough draft. **Please Do Not Cite Without Permission.**

## I. Introduction

Today, one of the most challenging questions in the field of political economy concerns why some countries spend more on welfare than others. Alesina and colleagues has appropriately categorized the existing literature on this issue into three groups - economic, political, and behavioral explanations (Alesina, Glaeser, and Sacerdote, 2001). Using this categorization, the existing theories on the determinants of the size of welfare includes factors such as income inequality, trade openness, economic characteristics of the relevant industrial society such as the GDP per capita, demographic characteristics such as the age of the population, the electoral system, the form of government, political factors such as the degree of partisanship, the degree of federalism, ethnic fractionalization, and behavioural factors such as beliefs about fairness and the poor, to name a few.<sup>1</sup> Among the theories mentioned above, the behavioral approaches unanimously assume that government welfare policies always reflect public preferences over welfare and redistribution. For example, Alesina and Angeletos, in their work on welfare and fairness, showed that social beliefs on income distribution determine the size of a country's welfare (Alesina and Angeletos, 2005). More specifically, a country is likely to spend highly on welfare if more people in the country believe that poor people are poor not because they are lazy but because they are unlucky, or the more that people believe that luck, rather than effort, determines income. This argument strongly depends on the assumption that mass preferences influence government decisions. The logical basis for the argument is that if more people believe that income is unfairly distributed, then more people will feel for the poor, and therefore they will expect and demand that the government redistribute income. If, on the other hand, a government does not respond to public preferences, then it is less convincing to make the association between social beliefs on income distribution and the size of welfare. Another example of a behavioral theory is the relationship between ethnic or racial prejudice and the size of welfare. Since some people don't like to pay taxes that will eventually be used to help poor people of different races

---

<sup>1</sup>Alesina and Angeletos (2005), Alesina and Glaeser (2004), Alesina, Glaeser, and Sacerdote (2001), Bradley et. al. (2003), Iversen and Soskice (2006), Iversen and Cusack (2000), Luttmer(2001), Lindert(2004; 1996; 1994), Moene and Wallerstein (2001), Milesi-Ferreti, Perotti, and Rostagno (2000), Meltzer and Richard (1981), Oates (1999), Persson and Tabellini (2003; 2000), Rodrik (1998).

or ethnicities, many scholars have argued that ethnic, linguistic, or racial fractionalization is negatively associated with the size of welfare (Alesina, Baqir, and Easterly, 2000; 1999; Alesina and Glaeser, 2004). We believe that racial/ethnic differences are relevant, but that there is a missing link. If government welfare policies do not reflect public preferences, then there is no reason to expect any decrease in welfare spending due to an increase of ethnic fractionalization. Can we assume that public opinion necessarily and inevitably influences government welfare policies?

In the political science literature, policy responsiveness has long been understood as a mechanism of democracy. Many theories have been based on the belief that policies reflect the collective wishes of the public through the political system of inputs and outputs. In a fair and open election process, candidates who are committed to implement policies favorable to the public are likely to be elected. Moreover, elected politicians who are not responsive to public preferences will eventually be replaced by other candidates who are responsive to such opinion in the following election. Utilizing a variety of survey data as a measure of public opinion, many scholars have found that this democratic mechanism indeed works, mostly in an American context (Erikson, Wright, and McIver, 1989; McIver, Erikson, and Wright, 2001; Wright, Erikson, and McIver, 1987; Stimson, McKuen, and Erikson, 1995; Hill and Hinton-Anderson, 1995; Monroe, 1998; Page and Shapiro, 1983). In other advanced democracies, such as the UK, Canada, and Germany, scholars have also provided evidence of this link between public opinion and government policy (Brettschneider, 1996; Petry and Mendelsohn, 2004; Petry, 1999; Soroka and Wlezien, 2005; 2004).

Since the scholarly studies in democratic jurisdictions clearly indicate a link between public opinion and welfare spending, it seems reasonable to assume that mass preferences do exert an influence on government welfare spending policies. However, it is important to note that the above-mentioned studies all relate to countries where the democratic system of representation fully operates. Then, the question arises whether there are any differences between fully stable democracies and less stable or non-democracies. Since policy responsiveness is known to be a quality of a properly functioning democratic system (Powell, 2004; Pitkin, 1967), it would be interesting to discern whether, and to what extent, countries with

lower levels of democratic quality differ from fully stable democratic countries in terms of welfare policy responsiveness.

The purpose of this study is two-fold. First, we aim to analyze whether public preferences influence welfare spending policies around the world. We believe that there is a missing link in the existing behavioral explanations of why some countries spend more on welfare than others. Behavioral variations, such as the social perception of fairness and ethnic/racial fractionalization, may indirectly influence the size of welfare, through the fact that welfare spending policies reflect public preferences. Second, we investigate whether the effects of public preferences are conditioned by the level or quality of democracy. Scholarly knowledge on policy responsiveness is largely limited to the advanced democracies where democratic political systems are fully operational. If one believes that public preferences influence the size of welfare due to the operation of an effective democratic political system, the strength of the effects should – *ceteris paribus* - depend on the level of the democracy.

To test these two main research questions, this paper uses data drawn mainly from the International Monetary Fund’s Government Finance Statistics (GFS), and multiple waves of the World Value Survey (WVS). A clear advantage of using GFS is that the data is provided for not only fully democratic countries but also less democratic countries. The WVS asks the respondent to place himself/herself on a 10-point scale on the left-right political spectrum. We use this country-level opinion liberalism as a proxy for public preferences on welfare. Because many other cross-country social surveys ask the same questions to respondents, we also combined several surveys, while carefully checking the reliability of each survey. By utilizing WVS and a combination of several cross-country social survey datasets, we found, first, that public preferences do influence the size of welfare, and second, that the effect of public opinion depends on the level of democracy, as measured from the Polity IV database.

## **II. Democratic Representation and Welfare Spending**

In fully democratic countries, it is not surprising to expect that public policies will reflect public preferences. This responsiveness has been empirically tested by many scholars using survey data as indicators of public preferences. For example, Erikson and colleagues found

that there is a strong opinion-policy linkage in the 50 American states (Erikson, Wright, and McIver, 1989). They found that the ideological platforms of political parties are strongly influenced by the public opinion of the state electorates. Moreover, state public opinion's influence on state policy liberalism was greater than other socioeconomic characteristics. Hill and Hinton-Anderson augmented this opinion-policy linkage argument by finding that the linkage is enhanced when there is an opinion shared between the public and the elites (Hill and Hinton-Anderson, 1995). A number of studies have found evidence of opinion-policy linkages in other advanced democracies (e.g., Petry, 1999; Petry and Mendelsohn, 2004; Brettschneider, 1996).

It is pertinent to note that several studies have dealt with welfare policy issues. First, in American state-level democracy, Erikson and associates investigated the relationship between state opinion liberalism, as measured by mean values from a survey-based liberal-conservative ideological identification, and a number of welfare policies (McIver, Erikson, and Wright, 2001; Wright, Erikson, and McIver, 1987). Wright et. al. (1987) showed that the more liberal people are in a state, the higher the state spends on per-pupil education. Moreover, this opinion liberalism was positively associated with the scope of Medicaid and of AFDC, and with tax progressivity measures McIver et. al. (2001) also found that state opinion liberalism positively correlated with AFDC, unemployment insurance, and education spending. A second group of scholars have examined the influence of public preferences on public expenditure, relying on over-time variations and time-series analyses in the US, UK, and Canada. Soroka and Wlezien, for example, found that if more people think that the level of welfare spending must be high, then the size of such expenditures increases, as in the UK and Canada (Soroka and Wlezien, 2005; 2004). Soroka and Lim also found the same relationship in the case of US health care expenditure (Soroka and Lim, 2003).

The vast majority of the democratic representation literature has been conducted within the context of individual fully democratic countries. By contrast, until recently policy responsiveness has largely been ignored in cross-country comparative studies. Using the OECD social expenditure database and several International Social Survey Program (ISSP) modules, Brooks and Manza found that citizens' policy preferences significantly influenced welfare

efforts in 15 advanced countries (Brooks and Manza, 2006). They further argue that their results help understand why welfare states have persisted in spite of long-lasting criticism; the more liberal public preferences may oppose any attempt to shrink the welfare states. Gabel and Hix also considered country-level opinion liberalism as their independent variable in a cross-country setting (Gabel and Hix, 2005). Although their main concern was to emphasize that Persson and Tabellini's main results on the effects of political institutions on the size of government were conditioned by voters' mass preferences in each country, they also investigate whether government expenditure is larger in countries where public preferences are more liberal.

This paper lies in the category of cross-country comparative studies on welfare policy responsiveness. This paper differs from the two above-mentioned studies in many ways. By utilizing IMF's GFS, multiple waves of WVS, and other cross-country social surveys, our data incorporates a wider set of countries, including not only OECD countries but also developing countries. This, in turn, allows us to test not only whether public preferences influence the size of welfare, but also whether the effects are conditioned by the level of democracy.

### **III. Why Does Democracy Matter?**

As mentioned in the previous section, government policies reflect public opinion through the inputs and outputs of a quality democratic system, and welfare policies are no exception to this rule. Theoretically, however, only high-quality democracies can provide an institutionalized connection between the opinions of citizens and policy-makers in general (Powell, 2004; Pitkin, 1967). If this is true, we can reasonably expect there to be significant differences between fully democratic countries and less democratic or non-democratic ones in the extent to which government welfare policies respond to public preferences.

[MORE TO BE ADDED ON why the effects of public preferences are conditioned on the level of democracy]

Voters can make politicians accountable in fully democratic countries. Lower quality

democracies cannot make politicians fully accountable; politicians in less democratic countries may pursue what they think is right independently from what voters want, or may even they pursue their personal interests.

