

Economic development, income inequality and preferences for redistribution *

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Abstract: Adopting a cross-regional and global perspective, this article critically evaluates one of the core assertions of political economy approaches to welfare—that support for redistribution is inversely related to income. We hypothesize that economic self-interest gives way to more uniform support for redistribution in the interest of ensuring that basic or relative needs are met in less developed and highly unequal societies. To test this hypothesis, we analyze individual-level surveys combined with country-level indicators for more than 50 countries between 1984 and 2004. Our analysis shows that individual-level income does not systematically explain support for redistribution in countries with low levels of economic development or high levels of income inequality. These findings challenge the universality of the assumption of economic self-interest in shaping preferences for redistribution that has been so pervasive in the literature.

Biographical sketches

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This is the final version accepted for publication in *International Studies Quarterly* (2010) 54, 315–334. The definitive version is available at www.blackwell-synergy.com.

Economic development, income inequality and preferences for redistribution

Rising income inequality in advanced capitalist democracies has become a widespread trend over the past two decades (Atkinson, Rainwater and Smeeding 1995; Gottschalk and Smeeding 1997), sparking new debates in comparative political economy about the capacity of welfare states and social policies to counter market inequities through redistribution. Most previous scholarship has focused on the various political and institutional factors that help explain cross-national variation in levels of income inequality (Birchfield and Crepaz, 1998; Bradley, Huber, Moller, Nielsen, and Stephens 2003; Mahler 2004; Kenworthy and Pontusson 2005; Iversen 2005; Iversen and Soskice 2006). However, increasingly debate centers on the relationship between social attitudes and preferences toward redistributive policies and government redistribution and subsequent levels of inequality (Shapiro and Young 1989; Blekesaune and Quadagno 2003; Kenworthy 2004; Kenworthy and Pontusson 2005; Iversen 2005, Finseraas 2006; Brooks and Manza 2006, 2007; Kelly 2004; Kenworthy and McCall 2008). We approach this issue not by examining the relationship between public opinion and policy or equity outcomes but instead by exploring the factors—both micro and macro—that shape the formation of preferences regarding redistribution.

Prior research on the linkages between preferences and redistributive politics has been predominantly shaped by the single, guiding assumption that preferences are shaped by economic self-interest. This assumption and its implications for redistributive policies was most notably formalized by Meltzer and Richard (1981) in a model that posits that demand will increase for more generous redistribution as the income of the median citizen falls below that of the mean. Though some studies challenge the model's theoretical application (Moene and Wallerstein 2003; Kenworthy and Pontusson 2005) and a few have illustrated its limited

empirical utility (Alesina and Glaeser 2004, Iversen and Soskice 2006; Kenworthy and McCall 2008), rarely do scholars directly challenge the basic premise of the model—that preference formation derives solely from monetary self-interest. This paper offers one of the first attempts to empirically test the key assumption that economic self-interest drives preferences for redistribution in a multi-regional, global analytical framework incorporating both individual level surveys as well as macro-structural, national-level data for more than 50 countries representing a range of economic development. Our basic research questions can be expressed as follows: what key factors influence individual attitudes toward government redistribution, and to what extent do levels of economic development and income inequality shape the underlying patterns of preference formation regarding government redistribution?

The strategy of simultaneously analyzing developed and developing countries to address this question is grounded in both theoretical and methodological motivations. From a theoretical perspective, we believe economic globalization requires a more systematic global analysis and that greater effort should be made to empirically assess the *a priori* assumption that individual preferences can be reduced to economic self interest particularly in countries at different stages of economic development. Though the concepts and theories elaborated for Western industrialized societies may not necessarily reflect the same historical dynamics of countries lying outside the capitalist core, we believe that in a general sense, cross-regional analyses may provide opportunities for reciprocal social learning. Esping-Andersen cautions against confusing the welfare state with equality because welfare states “pursue different conceptions of equality” (1990, 262). One way to better understand these different conceptions of equality is to examine the origins of support for redistribution. Our analysis contributes to our understanding of cross-national and cross-cultural conceptions of equality by extending the scope of analysis in both

time and space. From a broad conceptual and theoretical perspective, it is not unreasonable to consider a wider array of countries that inevitably face similar decisions about the scope of government action in redressing market inequalities. In the context of increasing globalization and related debates about socio-economic convergence , the broader our sample the better as all governments regardless of stage of economic development face issues of how much and when to redistribute. As this policy question entails a considerable politico-moral dimension, we argue that the demand for government redistribution may be different not only due to variation in country-level average level of support, but also because the underlying process of individual preference formation and the relative prevalence or absence of monetary self-interest at the individual-level may differ across countries or regions.

Next, we provide an overview of the assumptions, often implicit, related to attitudes towards government redistribution and the role such attitudes play in causal models of politics, public policies, and distributive outcomes. We suggest that societal context, especially the level of economic development and income inequality, shape the formation of individual preferences and particularly the role of economic self-interest in preference formation. The third section describes the data and methods and presents the results of our analysis. We find some support for the assumption that economic self-interest shapes individual preferences, but we also find that there is significant cross-national and cross-regional variation. In particular, the *homo economicus* assumption is less tenable in less economically developed countries and countries with high levels of income inequality. Geographic regions also differ in the extent to which economic self-interest shapes attitudes toward redistribution. We conclude with a discussion of the theoretical and policy implications of our study and suggest avenues for further research.

ECONOMIC SELF-INTEREST: INDIVIDUAL AND NATIONAL DETERMINANTS OF SUPPORT FOR REDISTRIBUTION

As suggested in the introduction, understanding the factors that shape individual preferences for government redistribution is a critical, but understudied, element of the nexus between attitudes, public policy and socio-economic outcomes. Central to many studies of the welfare state or income distribution is the assumption, formalized in the model developed by Meltzer and Richard (1981), that individual preferences regarding redistribution policies derive from the economic utility individuals expect to receive from such policies. For example, studies of welfare routinely begin from the assumption that higher levels of income inequality will lead to greater demand for redistributive social policy (Moene and Wallerstein 2001, 2003; Iversen and Soskice 2001, 2006; Iversen 2005; Cusack Iversen and Rehm. 2006; Kenworthy and Pontusson 2005). Studies of income inequality also cite the Meltzer-Richard model for the expectation that countries with higher pre-tax or pre-transfer inequality should adopt more redistributive policies to reduce post-tax or post-transfer inequalities (Bradley et al 2003). Even those studies that extend Meltzer-Richard by examining the ways in which different electoral institutions may reproduce not the preferences of the median voter but those of other voters, do not question the primary assumption that voters with lower incomes, who presumably are most likely to benefit from government redistribution, are likely to prefer more redistribution than higher income voters. Such studies instead focus on the ways that public policy fails to reflect the preferences of the median voter due to the configuration of political institutions (Iversen 2005; Iversen and Soskice 2006) or lower turnout among economically disadvantaged voters (Kenworthy and Pontusson 2005). In these ways, existing studies tend to focus on the gap

between the assumption of economic self-interest and the observed country-level average support for redistribution or redistributive policies, without directly challenging the assumption of economic self-interest itself.

Given the pervasiveness of the Meltzer-Richard model and the efforts of political economists to resolve the empirical “redistribution paradox,” or the lack of correlation between pre-tax and transfer income and average spending on redistributive welfare (Iversen and Soskice 2006), it is surprising that more studies have not examined the core assumption that individual or household income drives preferences regarding government redistribution.ⁱ This is not to imply that political economists are not skeptical of the assumption that economic self-interest universally drives public attitudes toward redistribution—particularly in light of the limited empirical evidence consistent with expectations that higher inequality leads to greater redistribution. However, the fact remains that there has been very little empirical research on this question. While we agree with the idea that the “logic of the Meltzer-Richard model captures a dynamic that liberal democracies have in common...there are important cross-national differences in ‘tastes for equality’ or beliefs about the proper role of government” (Kenworthy and Pontusson 2005, 459), we find that much of the effort has been misdirected by not confronting the assumption head-on. The studies that do examine the effects of individual-level income on support for social justice generally find that individual income is inversely related to support for government redistribution of income (e.g., Iversen 2005, 100; Meier Jæger 2005, 2006a, 2006b; Finseraas 2006) or redistributive welfare state policies (Blekasaune and Quadagno 2003; Blekasaune 2006). However, these studies fail to explain or model cross-national variation in the importance of economic self-interest in shaping attitudes. That is, they fail to explain why

income is a better predictor of attitudes in some countries than in others. Further, nearly all these studies are restricted to advanced industrialized democracies.ⁱⁱ

By expanding the sample of countries to include developing countries, we seek to determine whether the assumption that economic self-interest drives attitudes toward government redistribution holds in less economically developed societies. In the only study that estimates the effect of economic development on average country-level support for redistribution, the results suggest that more developed countries will have lower average levels of support for redistribution, though the effect was not statistically significant (Finseraas 2006). Because our sample includes greater variation in levels of economic development, we expect the relationship between economic development and average country-level support for redistribution to be more pronounced. In particular, we expect that countries with higher levels of economic development to have less average country-level support for redistribution.