[MORE TO BE ADDED ON some exceptions – politicians sometimes do not respond to the public in advanced democracies. Politicians in populist authoritarian regimes]

## IV. Data

Our research questions require that we rely on the country-level dataset. Moreover, the motivation from the behavioral explanations of why some countries redistribute more than others has led us to rely on the cross-country variations for these investigations. Apparently, we want to maximize the number of observations in the dataset as well. For these reasons, we used the International Monetary Fund’s Government Finance Statistics (GFS) for our measure of welfare spending. It contains the most extensive government expenditure dataset in the world. However, we had to restrict our samples because public preferences data for each country comes from cross-country social surveys; here, we mainly used 2nd to 4th waves of World Value Survey (WVS). Unfortunately, cross-country social surveys are not conducted in every country in every year, and thus this imposes a strong condition on our dataset, allowing us to use 83 country-year observations from 45 countries. Because WVS has been conducted in different countries in different years, these 45 countries are not observed in every wave of WVS. We treat these as random, and do not try to account for any sample selection problem throughout the research.

### *(1) Dependent Variable - the Size of Total Welfare Spending*

As our primary dependent variable, we use total welfare spending, which we computed from the sum of consolidated central government expenditures on education, health, and social protection obtained from IMF’s GFS CD-ROM.<sup>2</sup> We then divided this sum by the

---

<sup>2</sup>Government expenditures on social protection include cash and in-kind services and transfers in the categories of sickness and disability, old age, survivor, family and children, unemployment, housing, and social exclusion (socially excluded persons not classifiable elsewhere, such as low-income earners, immigrants, indigenous people, victims of criminal violence or natural disasters, etc.)

current price GDP from IMF's International Financial Statistics On-line, and multiplied it by 100. Note that it is important to use consolidated expenditure data as it eliminates all intergovernmental transactions and creditor-debtor relationships.

*(2) Independent Variable - Opinion Liberalism*

From the 2nd, 3rd, and 4th waves of the World Value Survey, which cover the years 1989 to 2004,<sup>3</sup> a 10 point scale on the self-placement of political orientation was employed, ranging from 1 (Left) to 10 (Right). This question was asked in all three waves. We oriented these values so that higher scores represented more liberal views. To get the representative measure of public opinion liberalism from this individual survey data, we computed the mean values for each country, and then standardized them to have a mean 0 and a standard deviation 1.<sup>4</sup> We obtained another measure using the "relative fraction" of the liberal population. After orienting all data so that the higher values represented liberal views, we first computed the fraction of people who chose 7 to 10, and subtracted from this the fraction of people who chose 1 to 4 in the question, and then multiply it by 100.<sup>5</sup>

We took our main independent variable of "public opinion liberalism" as an indirect measure of public preferences over welfare for several reasons. First, a person with more liberal political views tends to support tax progressivity, welfare, and redistribution. Welfare and redistribution issues are one of the most important factors in determining one's placement on the left-right ideology scale in most countries. Even if other issues, such as gay marriage or religion, could be more important factors, more liberal people still tend to support larger welfare spending.<sup>6</sup> For this reason, many previous studies have used this leftist political

---

<sup>3</sup>We excluded the 1st wave because there is a 5-year gap between the 1st and 2nd wave.

<sup>4</sup>Note that we tried to use median values instead of mean values, but the variation was too small to satisfy the identification condition. Often the lack of variation resulted in unrealistically inflated variance, and thus the coefficients became highly unreliable when we estimated the empirical model, though the signs of the coefficients were usually the same as the coefficients obtained using mean values.

<sup>5</sup>Note that we also tried to use the fraction of people who chose 6 to 10 on the scale, minus the fraction of people who chose 1 to 5. The results of including 5 and 6 on the scale were weaker than those obtained excluding 5 and 6, though both were similar. It is reasonable to expect stronger results using the latter scale, since 5 and 6 may represent neutral positions. Note also that we tried to use an "absolute fraction," by computing the fraction of people who chose 7-10 without subtracting the fraction of people who chose 1-4. This measure ended up having multicollinearity problems when interaction terms were included in the empirical model. For this reason, we excluded this absolute fraction measure.

<sup>6</sup>Scheve and Stasavage argued that more religious people tend to be more conservative, and therefore do not support welfare spending (Scheve and Stasavage, QJPS, 2006). De La O and Rodden argued that

orientation as a proxy for preferences over welfare (Alesina and Angeletos, 2005; Alesina, Glaeser, and Sacerdote, 2001; Gabel and Hix, 2005). Second, as pointed out by Alesina and colleagues, other more direct WVS questions on welfare and redistribution have the problem of “status quo bias.” The design of these questions involves differences in the current level of income inequality or in the quality and scope of government services, and therefore the questions are susceptible to widely different levels of income inequality and spending across different countries in different years.<sup>7</sup> This status quo bias makes these items unreliable.<sup>8</sup>

### *(3) Other Controls*

- GDP per capita: natural log of real GDP per capita in PPP-adjusted constant dollars (chain index) from Penn World Table 6.2.
- Trade Openness: the sum of total exports and imports as a % of GDP from World Development Indicators
- Pop % 15-64: population aged from 15 to 64 as a % of total population from World Development Indicators
- Pop % over 65: population aged 65 and older as a % of total population from World Development Indicators
- Political variables from the World Bank’s Database of Political Institutions (DPI)

#### 1. Semi-presidential system: dummy for assembly-elected presidential system

---

religion distracts the poor so that religious poor people are less likely to vote for leftist parties (De La O and Rodden, CPS, 2008). All these previous studies may imply that religion is an important factor in determining left-right ideology, but they do not necessarily imply that more liberal people do not support welfare when religion distracts the poor. Religious people may be more conservative, even if they are poor, and they may not support welfare because they are conservative due to the religiosity factor.

<sup>7</sup>These questions are a 10-point scale on the issue of income inequality, ranging from 1 (“income should be made more equal”) to 10 (“we need larger income differences as incentives for individual efforts”), and a 10-point scale on the government’s responsibility to the people, ranging from 1 (“the government should take more responsibility to ensure that everyone is provided for”) to 10 (“people should take more responsibility to provide for themselves”).

<sup>8</sup>Note that a variety of robustness checks was carefully conducted to make sure that the results were not driven by any possibility that the left-right political orientation may not represent preferences on welfare in some countries. This will be discussed in later sections.

2. Parliamentary system: dummy for parliamentary system
3. Mixed PR: dummy for the mixed PR electoral system
4. PR: dummy for the PR system
5. Federalism: dummy for the federalism
6. Leftist executive: dummy for the leftist partisan control of the chief executive.
7. Christian executive: dummy for the Christian partisan control of the chief executive.

## V. Empirical Strategy

Like most other datasets that merge country-level and survey data, the dataset used in this study is an unbalanced panel, which is characterized by the violated Gauss-Markov assumptions. We used pooled OLS with robust and clustered standard errors, so that heteroskedasticity and correlations among observations within a country were allowed. It is also important to control for region and time-fixed effects. It is widely known that OECD countries spend more on welfare than other countries. Following Persson and Tabellini (2003), a dummy variable was included for OECD members before 1993, except for Turkey. Due to the legacies of the communist/socialist regimes, post-socialist countries are also known to have higher levels of welfare expenditures, and so a dummy for these post-socialist countries was also included. For the time-fixed effects, a vector of dummies for the WVS waves was included.

If the quality of the operation of the democratic system is key to explaining why welfare policies reflect public preferences, then it can be expected that a government in a strong democracy would listen to and reflect her own citizens' collective voice more carefully than a government in a less democratic country. This is the second hypothesis explained in the introduction, and it is modeled in this study by including the interaction term between opinion liberalism and the different levels of democracy.

Here, a question arises; how do we categorize the levels of democracy? In this study, we relied on the democracy scores from Polity IV, ranging from 0 to 10 (strongest democracy).<sup>9</sup>

---

<sup>9</sup>Note that using a composite measure of the polity score, ranging from -10 to 10, gives similar results.

The “Gastil” scores from the Freedom House were also used to augment the polity scores. Freedom House data covers a wider range of countries than Polity IV, but it is not exactly a measure of democracy. The Gastil scores are indexes for political rights and civil liberties, ranging from 1 (free) to 7 (not free). Many scholars have shown that there is a very high and strong correlation between the Gastil scores from Freedom House and the democracy scores from Polity IV. We first computed the average of the indexes for political rights and civil liberties, rescaled it so that it had the same units and range as democracy score, and then regressed the democracy score on the rescaled average Gastil score. Using the predicted values from this regression, we filled in the missing values of the polity score.

Instead of treating the democracy score as linear, we cut the samples into subgroups, mainly because of the identification problem with the interaction term. As <Table 1> shows, our dataset does not have a sufficiently large number of observations in each democracy score cell; the observations are flocked around a polity score of 10. Therefore, the dataset was categorized into 2 using a certain threshold  $\bar{\theta}_j$ . For example, a dummy was set to 0 for countries having a democracy score of 9 or 10, and they were categorized as the strong democracies, and to 1 for countries having a score of 8 or lower, and these were indicated as the less democratic countries. By doing this, identification problems could be avoided, and there was also the benefit of reduced measurement errors.<sup>10</sup> Note, however, that the estimation using sub-grouped variables depends on the threshold  $\bar{\theta}_j$ . We, thus, used all possible thresholds to check that whether the results were driven by a specific threshold. First, we chose countries having a democracy score of 10 (9) (8) as being fully democratic, and those having a democracy score of 9 (8) (7) and below as being less democratic countries (<A. 10 vs. 9 and below>, <B. 10-9 vs. 8 and below>, and <C. 10-8 vs. 7 and below>). Second, we tossed out the unclear middle when categorizing the samples (<D. 10 vs. 8 and below, excluding the unclear 9>, and <E. 10-9 vs. 7 and below, throwing out 8>).<sup>11</sup> Because the borderline countries may not be much different from strongly democratic countries, the latter two ways of categorization were expected to give clearer relationships, if any.

---

<sup>10</sup>For the benefits of subgrouping instead of treating variables in a linear fashion, please see Appendix (TO BE ADDED).

<sup>11</sup>More thresholds are not desirable due to the small sample size.