Our analysis goes beyond that of Finseraas (2006), however, to model the effects of economic development on the extent to which individual-level household income is inversely related to individual-level support for redistribution, as Meltzer-Richard would assume. We hypothesize that though economic self-interest may shape attitudes toward redistribution in developed countries, household income may not be a significant predictor of attitudes toward redistribution in developing countries. Based on evidence from experimental economic and survey data, Bowles and Gintis argue that most individuals exhibit more complex motives when it comes to redistribution, including basic needs generosity, or “a virtually unconditional willingness to share with other to assure them of some minimal standard” (2000: 50). Because basic needs are less likely to be widely met in developing countries, we expect basic needs generosity to outweigh economic self-interest in those societies. This hypothesis is generally

consistent with the recent argument of Reenock, Bernhard and Sobek (2007), which showed an inverse relationship between what they call “regressive socioeconomic distribution” and democratic stability. In other words, where economic development fails to mitigate basic needs deprivation in society, individual demand for redistributive social justice will be more uniform across different income groups.

In addition, though a handful of studies examine the relationship between country-level income inequality and average country-level of support for government redistribution, they often find no statistically significant relationship between the two (Bowles and Gintis 2000; Finseraas 2006; Lübker 2007). Though these authors ‘test’ the assumption that higher inequality translates into higher country-level average support for government redistribution, the tests either use only use aggregate cross-national data (e.g., Bowles and Gintis 2000; Lübker 2007) or use aggregate inequality to predict differences in average country-level support for redistribution across time (e.g., Kenworthy and McCall 2008) or cross-nationally (e.g., Finseraas 2006).ⁱⁱⁱ As such, they do not correctly specify the test of the relationship between societal inequality and the universality of the *homo economicus* assumption, which requires that inequality be used to explain cross-national variation in the strength of the individual-level association between income and support for redistribution.

We hypothesize that the effects of income on attitudes toward social justice may vary according to the national level of income inequality. For instance, in countries with high levels of income inequality, we might expect even those with higher incomes to support redistribution in the interest of minimizing societal conflict or potential unrest due to inequality (Alesina and Rodrik 1994). More recent work by Alesina and Glaeser (2004) and Alesina and Angeletos (2005) examines the role of beliefs about economic equality in Europe and the United States—

showing that relative welfare generosity and higher redistribution in Europe can be largely attributed to the prevailing view among European publics that economic success or high income is perceived to be a matter of luck, connections or corruption whereas the American view is that wealth results from individual effort and talent. However, Osberg and Smeeding (2006) have recently challenged U.S. exceptionalism, providing evidence that American tolerance for inequality is not as categorical as conventional wisdom would suggest. We maintain that in a more diverse sample of countries—including a wider range of economic development income inequality, and historical experiences—inequality is likely to condition the extent of economic self-interest in shaping individual attitudes. In particular, we hypothesize that widespread income inequality will also yield more uniform attitudes across income groups toward redistribution. Because income inequality corresponds to large segments of society with unfulfilled need relative to the societal average, there should be more consensus among income groups on the need for redistribution.

Further, the degree to which the assumption that income is inversely related to support for government redistribution accurately describes preferences may vary according to cultural, historical, or political context.^{iv} For instance, in Eastern Europe and Central Asia, the legacy of communist rule may minimize the extent to which those with higher incomes disagree that government should redistribute income (e.g., Lipsmeyer 2003) or may erode egalitarian sentiments (e.g., Weakliem, Andersen and Heath 2002). Likewise, Latin Americans, with long histories of state intervention in their economies may be less likely than their counterparts elsewhere to invoke notions of economic self interest as a key to their attitudes toward government redistribution. Some evidence also suggests that predominately Catholic nations are more egalitarian (Weakliem, et al. 2002, see also Scheve and Stasavage 2006). Though ideally

these specific cultural or historical legacies would each be modeled, we begin here by merely estimating regional differences in the effects of household income on support for redistribution.

To summarize, we seek to test the following hypotheses:

H1: Individual-level income is inversely related to individual-level support for redistribution.