Our empirical model is, therefore, as follows:

$$Y_{it} = P'_{it}\alpha_1 + D'_{it}\alpha_2 + (P_{it} \times D_{it})'\alpha_3 + \mathbf{X}'_{it}\beta + \delta_I + \delta_T + \epsilon_{it}, \quad (1)$$

where,  $Y_{it}$  is a dependent variable of the size of total welfare spending,  $P_{it}$  is a measure of public opinion liberalism,  $D_{it}$  is a dummy indicating whether a country is a fully or a less democratic country,<sup>12</sup>  $P_{it} \times D_{it}$  is an interaction term,  $\mathbf{X}_{it}$  is a vector of economic, geographic, and political controls described in the previous section, and  $\delta_I$  and  $\delta_T$  are unobserved regional and time heterogeneities.

One concern remains to be addressed; because the independent variable of opinion liberalism comes from survey data, it is possible to think that the Pooled OLS estimators could be downwardly biased due to the measurement error.<sup>13</sup> It was carefully attempted to fix this by employing several Instrumental Variable estimators, and these are reported in Appendix (TO BE ADDED).<sup>14</sup>

## VI. Findings

We report our regression results, first without including the interaction term in <Table 2>, and then with the interaction term in <Table 3>. In both tables, the dependent variable is the total welfare spending as a % of GDP. The first four columns report the coefficients estimated from regression on the standardized mean of opinion liberalism. The last four columns then show the regression estimates using the relative fraction of the liberal population as an independent variable. All regressions include wave dummies to control for time fixed effects. Standard controls are also included, as shown in the tables. The coefficients reported in the

---

<sup>12</sup>For any value of democracy score  $\theta_{it}$ ,  $D_{it} = \begin{cases} 0 & \text{if } \theta_{it} \geq \bar{\theta}_j \\ 1 & \text{if } \theta_{it} < \bar{\theta}_j \end{cases}$  for  $\bar{\theta}_j = 10, 9$ , and 8. By throwing out the unclear middle,  $D_{it} = \begin{cases} 0 & \text{if } \theta_{it} > \bar{\theta}_j \\ 1 & \text{if } \theta_{it} < \bar{\theta}_j \end{cases}$  for  $\bar{\theta}_j = 9$ , and 8. Therefore, we estimate equation (1) five times using different categorization methods.

<sup>13</sup>It is a well known fact that many individual survey items are plagued with measurement error (Achen, 1975).

<sup>14</sup>Because our dataset has finite samples, the usual Two-Stage Least Square (2SLS) is not always better than OLS; this is known as the Weak Instruments Problem. In the Appendix, Fuller estimates are employed to fix the finite sample bias of 2SLS [TO BE ADDED].

third, fourth, seventh, and eighth columns are obtained from regression, including region fixed effects. We relaxed the regional differences in the specifications reported in the first, second, fifth, and sixth columns. We ran regressions with several different specifications, by including and excluding the Leftist and Christian party controls of the chief executives, because public opinion could be affected by some indoctrination by the governing party. If this were the case, then the effects of opinion liberalism would disappear if partisan control variables were included. The odd columns report regression estimates, without including any partisan control variables. The estimates from the regression including party controls are reported in the even columns. As previous literature predicted, the coefficient estimates, both on the Leftist and Christian control of government, are positive.<sup>15</sup> Turning to our main independent variables, our analysis provides little evidence that opinion liberalism is a by-product of a governing party's indoctrination.

*<Table 2 about here>*

We therefore interpret the results in the fourth and eighth columns with full control variables, since the regression estimates on our main independent variables of interest are not significantly changed by different specifications. Before adding an interaction term into the model, OLS estimates in *<Table 2>* show that a country with a more liberal population spends more on welfare.

Our main focus lies in the estimation of the equation (1), which includes the interaction term. The estimation results are displayed in the five panels in *<Table 3>*. Each panel differs in the way in which fully and less democratic countries are classified. We also report the estimated coefficient and marginal effect of opinion liberalism in less democratic countries. The marginal effects are reported immediately above the row indicating the number of observations in each panel.

---

<sup>15</sup>Note that previous studies diverge on the effects of partisan controls. While the regression table from Brooks and Manza shows that there is a significantly positive relationship between religious party control and social expenditure in 15 OECD countries, Bradley et al. found no relationship between partisan controls and reduction in inequality, using the Luxembourg Income Study (Brooks and Manza, JOP, 2006; Bradley et al., WP, 2003). The effects of partisan controls are not main concerns of this paper. We include them as a control to avoid omitted variable bias.

*<Table 3 about here>*

The first panel reports regression results. Countries having a democracy score of 10 are viewed as fully democratic, while countries scoring 9 and below are considered as less democratic samples. The fourth column indicates that a fully democratic country that has higher opinion liberalism by 1 standard deviation in a given year has a 1.873% higher expenditure on total welfare, expressed as a % of GDP. In less democratic countries, this effect seems to be weak as the estimated marginal effect shows. From the eighth column, we find that welfare spending is about 1.21% higher in a fully democratic country that has a 10% more liberal population in relative fraction (e.g. a 5% greater fraction of liberal population and a 5% lesser fraction of conservatives). This effect also seems weak among the countries having democracy scores of 9 and below.

Note, however, that the interaction effects in all columns are insignificant and that the marginal effects do not seem to be close to 0 in the first panel. This may be due to the unclear middle: countries having a democracy score of 9 may not be seriously different from those scoring 10. Therefore, in order to clarify the conditional effect of democracy, we need to take a look at the second and fourth panels. The coefficients and marginal effects of opinion liberalism reported in the second panel are obtained from the estimation of equation (1) using the category of 10-9 as fully democratic and 8 and below as less democratic countries. Now we observe much stronger effects.

As before, we interpret the fourth and eighth columns, which have full control variables. From the fourth column, we find that a fully democratic country that has a 1 standard deviation higher liberal public opinion in a given year now spends 2.654% more on total welfare. In less democratic countries, the effect is close to 0, as the interaction effect and marginal effect of opinion liberalism indicate. We see a similar picture in the eighth column. Among fully democratic countries, a country that has a 10% more liberal population in relative fraction spends 1.69% more on total welfare. However, among less democratic countries, the difference in the relative fraction of liberal population does not have any impact on the size of welfare spending.

The fourth panel presents coefficients and marginal effects estimated from the regressions

after removing the unclear middle. In this case, we compare effects of opinion liberalism in fully democratic countries and the same effects in less democratic countries, discarding the countries having a democracy score of 9. The effects of opinion liberalism in fully democratic countries are similar to those reported in the first panel. By removing the countries scoring 9, we can more clearly see that the marginal effects of opinion liberalism are close to 0 in all columns in the fourth panel. The third and fifth panels also show similar results.

The main effects in all panels and all columns show that differences in opinion liberalism may explain why some countries spend more on welfare than do others. The interaction effects and marginal effects of opinion liberalism indicate that its effects on the size of welfare spending are conditioned on the level of democracy. Therefore, we can argue that the quality of a democratic political system is a key to explaining why some countries reflect public opinion liberalism more than others do in their welfare spending policies. If a country has a quality democratic system and a large proportion of liberal population, then the welfare state will persist or expand. However, opinion liberalism in less democratic countries may not help to sustain or to increase welfare spending, since politicians care less about what voters want.

#### *Separating Out the Income Effect*

The welfare policy responsiveness could also be conditioned on the level of wealthiness. In itself, this is an interesting empirical question to consider, as it means that even if a government would like to reflect public preferences, it is not able to do so if it does not have sufficient resources. In the present study, however, our concern is that the level of democracy may be correlated with the level of wealthiness. One may claim that our interaction effects and marginal effects in <Table 3> may not properly capture the conditional effect of democracy. Those estimators may be mistakenly capturing the conditional effects of affluence.

<Table 4 about here>

<Table 4> reports  $\hat{\gamma}_3$  obtained by estimating the equation (2) below. The coefficient estimates clearly indicate that the welfare policy responsiveness is indeed conditioned on the

level of affluence.

$$Y_{it} = P'_{it}\gamma_1 + G'_{it}\gamma_2 + (P_{it} \times G_{it})'\gamma_3 + \mathbf{X}'_{it}\beta + \delta_I + \delta_T + u_{it}, \quad (2)$$

where,  $Y_{it}$  is a dependent variable of the size of total welfare spending,  $P_{it}$  is a measure of public opinion liberalism,  $G_{it}$  denotes natural log of real GDP per capita,  $P_{it} \times G_{it}$  is an interaction term,  $\mathbf{X}_{it}$  is a vector of control variables described earlier,  $\delta_I$  and  $\delta_T$  are unobserved regional and time heterogeneities.

<Table 5 about here>

<Table 5> presents summary statistics of the natural log of real GDP per capita by different levels of democracy for all 5 categorizations. From <Table 5>, we can see that fully democratic countries are richer than are less democratic ones, and thus our regression results reported in <Table 3> may have picked up some contamination from the effect of affluence.

To separate out the effect of wealthiness from our conditional effect of democracy, we now exclude high-income countries and estimate equation (1). From the Min-Max range of GDP per capita displayed in the third and fourth columns of <Table 5>, we exclude the countries whose log of per capita GDP is higher than 9.6, so that we can keep a similar range of wealth in both fully and less democratic countries for most of the categorization methods.<sup>16</sup>

<Table 6 about here>

<Table 6> displays coefficient and marginal effect estimates analogous to those seen in <Table 3>, but now which exclude the high-income countries from the estimation. Note that sample size in all panels diminishes and therefore the variances of estimators are large. Although the statistical significances are weaker than for the estimators shown in <Table 3>,

---

<sup>16</sup>Right censoring does not seem sufficient to keep the same range in fully and less democratic countries, if we use <10 vs. 9 and below> or <10 vs. 8 and below> as a method of categorization. The minimum log per capita GDP for a country having a democracy score of 10 is already above 9.02. We do not perform both-side censoring as this causes too great a reduction in sample size.

all main, interaction, and marginal effects indicate essentially the same relationship between opinion liberalism, size of welfare, and level of democracy. Therefore, we can argue that the effect of opinion liberalism is indeed conditioned on the level of democracy, even after separating out the effect of wealthiness.<sup>17</sup>

### *Combining Multiple Cross-Country Social Surveys*

Our dataset has 83 observations, which are, in fact, at least twice larger than were those of other studies that used datasets merging country-level and survey data. However, a sample size of 83 is still considered small from a methodological perspective. We now therefore attempt to increase the sample size by combining multiple cross-country social survey data. This is a feasible option because our main independent variable comes from a survey question of leftist political orientation. There are many cross-country social surveys that contain almost identical question.

It is generally deemed to be a poor idea to combine different social surveys because many conditions, such as question wordings and survey protocols, are different from each other. Moreover, not all surveys are reliable, in the sense that some surveys are conducted with more laxity in rules on sampling, interviewers, etc. Therefore, we first carefully examined whether the question wording of the leftist political orientation in a survey was significantly different from the same question in other surveys, and second, we checked whether the observations extracted from a survey showed sufficiently high correlations with the observations extracted from other surveys. Using our 1989-2003 WVS as an anchor, we added the observations from the Comparative Study of Electoral Systems (CSES), Eurobarometer, Central and Eastern Eurobarometer (CEEB), the European Election Studies (EES), and Post-Communist Public Study (PCP). The correlations among these surveys were sufficiently high to take their reliability as satisfactory (higher than .7).<sup>18</sup>

---

<sup>17</sup>We consider that right censoring with a threshold of 9.6 is sufficiently conservative. We also conducted right censoring with different thresholds of 9.7 (chosen due to the maximum log per capita GDP of the less democratic countries in the second and fourth panels of <Table 5>) and of 10 (chosen due to the maximum log per capita GDP of less democratic countries in the first panel). All yielded similar results.

<sup>18</sup>Note that we do not include all available cross-country social surveys. For example, the European Social Survey (ESS) is not included because there were no overlapping observations with which to check the correlation. To keep the reliability of the combined data in a conservative manner, we have included only the data that showed high correlation with other data.

One important thing to mention is that, unlike WVS, the leftist political orientation question is 11-point scaled in some surveys.<sup>19</sup> In order to make the opinion liberalism measure as comparable as possible, we first oriented these values so that higher scores represented more liberal views. Second, we rescaled the 11-point scaled question to a 10-point scale so that it would have the same units and range as the WVS leftist political orientation question. We then computed the mean values for each country. Next, we combined the data from multiple surveys; and finally, we standardized these to have a mean of 0 and a standard deviation of 1. Note that we have not measured the relative fraction of the liberal population this time, due to the difficulty in rendering the relative fraction measures from 10-point scales comparable to those from 11-point scales.

*<Table 7 about here>*

<Table 7> demonstrates that we were able to obtain 188 observations through these combined multiple surveys. Although most of the observations were again flocked around a democracy score of 10, we had a larger number of less-democratic samples as well compared to the observations when we employed WVS only.

<Table 8> to <Table 12> are coefficient estimates of the main, interaction, and marginal effects, analogous to <Table 3> through <Table 6>, but using opinion liberalism measured from the combined dataset. The results are remarkably similar to the ones we obtained using WVS only. Primarily due to the increase in sample size, the statistical significances have been improved. This is especially evident for the estimation reported in <Table 12>, which was obtained after discarding the high-income countries to separate out the effects of affluence.

*<Table 8-12 about here>*

[MORE TO BE ADDED]

## VII. Conclusion and Discussion

---

<sup>19</sup>CSES and two countries from CEEB (Estonia and Hungary in 1993) have a 11-pt scaled leftist political orientation question.

First, our analysis shows that welfare spending policies do indeed reflect public views on welfare. Secondly, the level of democracy matters. It appears that public opinion liberalism influences the size of welfare only in those countries that are fully democratic. This welfare policy responsiveness can be understood as a reflection of the operation of a quality democratic political system. The results presented in this study can serve to supply the missing link in the behavioral explanations of why some countries redistribute more than others. Behavioral variations, such as social perceptions of fairness or ethnic fractionalization, may indirectly affect the size of welfare through the fact that the welfare spending policies reflect public preferences in democratic political systems. Furthermore, we expect that the behavioral mechanisms may work only where the level of democracy is sufficiently high, so that the welfare policies in fact do respond to public preferences.

[MORE TO BE ADDED]

# Bibliography

- [1] Achen, Christopher H., 1975, “Mass Political Attitudes and the Survey Response, *American Political Science Review*, Vol. 69, pp. 1281-31.
- [2] Alesina, Alberto, Reza Baqir, and William Easterly, 1999, “Public Goods and Ethnic Divisions,” *Quarterly Journal of Economics*, Vol. 114, Issue 4, pp. 1243-1284.
- [3] Alesina, Alberto, Reza Baqir, and William Easterly, 2000, “Redistributive Public Employment,” *Journal of Urban Economics*, Vol. 48, No. 2, pp. 219-241.
- [4] Alesina, Alberto and George-Marios Angeletos, 2005, “Fairness and Redistribution,” *American Economic Review*, Vol. 95 (4), pp. 960-980.
- [5] Alesina, Alberto and Edward Glaeser, 2004, *Fighting Poverty in the US and Europe: A World of Difference*, New York: Oxford University Press.
- [6] Alesina, Alberto, Edward Glaeser, and Bruce Sacerdote, 2001, “Why Doesn’t the United States Have a European-Style Welfare State?,” *Brookings Papers on Economic Activity*, Vol. 2001, No. 2, pp. 187-254.
- [7] Bound, John, David Jaeger and Regina Baker, 1995, “Problems with Instrumental Variables Estimation When the Correlation between the Instrument and the Endogenous Explanatory Variable is Weak,” *Journal of the American Statistical Association*, Vol. 90, No. 430, pp. 443-450.
- [8] Bradley, David, Evelyne Huber, Stehoanie Moller, Francois Nielsen, and John D. Stephens, 2003, “Distribution and Redistribution in Postindustrial Democracies” *World Politics*, Vol. 55, No. 2, pp. 193-228.

- [9] Brettschneider, Frank, 1996, "Public Opinion and Parliamentary Action: Responsiveness of the German Bundestag in Comparative Perspective," *International Journal of Public Opinion Research*, Vol. 8, pp. 292-311.
- [10] Brooks, Clem and Jeff Manza, 2006, "Why do welfare states persist?" *Journal of Politics*, Vol. 68, Issue 4, pp 816-827.
- [11] De La O, Ana L. and Jonathan A. Rodden, 2008, "Does Religion Distract the Poor? Income and Issue Voting Around the World," *Comparative Political Studies*, Vol. 41, No. 4-5, pp. 437-476.
- [12] Erikson, Robert S., Gerald C. Wright, and John P. McIver, 1989, "Political Parties, Public Opinion, and State Policy in the United States," *American Political Science Review*, Vol. 83, pp. 729-50.
- [13] Fuller, Wayne A., 1977, "Some Properties of a Modification of the Limited Information Estimator," *Econometrica*, Vol. 45, issue 4, pp. 939-53.
- [14] Gabel, Matthew and Simon Hix, 2005, "Reconsidering the Economic Effects of Constitutions," A Paper Presented at the Positive Political Theory Seminar at the University of California, Berkeley.
- [15] Hahn, Jinyong and Jerry Hausman, 2003, "Weak Instruments: Diagnosis and Cures in Empirical Econometrics." *American Economic Review Papers and Proceedings*, Vol. 93, pp. 118-25.
- [16] Hahn, Jinyong, Jerry Hausman, and Guido Kuersteiner, 2004, "Estimation with Weak Instruments: Accuracy of Higher-Order Bias and MSE Approximations," *Econometrics Journal*, Vol. 7, No. 1, pp. 272-306.
- [17] Hill, Kim Quaile and Angela Hinton-Anderson, 1995, "Pathways of Representation: A Causal Analysis of Public Opinion-Policy Linkages," *American Journal of Political Science*, Vol. 39, No. 4, pp. 924-935.

- [18] Iversen, Torben and Thomas R. Cusack, 2000, "The Causes of Welfare State Expansion: Deindustrialization or Globalization?," *World Politics*, Vol. 52, No. 3, pp. 313-349.
- [19] Iversen, Torben, and David Soskice, 2006, "Electoral Institutions and the Politics of Coalitions: Why Some Democracies Redistribute More than Others," *American Political Science Review*, Vol. 100 (2), pp. 165-191.
- [20] Luttmer, Erzo F. P., 2001, "Group Loyalty and the Taste for Redistribution," *Journal of Political Economy*, Vol. 109, No. 3, pp. 500-528.
- [21] Lindert, Peter H., 2004, *Growing Public: Social Spending and Economic Growth since the Eighteenth Century*, Cambridge University Press.
- [22] Lindert, Peter, H., 1996, "What Limits Social Spending?" *Explorations in Economic History*, Vol. 33, No. 1, pp. 1-34.
- [23] Lindert, Peter H., 1994, "The Rise of Social Spending, 1880 - 1930," *Explorations in Economic History*, Vol. 31, No. 1, pp. 1-37.
- [24] McIver, John P., Robert S. Erikson, and Gerald C. Wright, 2001, "Public Opinion and Public Policy in Temporal Perspective: A View from the States," a Paper Presented at the Annual Meeting of the Midwest Political Science Association, Chicago, IL.
- [25] Moene, Karl Ove and Michael Wallerstein, 2001, "Inequality, Social Insurance and Redistribution," *American Political Science Review*, Vol. 95, No. 4. pp. 859-874.
- [26] Milesi-Ferretti, Gian Maria, Roberto Perotti, and Massimo V. Rostagno, 2002, "Electoral Systems and Public Spending." *Quarterly Journal of Economics*, Vol. 117, No. 2., pp. 609-657.
- [27] Meltzer, Allan H. and Scott F. Richard, 1981, "A Rational Theory of the Size of Government," *Journal of Political Economy*, Vol. 89, pp. 914-27.
- [28] Monroe, Alan D., 1998, "Public Opinion and Public Policy, 1980-1993," *Public Opinion Quarterly*, Vol. 62, pp. 6-28.