H2: In developing countries, the relationship between individual-level income and individual-level support for redistribution will be weaker.

H3: In countries with higher income inequality, the relationship between individual-level income and individual-level support for redistribution will be weaker.

H4: Country-level average support for redistribution should vary across regions.

As this overview of the literature makes clear, the relationships between individual and country-level characteristics and attitudes toward redistribution are both theoretically complex and understudied beyond the advanced industrialized democracies. Both the theoretical perspectives and the empirical findings are wide-ranging, sometimes contradictory and at this stage, quite inconclusive. Given the complexity, contradictions, and limitations of the existing literature and empirical analyses, our analytical strategy seeks to explore conditions under which or domains to which the existing theories may reasonably apply. As a result, we hope to illustrate the promise and limitations of efforts to make universalizing statements about the sources of support for redistribution. The next section describes our data and the strategy used to analyze the individual and national characteristics that explain individual preferences for social justice.

DATA AND ANALYSIS

Given our interest in testing the extent to which the assumption that economic self-interest shapes attitudes toward redistribution is universal, we privilege broadness of our sample

over sophistication of our measures and complexity of our individual-level models. We have compiled a dataset that combines 15 international public opinion surveys administered in over 50 countries between 1985 and 2004.^v Because we are interested in how contextual, national-level characteristics may influence individual preference formation, we add country-level characteristics for each survey-year to create a dataset of individuals nested in country-years. The hierarchical, or multilevel, models used to analyze the nested data account for variation in sampling errors across country-surveys and variation in the individual-level parameter estimates. First, we estimate a simple model of individual preference formation for each of the country-year in our sample (267 separate country-year surveys). The model includes a handful of individual-level predictors: income, education, employment status, gender and age. If the model of preference formation is universal, the effects of individual-level predictors, including income and education, should be constant across the 267 regressions.

In order to assess the role of economic self-interest in shaping individual preferences for government redistribution, we use respondent agreement with the following statement: “It is the responsibility of the government to reduce the differences in income between people with high incomes and those with low incomes.” This question, or some subtle variation, was posed in each of the surveys.^{vi} Responses were coded on a scale of one through five, with five representing the strongest agreement with the statement.^{vii} For ease of discussion, we call this support for *social justice*. This question wording is particularly appropriate because it asks respondents directly about redistribution rather than specific policies, including social policies which may serve either redistribution *or* insurance functions. This distinction is important because while demand for redistribution is assumed to be inversely related to income, demand for social insurance is usually assumed to increase with income (Moene and Wallerstein 2003). Figure 1 graphs the

country-level average support for social justice by level of economic development and region. The figure illustrates the cross-national and cross-regional variation in country-level support for social justice. A one-way ANOVA analysis of support for social justice suggests that approximately 13.2% of the cross-national individual-level variation is due to between-country rather than within-country variation, or the percent of the variation in individual preference formation comes from cross-national differences.

FIGURE 1 HERE

To model within-country variation in preferences, we begin with random coefficient models that pool the survey observations to produce both fixed individual-level regression coefficients (i.e., the average effect of the variable across country-surveys) *and* estimates of the variation among those coefficients across country-surveys. According to most models of attitudes toward redistribution, including that of Meltzer-Richard (1981), respondents with higher relative income are expected to support social justice less. Like earlier studies, we also use education as a proxy for income (Finseraas 2006).^{viii} Both *education* and *income* are coded as standard deviations from the country mean in each survey in order to standardize the scales across surveys and countries and to capture the relative education and income of each respondent within their national context.^{ix} The individual-level models also include controls for *female* and workforce status: *employed* and *unemployed*, with those not in the formal workforce (including students, homemakers, and retired workers) serving as the baseline category. Women and the unemployed are all more likely to support greater government redistribution (Art and Gelissen 2001; Blekesaune and Quadagno 2003; Cusack et al. 2005; Iversen and Soskice 2001; Iversen 2005; Meier Jæger 2005, 2006a, 2006b; Svallfors 1997). These findings are consistent with those of Hasenfeld and Rafferty (1989) who found that those who are most vulnerable and most likely

to benefit from welfare programs are more likely to support redistributive policies.^x Such findings appear to be largely consistent with the underlying assumption about the role of self-interest in shaping preferences. *Age* is coded into seven decade increments, beginning with those under 25 and ending with those 75 and older. The effects of age on attitudes toward redistribution are ambiguous in earlier studies (e.g., Meier Jæger 2006a, 2006b).