- [29] Oates, Wallace E., 1999, "An Essay on Fiscal federalism," *Journal of Economic Literature*, Vol. 37, No. 3, pp. 1120-49.
- [30] Page, Benjamin I. and Robert Y. Shapiro, 1983, "Effects of public opinion on policy," *American Political Science Review*, Vol. 77, pp. 175-190.
- [31] Persson, Torsten and Guido Tabellini, 2003, *The Economic Effects of Constitutions*, Cambridge: MIT Press
- [32] Persson, Torsten and Guido Tabellini, 2000, *Political Economics: Explaining Economic Policy*, Cambridge: MIT Press.
- [33] Petry, Francois, 1999, "The Opinion-Policy Relationship in Canada," *Journal of Politics*, Vol. 61, pp. 540-550.
- [34] Petry, Francois and Matthew Mendelsohn, 2004, "Public Opinion and Policy Making in Canada, 1994-2001," *Canadian Journal of Political Science*, Vol. 37, pp. 505-529.
- [35] Pitkin, Hanna F., 1967, *The Concept of Representation*, Berkeley: University of California Press.
- [36] Powell, G. Bingham, 2004, "The Chain of Responsiveness," *Journal of Democracy*, Vol. 15, No. 4, pp. 91-105.
- [37] Rothenberg, Thomas J., 1983, "Asymptotic Properties of Some Estimators in Structural Models," in *Studies in Econometrics, Time Series, and Multivariate Statistics, in honor of T. W. Anderson*, Samuel Karlin, Takeshi Amemiya, and Leo A. Goodman, eds., Academic Press, pp. 297-405.
- [38] Rodrik, Dani, 1998, "Why Do Open Economies Have Bigger Governments?" *Journal of Political Economy*, Vol. 106, No. 5, pp. 997-1032.
- [39] Scheve, Kenneth and David Stasavage, 2006, "Religion and Preferences for Social Insurance," *Quarterly Journal of Political Science*, Issue 1, pp. 255-286.

- [40] Stimson, James, Michael McKuen, and Robert Erikson, 1995, "Dynamic Representation," *American Political Science Review*, Vol. 89, pp. 543–565.
- [41] Soroka, Stuart N. and Elvin Lim, 2003, "Issue Definition and the Opinion-Policy Link: Public Preferences and Health Care Spending in the US and UK," *British Journal of Politics and International Relations*, Vol. 5, No. 4., pp. 576–593.
- [42] Soroka, Stuart N. and Christopher Wlezien, 2005, "Opinion-Policy Dynamics: Public Preferences and Public Expenditure in the United Kingdom," *British Journal of Political Science*, Vol. 35, pp. 665–689.
- [43] Soroka, Stuart N. and Christopher Wlezien, 2004, "Opinion Representation and Policy Feedback: Canada in Comparative Perspective," *Canadian Journal of Political Science*, Vol. 37, No. 3, pp. 531–559.
- [44] Wright, Gerald C., Robert S. Erickson, and John P. McIver, 1987, "Public Opinion and Policy Liberalism in the American States," *American Journal of Political Science*, Vol. 31, pp. 980-1001.

**APPENDIX (WORK-IN-PROGRESS):**  
**Measurement Error, Instrumental Variable Estimation,**  
**and Weak Instruments Problem**

We begin with the classical errors-in-variable (EIV) model. Without loss of generality, we can assume that there is only one RHS variable that is measured with error. After partialling out the correctly measured variables, we can write the model simply, as the following:

$$y = \beta x^* + v_1 \tag{3}$$

$$x = x^* + v_2 \tag{4}$$

where  $x^*$  is the unobserved true regressor and  $x$  is the observed measure of  $x^*$  with error  $v_2$ . Following the classical EIV assumptions,  $E(v_1|x^*) = 0$ ,  $E(v_2|x^*) = 0$ ,  $E(v_1|x) = 0$ , but  $E(v_2|x) \neq 0$ . The true regressor  $x^*$  is assumed to be uncorrelated with  $v_2$ , and thus,  $x$  must be correlated with  $v_2$ . Because only  $x$  is available, the equation (3) can be rewritten as:

$$y = \beta x + v_1 - \beta v_2 \equiv \beta x + \epsilon \tag{5}$$

The problem is that  $E(\epsilon|x)$  is not 0, as  $x$  is correlated with  $v_2$ . Due to the violation of the orthogonality condition, estimating equation (5) using OLS will be biased toward zero, known as “the iron law of econometrics.”

The typical solution to this downward bias is the use of instrumental variables. If we assume that there are  $k$  number of instruments, then following the limited information structural model of Hahn and Hausman (2003),

$$y = \beta x + \epsilon \tag{6a}$$

$$x = \mathbf{Z}\pi + u \tag{6b}$$

where,  $\dim(\pi) = k$ . Assuming that  $\mathbf{Z}$  is not correlated with  $\epsilon$  and  $u$ ,  $\epsilon$  and  $u$  are correlated with each other because both are correlated with  $x$ .

The typical Two-Stage Least Square (2SLS) is not always better than OLS in a finite sample dataset. Hahn and Hausman showed that the bias of Two-Stage Least Squares is

$$E(\hat{\beta}_{2SLS}) - \beta \approx \frac{k\rho(1 - R_{1st}^2)}{nR_{1st}^2} \quad (7)$$

where,  $\rho$  is the correlation between  $\epsilon$  and  $u$ ,  $R_{1st}^2$  is the partial  $R^2$  from the first stage regression, and  $n$  is the number of observations.

From equation (5), we note that there is no problem in using 2SLS as long as  $n$  is large. Although some econometric theorists found that there could still be huge biases, even when sample size is sufficiently large (e.g. 329,000 observations in Bound, Jaeger, and Baker, 1995), it is usually not a concern in applied work. Now, equation (5) indicates that 2SLS would be biased when  $n$  is small. Most of the cross-country analyses have finite samples, in either pure cross-section or panel format. When any non-orthogonality condition is suspicious in a finite sample dataset, then it is not a good idea to use 2SLS unless there is a super instrument that gives a very high partial  $R^2$  from the 1st-stage regression. In practice, however, when there are small numbers of problematic variables, the partial  $R^2$  is very often low, although the correlations between instruments and mismeasured variables are strong enough, i.e. p-values are smaller than 0.01 or at most 0.05. A conventional choice to increase  $R^2$  is to add more instruments, but then that increases the number of instruments so that the bias of 2SLS would not be improved in a finite sample dataset.

Recent development of methodological techniques enables us to solve this weak instruments problem. Hahn, Hausman, and Kuersteiner suggested using either Jackknifed 2SLS or Fuller estimator (Hahn, Hausman, and Kuersteiner, 2004). These estimators basically minimize the possible finite sample bias while keeping the principles of instrumental variable approaches.

We employed the Fuller estimator in the study. From equations (6) and (7), Fuller estimator can be obtained by the following:

$$\hat{\beta}_{F(\alpha)} = [x' \mathbf{P}_z x - (\hat{\lambda} - \frac{\alpha}{n-k}) x' \mathbf{Q}_z x]^{-1} [x' \mathbf{P}_z y - (\hat{\lambda} - \frac{\alpha}{n-k}) x' \mathbf{Q}_z y] \quad (8)$$

where,  $\mathbf{P}_z = \mathbf{Z}(\mathbf{Z}'\mathbf{Z})^{-1}\mathbf{Z}'$ ,  $\mathbf{Q}_z = \mathbf{I} - \mathbf{P}_z$ ,  $\hat{\lambda} = \min\{\text{eigenvalue of } \mathbf{M}'\mathbf{P}_z\mathbf{M}(\mathbf{M}'\mathbf{Q}_z\mathbf{M})^{-1}\}$ ,  $\mathbf{M} \equiv$

$[y \ x]$ , and  $\alpha > 0$  is the modified limited information estimator to be chosen by researcher (Fuller, 1977). Fuller himself suggested choosing  $\alpha = 4$  if one wishes to minimize mean squared error, and several other researchers advocated choosing the same value of  $\alpha$  (e.g. Rothenberg, 1983). Therefore, we chose Fuller estimator with  $\alpha = 4$  in this study.

From the benchmark model of equation (1), let  $\mathbf{\Pi}_{it} \equiv \begin{bmatrix} P_{it} \\ P_{it} \times D_{it} \end{bmatrix}$ ,  $\mathbf{\Omega} \equiv \begin{bmatrix} \alpha_1 \\ \alpha_3 \end{bmatrix}$ , and  $\mathbf{Z}_{it} \equiv \begin{bmatrix} W_{it} \\ W_{it} \times D_{it} \end{bmatrix}$ . Then, our limited information structural model would be

$$Y_{it} = \mathbf{\Pi}'_{it}\mathbf{\Omega} + D'_{it}\alpha_{12} + \mathbf{X}'_{it}\beta_{12} + \delta_I + \delta_T + \epsilon_{it} \quad (9a)$$

$$\Pi_{it} = \mathbf{Z}'_{it}\gamma + D'_{it}\alpha_{22} + \mathbf{X}'_{it}\beta_{22} + \delta_I + \delta_T + u_{it} \quad (9b)$$

where,  $Y_{it}$  is a dependent variable of the size of welfare spending,  $P_{it}$  is a measure of opinion liberalism,  $D_{it}$  is a dummy indicating whether a country is a fully or less democratic country,  $W_{it}$  is a measure of instrumental variable [ON THE PROCESS OF CHOOSING ONE],  $\mathbf{X}_{it}$  is a vector of economic, geographic, and political controls,  $P_{it} \times D_{it}$  and  $W_{it} \times D_{it}$  are interaction terms, and  $\delta_I$  and  $\delta_T$  are unobserved regional and time heterogeneities. Note that our logic of why  $W_{it}$  is a valid instrument does not apply to instrumenting interaction terms. By doing so, however, we are prevented from running “forbidden regressions.”

From the discussions above, we argue that employing Fuller(4) estimators is the best way to fix the measurement error problem in a finite sample. Let us see if it is true using our actual dataset.

[ESTIMATION RESULTS TO BE ADDED]

Table 1. Democracy Scores and Frequencies

Democracy score	0	2	4	5	6	7	8	9	10	Total
Frequencies	4	1	2	1	2	9	17	9	37	83

Note: missing values of democracy score were replaced by the predicted values from the regression of democracy score on rescaled Gastil score (3 obs.). The predicted values were higher than 10, but these scores are treated as being the same as 10 throughout the research, since we split the data into broad sets of categories. Before running this regression, we rescaled Gastil score so that it has the same units and range as democracy score.

Table 2. Opinion Liberalism and the Size of Welfare

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Opinion Liberalism: Standardized Mean	1.255** [0.469]	1.405*** [0.512]	1.095** [0.463]	1.168** [0.506]				
Opinion Liberalism: Relative Fraction					0.0882** [0.0327]	0.0990*** [0.0346]	0.0809** [0.0317]	0.0877** [0.0340]
Less Democratic	-3.439** [1.651]	-2.713* [1.535]	-3.735** [1.566]	-2.698* [1.492]	-3.258* [1.652]	-2.478 [1.512]	-3.582** [1.548]	-2.520* [1.454]
GDP per capita	-0.844 [1.488]	-0.764 [1.407]	1.949 [1.526]	2.133 [1.462]	-0.779 [1.483]	-0.686 [1.396]	2.103 [1.495]	2.297 [1.431]
Trade	0.0436*** [0.0148]	0.0229 [0.0191]	0.0254 [0.0163]	0.00724 [0.0172]	0.0461*** [0.0149]	0.0253 [0.0191]	0.0272 [0.0165]	0.00882 [0.0173]
Pop % 15-64	0.201 [0.224]	0.180 [0.221]	-0.0191 [0.246]	-0.0481 [0.236]	0.194 [0.224]	0.173 [0.222]	-0.0369 [0.244]	-0.0696 [0.236]
Pop % over 65	0.721*** [0.250]	0.774*** [0.245]	0.621** [0.235]	0.576** [0.256]	0.732*** [0.245]	0.787*** [0.238]	0.616** [0.234]	0.567** [0.252]
Semi-pres	-4.407** [1.924]	-3.752* [2.118]	-2.556 [1.981]	-2.213 [1.989]	-4.544** [1.914]	-3.891* [2.118]	-2.584 [1.961]	-2.228 [1.978]
Parliamentary	-0.0503 [1.453]	-0.276 [1.398]	1.318 [1.440]	0.853 [1.439]	-0.171 [1.419]	-0.419 [1.354]	1.253 [1.408]	0.770 [1.391]
Mixed	0.637 [2.048]	0.341 [1.955]	0.159 [1.847]	-0.0266 [1.897]	0.580 [2.009]	0.265 [1.890]	0.101 [1.787]	-0.0861 [1.809]
PR	3.016* [1.617]	2.838* [1.614]	2.410 [1.602]	2.395 [1.623]	3.157* [1.565]	2.990* [1.545]	2.549 [1.551]	2.556 [1.542]
Federalism	-0.779 [1.666]	-1.392 [1.544]	-1.032 [1.528]	-1.746 [1.479]	-0.586 [1.666]	-1.199 [1.538]	-0.867 [1.527]	-1.578 [1.466]
Christian Exec.		5.802** [2.450]		5.712** [2.483]		5.926** [2.534]		5.862** [2.500]
Leftist Exec.		0.684 [0.911]		0.977 [0.970]		0.734 [0.885]		0.973 [0.930]
Region FE	No	No	Yes	Yes	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	75	75
$R^2$	0.744	0.771	0.770	0.794	0.747	0.775	0.775	0.800

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 3. Opinion Liberalism, Level of Democracy, and the Size of Welfare

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>(1) 10 vs. 9 and below</b>								
Opinion Liberalism: Standardized Mean	1.790*	1.863	1.760**	1.873**				
	[1.003]	[1.117]	[0.731]	[0.861]				
Opinion Liberalism ×Less Democratic	-0.889	-1.047	-1.058	-1.315				
	[1.167]	[1.235]	[1.033]	[1.102]				
Opinion Liberalism: Relative Fraction					0.105	0.114	0.110**	0.121**
					[0.0639]	[0.0705]	[0.0481]	[0.0551]
Opinion Liberalism ×Less Democratic					-0.0254	-0.0420	-0.0414	-0.0646
					[0.0768]	[0.0811]	[0.0711]	[0.0747]
Less Democratic	0.0280	1.678	-0.613	1.233	-0.276	1.294	-1.075	0.657
	[2.506]	[2.587]	[2.694]	[2.838]	[2.509]	[2.550]	[2.622]	[2.721]
dy/dx - Less dem	0.902	0.816	0.702	0.558	0.0795	0.0719	0.0686	0.0568
	[0.514]	[0.562]	[0.612]	[0.638]	[0.0371]	[0.0397]	[0.0442]	[0.0458]
Observations	75	75	75	75	75	75	75	75
R <sup>2</sup>	0.723	0.764	0.747	0.788	0.726	0.768	0.752	0.793
<b>(2) 10-9 vs. 8 and below</b>								
Opinion Liberalism: Standardized Mean	2.614***	2.932***	2.386***	2.654***				
	[0.905]	[0.970]	[0.774]	[0.823]				
Opinion Liberalism ×Less Democratic	-2.429**	-2.632**	-2.304**	-2.530***				
	[1.041]	[1.077]	[0.892]	[0.889]				
Opinion Liberalism: Relative Fraction					0.159**	0.180***	0.149***	0.169***
					[0.0611]	[0.0652]	[0.0512]	[0.0541]
Opinion Liberalism ×Less Democratic					-0.142*	-0.157**	-0.137**	-0.156**
					[0.0715]	[0.0744]	[0.0611]	[0.0616]
Less Democratic	-3.652**	-3.060**	-3.904***	-2.980**	-4.150**	-3.475**	-4.397***	-3.449**
	[1.418]	[1.272]	[1.331]	[1.260]	[1.572]	[1.404]	[1.441]	[1.347]
dy/dx - Less dem	0.185	0.299	0.0816	0.124	0.0176	0.0227	0.0125	0.0125
	[0.492]	[0.490]	[0.490]	[0.502]	[0.0334]	[0.0330]	[0.0337]	[0.0346]
Observations	75	75	75	75	75	75	75	75
R <sup>2</sup>	0.767	0.797	0.790	0.817	0.765	0.796	0.791	0.821
<b>(3) 10-8 vs. 7 and below</b>								
Opinion Liberalism: Standardized Mean	1.950***	2.080***	1.788***	1.969***				
	[0.599]	[0.678]	[0.538]	[0.603]				
Opinion Liberalism ×Less Democratic	-2.059**	-2.071**	-2.186***	-2.332***				
	[0.805]	[0.800]	[0.770]	[0.756]				
Opinion Liberalism: Relative Fraction					0.128***	0.138***	0.121***	0.136***
					[0.0412]	[0.0456]	[0.0364]	[0.0399]
Opinion Liberalism ×Less Democratic					-0.131**	-0.136**	-0.143**	-0.158***
					[0.0577]	[0.0573]	[0.0559]	[0.0555]
Less Democratic	-2.699*	-2.178	-2.825*	-2.384*	-3.263*	-2.756*	-3.480**	-3.121*
	[1.493]	[1.425]	[1.464]	[1.407]	[1.643]	[1.544]	[1.639]	[1.562]
dy/dx - Less dem	-0.109	0.00902	-0.398	-0.363	-0.00346	0.00237	-0.0216	-0.0226
	[0.589]	[0.547]	[0.666]	[0.633]	[0.0419]	[0.0379]	[0.0479]	[0.0456]
Observations	75	75	75	75	75	75	75	75
R <sup>2</sup>	0.746	0.779	0.770	0.805	0.749	0.783	0.775	0.812
Partisan Controls	No	Yes	No	Yes	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes	No	No	Yes	Yes
Wave FE	Yes	Yes	29 Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 3 (contin.). Opinion Liberalism, Level of Democracy, and the Size of Welfare

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>(4) 10 vs. 8 and below</b>								
Opinion Liberalism: Standardized Mean	1.735* [1.013]	2.074* [1.096]	1.731** [0.768]	2.105** [0.840]				
Opinion Liberalism ×Less Democratic	-1.420 [1.146]	-1.662 [1.225]	-1.510 [0.975]	-1.903* [1.007]				
Opinion Liberalism: Relative Fraction					0.0960 [0.0655]	0.116 [0.0695]	0.103** [0.0499]	0.126** [0.0536]
Opinion Liberalism ×Less Democratic					-0.0684 [0.0734]	-0.0842 [0.0782]	-0.0795 [0.0636]	-0.106 [0.0658]
Less Democratic	-3.039 [2.190]	-2.214 [2.120]	-3.718 [2.239]	-2.440 [2.374]	-3.354 [2.293]	-2.498 [2.228]	-4.142* [2.247]	-2.934 [2.363]
dy/dx - Less dem	0.315 [0.527]	0.412 [0.543]	0.220 [0.558]	0.202 [0.585]	0.0276 [0.0359]	0.0321 [0.0368]	0.0236 [0.0380]	0.0202 [0.0404]
Observations	68	68	68	68	68	68	68	68
$R^2$	0.765	0.798	0.789	0.818	0.762	0.796	0.788	0.818
<b>(2) 10-9 vs. 7 and below</b>								
Opinion Liberalism: Standardized Mean	2.584** [1.032]	2.874** [1.059]	2.311** [0.909]	2.647*** [0.924]				
Opinion Liberalism ×Less Democratic	-2.366** [1.146]	-2.527** [1.153]	-2.299** [1.005]	-2.678*** [0.966]				
Opinion Liberalism: Relative Fraction					0.155** [0.0672]	0.173** [0.0697]	0.143** [0.0576]	0.164*** [0.0593]
Opinion Liberalism ×Less Democratic					-0.141* [0.0768]	-0.153* [0.0777]	-0.141** [0.0685]	-0.169** [0.0672]
Less Democratic	-4.877** [2.072]	-4.269** [1.828]	-4.602** [2.020]	-3.994** [1.912]	-5.278** [2.252]	-4.600** [2.004]	-5.041** [2.192]	-4.470** [2.062]
dy/dx - Less dem	0.218 [0.595]	0.347 [0.515]	0.0116 [0.661]	-0.0313 [0.601]	0.0142 [0.0408]	0.0209 [0.0361]	0.00187 [0.0473]	-0.00454 [0.0439]
Observations	59	59	59	59	59	59	59	59
$R^2$	0.790	0.822	0.812	0.841	0.787	0.820	0.812	0.843
Partisan Controls	No	Yes	No	Yes	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 4. Affluence, Opinion Liberalism and the Size of Welfare

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GDP per capita	0.929	1.024	1.202*	1.446**				
×Standardized Mean	[0.665]	[0.668]	[0.636]	[0.636]				
GDP per capita					0.0609	0.0675	0.0877**	0.106**
×Relative Fraction					[0.0441]	[0.0441]	[0.0409]	[0.0409]
Partisan Controls	No	Yes	No	Yes	No	Yes	No	Yes
Region FE	No	No	Yes	Yes	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	75	75	75	75	75	75	75	75
$R^2$	0.752	0.780	0.782	0.811	0.755	0.784	0.789	0.820

Robust standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 5. GDP per capita and the Level of Democracy

	Mean	Std. Dev.	Min	Max	N
<b>(1) 10 vs. 9 and below</b>					
10	9.811386	.3754804	9.023938	10.41761	37
9 and below	8.770034	.5645676	7.548747	9.968466	44
<b>(2) 10-9 vs. 8 and below</b>					
10-9	9.637173	.5603678	7.652761	10.41761	46
8 and below	8.731223	.5459054	7.548747	9.690308	35
<b>(3) 10-8 vs. 7 and below</b>					
10-8	9.415657	.6644802	7.548747	10.41761	62
7 and below	8.691159	.5777962	7.625332	9.557682	19
<b>(4) 10 vs. 8 and below</b>					
10	9.811386	.3754804	9.023938	10.41761	37
8 and below	8.731223	.5459054	7.548747	9.690308	35
<b>(5) 10-9 vs. 7 and below</b>					
10-9	9.637173	.5603678	7.652761	10.41761	46
7 and below	8.691159	.5777962	7.625332	9.557682	19

Table 6. Separating Out the Income Effect

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>(1) 10 vs. 9 and below</b>								
Opinion Liberalism: Standardized Mean	1.794 [1.156]	1.866 [1.548]	1.249 [1.445]	2.414 [1.630]				
Opinion Liberalism ×Less Democratic	-0.808 [1.229]	-1.035 [1.589]	-0.647 [1.520]	-1.775 [1.729]				
Opinion Liberalism: Relative Fraction					0.0929 [0.0735]	0.119 [0.102]	0.0491 [0.0910]	0.139 [0.113]
Opinion Liberalism ×Less Democratic					-0.0167 [0.0771]	-0.0539 [0.108]	0.00161 [0.0962]	-0.0861 [0.121]
Less Democratic	-2.988 [2.238]	-0.219 [2.347]	-4.426 [3.401]	-1.183 [3.298]	-2.903 [2.271]	-0.351 [2.393]	-4.285 [3.432]	-1.365 [3.248]
dy/dx - Less dem	0.986 [0.409]	0.830 [0.564]	0.602 [0.525]	0.639 [0.554]	0.0762 [0.0269]	0.0649 [0.0389]	0.0507 [0.0372]	0.0524 [0.0394]
Observations	47	47	47	47	47	47	47	47
R <sup>2</sup>	0.770	0.818	0.794	0.832	0.771	0.821	0.794	0.832
<b>(2) 10-9 vs. 8 and below</b>								
Opinion Liberalism: Standardized Mean	2.109** [0.758]	2.145** [0.962]	1.478 [1.007]	2.050* [1.107]				
Opinion Liberalism ×Less Democratic	-1.684* [0.939]	-1.563 [1.029]	-1.205 [1.037]	-1.581 [1.141]				
Opinion Liberalism: Relative Fraction					0.119** [0.0483]	0.135** [0.0627]	0.0726 [0.0630]	0.126 [0.0751]
Opinion Liberalism ×Less Democratic					-0.0820 [0.0591]	-0.0898 [0.0684]	-0.0462 [0.0644]	-0.0894 [0.0798]
Less Democratic	-3.854** [1.647]	-2.172 [1.278]	-3.789** [1.648]	-2.236 [1.472]	-3.985** [1.797]	-2.190 [1.443]	-3.816** [1.747]	-2.280 [1.642]
dy/dx - Less dem	0.425 [0.457]	0.582 [0.491]	0.273 [0.488]	0.469 [0.505]	0.0371 [0.0315]	0.0454 [0.0347]	0.0264 [0.0353]	0.0367 [0.0369]
Observations	47	47	47	47	47	47	47	47
R <sup>2</sup>	0.799	0.828	0.809	0.839	0.795	0.829	0.806	0.838
<b>(3) 10-8 vs. 7 and below</b>								
Opinion Liberalism: Standardized Mean	1.557** [0.578]	1.700** [0.786]	1.118 [0.731]	1.689** [0.779]				
Opinion Liberalism ×Less Democratic	-1.394 [0.938]	-1.435 [1.013]	-1.314 [0.984]	-1.723 [1.087]				
Opinion Liberalism: Relative Fraction					0.104** [0.0392]	0.120** [0.0498]	0.0731 [0.0504]	0.116** [0.0506]
Opinion Liberalism ×Less Democratic					-0.0902 [0.0646]	-0.102 [0.0688]	-0.0836 [0.0675]	-0.118 [0.0746]
Less Democratic	-2.420 [1.770]	-1.445 [1.795]	-2.732 [1.727]	-1.916 [1.838]	-2.786 [1.982]	-1.867 [1.999]	-3.090 [1.962]	-2.397 [2.112]
dy/dx - Less dem	0.164 [0.705]	0.265 [0.690]	-0.196 [0.803]	-0.0338 [0.770]	0.0135 [0.0485]	0.0181 [0.0477]	-0.0105 [0.0572]	-0.00233 [0.0545]
Observations	47	47	47	47	47	47	47	47
R <sup>2</sup>	0.780	0.827	0.797	0.842	0.780	0.830	0.796	0.844
Partisan Controls	No	Yes	No	Yes	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes	No	No	Yes	Yes
Wave FE	Yes	Yes	33 Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 6 (contin.). Separating Out the Income Effect

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
<b>(4) 10 vs. 8 and below</b>								
Opinion Liberalism: Standardized Mean	1.433 [1.373]	1.730 [1.676]	1.266 [1.593]	2.265 [1.865]				
Opinion Liberalism ×Less Democratic	-0.746 [1.321]	-0.951 [1.631]	-0.665 [1.511]	-1.593 [1.859]				
Opinion Liberalism: Relative Fraction					0.0694 [0.0934]	0.103 [0.115]	0.0539 [0.106]	0.126 [0.131]
Opinion Liberalism ×Less Democratic					-0.0164 [0.0860]	-0.0445 [0.113]	-0.00612 [0.0961]	-0.0751 [0.130]
Less Democratic	-3.440 [2.642]	-1.497 [2.419]	-3.922 [3.594]	-1.448 [3.296]	-3.338 [2.700]	-1.431 [2.484]	-3.807 [3.615]	-1.505 [3.286]
dy/dx - Less dem	0.687 [0.496]	0.779 [0.575]	0.601 [0.554]	0.672 [0.587]	0.0530 [0.0336]	0.0581 [0.0389]	0.0478 [0.0391]	0.0511 [0.0411]
Observations	41	41	41	41	41	41	41	41
$R^2$	0.782	0.813	0.784	0.821	0.780	0.813	0.783	0.819
<b>(2) 10-9 vs. 7 and below</b>								
Opinion Liberalism: Standardized Mean	2.069* [1.023]	1.860 [1.230]	1.331 [1.543]	1.760 [1.634]				
Opinion Liberalism ×Less Democratic	-1.933 [1.201]	-1.731 [1.397]	-1.382 [1.199]	-1.801 [1.567]				
Opinion Liberalism: Relative Fraction					0.119* [0.0675]	0.117 [0.0830]	0.0641 [0.0974]	0.109 [0.114]
Opinion Liberalism ×Less Democratic					-0.109 [0.0842]	-0.112 [0.0993]	-0.0690 [0.0788]	-0.115 [0.116]
Less Democratic	-4.222 [2.668]	-2.030 [2.385]	-3.854 [2.557]	-2.198 [2.925]	-4.420 [2.771]	-2.130 [2.591]	-3.897 [2.637]	-2.313 [3.178]
dy/dx - Less dem	0.137 [0.779]	0.129 [0.787]	-0.0509 [1.049]	-0.0407 [1.017]	0.00966 [0.0538]	0.00587 [0.0535]	-0.00492 [0.0738]	-0.00590 [0.0702]
Observations	32	32	32	32	32	32	32	32
$R^2$	0.854	0.882	0.859	0.885	0.850	0.882	0.857	0.885
Partisan Controls	No	Yes	No	Yes	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 7. Democracy Scores and Frequencies - Multiple Surveys

Democracy score	0	2	4	5	6	7	8	9	10	Total
Frequencies	6	1	2	4	3	12	25	17	118	188

Note: missing values of democracy score were replaced by the predicted values from the regression of democracy score on rescaled Gastil score (10 obs.). The predicted values were higher than 10, but these scores are treated as being the same as 10 throughout the research, since we split the data into broad sets of categories. Before running this regression, we rescaled Gastil score so that it has the same units and range as democracy score.

Table 8. Opinion Liberalism and the Size of Welfare - Multiple Surveys

	(1)	(2)	(3)	(4)
Opinion Liberalism:	1.475***	1.388***	1.463***	1.377***
Standardized Mean	[0.540]	[0.484]	[0.496]	[0.433]
Less Democratic	-4.636***	-3.995***	-4.926***	-4.215***
	[1.432]	[1.354]	[1.322]	[1.308]
GDP per capita	-1.666	-1.808	1.026	1.330
	[1.291]	[1.227]	[1.809]	[1.659]
Trade	0.0354**	0.0218	0.0254**	0.00825
	[0.0139]	[0.0161]	[0.0124]	[0.0149]
Pop % 15-64	0.261	0.200	0.0901	-0.0228
	[0.244]	[0.212]	[0.313]	[0.255]
Pop % over 65	0.601**	0.672***	0.489*	0.481*
	[0.274]	[0.242]	[0.275]	[0.257]
Semi-pres	-3.215*	-3.019	-1.931	-1.622
	[1.839]	[1.948]	[1.608]	[1.654]
Parliamentary	1.012	0.804	2.253	2.075
	[1.416]	[1.416]	[1.392]	[1.445]
Mixed	-1.459	-2.076	-1.628	-2.172
	[2.550]	[2.473]	[2.376]	[2.364]
PR	1.220	0.955	1.123	0.921
	[1.628]	[1.647]	[1.620]	[1.636]
Federalism	-0.829	-1.330	-0.863	-1.421
	[1.949]	[1.783]	[1.766]	[1.637]
Christian Exec.		3.599**		3.848**
		[1.686]		[1.687]
Leftist Exec.		0.786		0.631
		[1.057]		[1.100]
Region FE	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Observations	174	174	174	174
$R^2$	0.676	0.697	0.696	0.720

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 9. Opinion Liberalism, Level of Democracy, and the Size of Welfare  
- Using Multiple Cross-Country Social Surveys

	(1)	(2)	(3)	(4)
<b>(1) 10 vs. 9 and below</b>				
Opinion Liberalism:	1.546	1.048	1.710**	1.235*
Standardized Mean	[0.923]	[0.753]	[0.784]	[0.629]
Opinion Liberalism	-0.178	0.340	-0.540	-0.0445
×Less Democratic	[1.133]	[1.015]	[1.069]	[0.970]
Less Democratic	0.429	1.236	-0.114	0.767
	[2.993]	[2.774]	[3.063]	[2.915]
dy/dx - Less dem	1.368	1.388	1.170	1.190
	[0.556]	[0.564]	[0.620]	[0.608]
Observations	174	174	174	174
$R^2$	0.644	0.678	0.663	0.698
<b>(2) 10-9 vs. 8 and below</b>				
Opinion Liberalism:	2.126**	1.963**	2.179***	2.030***
Standardized Mean	[0.888]	[0.831]	[0.767]	[0.692]
Opinion Liberalism	-1.938*	-1.623	-2.151**	-1.853**
×Less Democratic	[1.056]	[1.038]	[0.860]	[0.816]
Less Democratic	-5.199***	-4.620***	-5.531***	-4.924***
	[1.332]	[1.296]	[1.196]	[1.234]
dy/dx - Less dem	0.188	0.340	0.0280	0.177
	[0.465]	[0.499]	[0.396]	[0.412]
Observations	174	174	174	174
$R^2$	0.693	0.708	0.717	0.735
<b>(3) 10-8 vs. 7 and below</b>				
Opinion Liberalism:	1.755**	1.505**	1.789***	1.572***
Standardized Mean	[0.678]	[0.609]	[0.580]	[0.499]
Opinion Liberalism	-1.420	-0.956	-1.856**	-1.440**
×Less Democratic	[0.882]	[0.862]	[0.741]	[0.699]
Less Democratic	-2.955**	-2.255	-3.409**	-2.757**
	[1.374]	[1.344]	[1.309]	[1.298]
dy/dx - Less dem	0.336	0.549	-0.0666	0.132
	[0.520]	[0.572]	[0.541]	[0.565]
Observations	174	174	174	174
$R^2$	0.658	0.683	0.681	0.710
Partisan Controls	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 9 (contin.) Opinion Liberalism, Level of Democracy, and the size of Welfare - Using Multiple Cross-Country Social Surveys

	(1)	(2)	(3)	(4)
<b>(4) 10 vs. 8 and below</b>				
Opinion Liberalism:	1.572*	1.429**	1.742**	1.644***
Standardized Mean	[0.843]	[0.701]	[0.707]	[0.560]
Opinion Liberalism ×Less Democratic	-1.300 [0.984]	-0.916 [0.884]	-1.573* [0.828]	-1.263* [0.722]
Less Democratic	-6.455*** [2.318]	-6.363*** [2.175]	-6.910*** [2.031]	-6.789*** [1.967]
dy/dx - Less dem	0.272 [0.467]	0.512 [0.512]	0.169 [0.427]	0.381 [0.463]
Observations	159	159	159	159
$R^2$	0.722	0.747	0.739	0.768
<b>(2) 10-9 vs. 7 and below</b>				
Opinion Liberalism:	2.049**	1.893**	2.096**	1.999***
Standardized Mean	[0.907]	[0.846]	[0.787]	[0.695]
Opinion Liberalism ×Less Democratic	-1.499 [1.089]	-1.166 [1.108]	-1.892** [0.843]	-1.713** [0.812]
Less Democratic	-5.597*** [1.809]	-4.957*** [1.772]	-5.751*** [1.730]	-5.213*** [1.747]
dy/dx - Less dem	0.550 [0.509]	0.727 [0.570]	0.203 [0.526]	0.285 [0.541]
Observations	152	152	152	152
$R^2$	0.661	0.677	0.687	0.705
Partisan Controls	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 10. Affluence, Opinion Liberalism, and the Size of Welfare - Using Multiple Surveys

	(1)	(2)	(3)	(4)
GDP per capita	0.437	0.233	0.883	0.734
×Standardized Mean	[0.667]	[0.660]	[0.578]	[0.577]
Partisan Controls	No	Yes	No	Yes
Region FE	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes
Observations	174	174	174	174
$R^2$	0.678	0.697	0.704	0.726

Robust standard errors in brackets

\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 11. GDP per capita and the Level of Democracy

	Mean	Std. Dev.	Min	Max	N
<b>(1) 10 vs. 9 and below</b>					
10	9.899533	.3270138	9.023938	10.50231	118
9 and below	8.931712	.5859316	7.548747	9.983765	67
<b>(2) 10-9 vs. 8 and below</b>					
10-9	9.817817	.4380098	7.652761	10.50231	135
8 and below	8.823285	.5229985	7.548747	9.821395	50
<b>(3) 10-8 vs. 7 and below</b>					
10-8	9.685275	.5529478	7.548747	10.50231	158
7 and below	8.751708	.5225417	7.625332	9.557682	27
<b>(4) 10 vs. 8 and below</b>					
10	9.899533	.3270138	9.023938	10.50231	118
8 and below	8.823285	.5229985	7.548747	9.821395	50
<b>(5) 10-9 vs. 7 and below</b>					
10-9	9.817817	.4380098	7.652761	10.50231	135
7 and below	8.751708	.5225417	7.625332	9.557682	27

Table 12. Separating Out the Income Effect - Multiple Surveys

	(1)	(2)	(3)	(4)
<b>(1) 10 vs. 9 and below</b>				
Opinion Liberalism:	2.194***	1.705**	1.947***	1.774**
Standardized Mean	[0.592]	[0.725]	[0.634]	[0.687]
Opinion Liberalism ×Less Democratic	-1.314*	-0.999	-1.394*	-1.241
	[0.663]	[0.826]	[0.694]	[0.812]
Less Democratic	-3.845**	-1.375	-5.274*	-1.984
	[1.732]	[1.727]	[2.766]	[2.860]
dy/dx - Less dem	0.880	0.706	0.553	0.533
	[0.307]	[0.411]	[0.396]	[0.421]
Observations	68	68	68	68
$R^2$	0.806	0.844	0.824	0.855
<b>(2) 10-9 vs. 8 and below</b>				
Opinion Liberalism:	1.973***	1.610***	1.691***	1.509***
Standardized Mean	[0.481]	[0.516]	[0.546]	[0.516]
Opinion Liberalism ×Less Democratic	-1.637**	-1.132*	-1.460**	-1.093*
	[0.594]	[0.613]	[0.533]	[0.576]
Less Democratic	-4.047***	-2.267**	-4.088***	-2.176
	[1.217]	[1.038]	[1.276]	[1.276]
dy/dx - Less dem	0.336	0.478	0.230	0.416
	[0.367]	[0.361]	[0.401]	[0.380]
Observations	68	68	68	68
$R^2$	0.827	0.850	0.832	0.857
<b>(3) 10-8 vs. 7 and below</b>				
Opinion Liberalism:	1.551***	1.258***	1.301***	1.208***
Standardized Mean	[0.336]	[0.411]	[0.408]	[0.363]
Opinion Liberalism ×Less Democratic	-1.250**	-0.828	-1.280**	-0.979*
	[0.546]	[0.538]	[0.548]	[0.520]
Less Democratic	-2.554*	-1.375	-2.926*	-1.744
	[1.413]	[1.369]	[1.425]	[1.438]
dy/dx - Less dem	0.301	0.429	0.0217	0.229
	[0.493]	[0.447]	[0.584]	[0.506]
Observations	68	68	68	68
$R^2$	0.803	0.845	0.814	0.855
Partisan Controls	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1

Table 12 (contin.). Separating Out the Income Effects - Multiple Surveys

	(1)	(2)	(3)	(4)
<b>(4) 10 vs. 8 and below</b>				
Opinion Liberalism:	1.888**	1.469*	1.812**	1.468*
Standardized Mean	[0.687]	[0.811]	[0.735]	[0.819]
Opinion Liberalism × Less Democratic	-1.337*	-0.894	-1.313*	-1.003
	[0.680]	[0.794]	[0.698]	[0.783]
Less Democratic	-4.323**	-2.295	-4.949	-1.911
	[1.989]	[1.724]	[2.999]	[2.892]
dy/dx - Less dem	0.551	0.576	0.498	0.465
	[0.402]	[0.398]	[0.421]	[0.406]
Observations	59	59	59	59
$R^2$	0.825	0.850	0.828	0.857
<b>(2) 10-9 vs. 7 and below</b>				
Opinion Liberalism:	2.145***	1.773***	1.841**	1.686**
Standardized Mean	[0.507]	[0.534]	[0.688]	[0.655]
Opinion Liberalism × Less Democratic	-2.342***	-1.876**	-2.154***	-1.880**
	[0.693]	[0.787]	[0.660]	[0.734]
Less Democratic	-4.514**	-2.574*	-4.487**	-2.743
	[1.702]	[1.480]	[1.782]	[1.930]
dy/dx - Less dem	-0.197	-0.103	-0.313	-0.194
	[0.494]	[0.524]	[0.617]	[0.628]
Observations	49	49	49	49
$R^2$	0.869	0.885	0.873	0.887
Partisan Controls	No	Yes	No	Yes
Regionl FE	No	No	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes

Robust standard errors in brackets

\*\*\* p&lt;0.01, \*\* p&lt;0.05, \* p&lt;0.1