The results of the random coefficients model of individual-level explanations of support for redistribution are presented in Table 1.^{xi} The combined model can be written as:

$$socialjustice_{ij} = \gamma_{00} + \gamma_{10}employed_{ij} + \gamma_{20}unemployed_{ij} + \gamma_{30}age_{ij} + \gamma_{40}female_{ij} + \gamma_{50}income_{ij} + \gamma_{60}education_{ij} + u_{0j} + u_{1j}employed_{ij} + u_{2j}unemployed_{ij} + u_{3j}age_{ij} + u_{4j}female_{ij} + u_{5j}income_{ij} + u_{6j}education_{ij} + r_{ij}$$

where γ_{00} through γ_{60} represent the fixed effects of employed through education on support for redistribution and u_{0j} through u_{6j} represent estimates of the random effects.

TABLE 1 HERE.

The first model in Table 1 includes the full sample of 267 country-years. The fixed effects refer to the average effect of an individual level variable on the dependent variable for the pooled country-years. The random effects measure the variation in the regression coefficients across separate country-survey regressions. The second model does not include surveys in which respondent income was not available. We present these results using education in order to have a broader sample of country-years and to illustrate the consistency of the results for both income and education. The results from the two models are broadly consistent with the expectations of the theoretical literature. The models explain about three percent of the within-country variation in support for government redistribution, which is comparable to the percentage of variation explained by many models of public opinion.^{xii} Female respondents are more likely to support redistribution. Unemployed respondents are also more likely to support redistribution than those

not in the workforce, the baseline category, and employed respondents are less likely to support social justice in Model 1 but not Model 2. Age appears to have a positive relationship with support for redistribution.

Of greatest interest are the results for education and income, both of which test the assumption that individual preferences regarding redistribution are shaped by economic self-interest. As the assumption would predict, both education and income are negatively associated with support for redistribution in both Models 1 and 2. However, the results for the random effects in Table 1 also indicate that there is significant variation in the individual level coefficients between countries, meaning that there is significant variation in the coefficients for income and education at the individual-level between countries and that the role of these variables in preference formation is not cross-nationally uniform.

Because we hypothesize that the cross-national variation in the effects of individual-level factors on support for redistribution can be explained by economic development and income inequality, we model the relationship between economic context and income inequality on the effects of individual-level education and income on preferences. As discussed above, we expect and observe that the effects of individual education and household income vary across national contexts. *Economic development* is captured by the natural log of the per capita gross domestic product converted using purchasing power parities into 1000s of international dollars in 2000 (World Bank 2007). *Income inequality* is measured using the GINI coefficients published by the UNU-WIDER project on income inequality.^{xiii} Because individual attitudes may also be shaped by existing levels of government redistribution, we also include a control for state size—government consumption as a percentage of GDP.^{xiv} In countries with existing large government programs, country-level average support for *more* redistribution may be lower. Further, the effect

of individual-level income on support for redistribution may also be less strong in countries with large states.

FIGURE 2 HERE

To illustrate the cross-national variation in the effects of education and income on attitudes, Figure 2 graphs the regression coefficients from 267 and 238 separate individual-level regressions for each country-survey. In other words, Figure 2 illustrates the extent to which the assumption that economic self-interest—captured by income and education—shapes preferences for redistribution is tenable across countries and geographical regions. Coefficients that are more negative lend more support to the assumption that economic self-interest shapes preferences, while coefficients closer to zero indicate that income, or education, has little effect on support for redistribution. The advantage of presenting the results graphically is that it summarizes a large amount of information in a way that is easier to interpret than the results in Table 1. Panels (a) and (b) graph the coefficients from the individual-level country-survey regressions for income from Model 1 by level of economic development and income inequality respectively. In both panels, the majority of the income coefficients for the country surveys are negative, reflecting the inverse relationship between income and support for social justice. However, the negative effect of income on support for government redistribution appears to be stronger in more developed countries, which is illustrated by the pattern in panel (a). In less developed countries, income has a less pronounced effect on reducing support for government redistribution. The effect of income on support for redistribution also varies according to the degree of income inequality in a country, according to the pattern illustrated in panel (b). In countries with high levels of income inequality, income has less impact on support for redistribution. The results for the analysis of variation in the effects of education on support for social justice in panels (c) and (d) are similar.

Whereas individuals with higher levels of education are less likely to support redistribution in economically developed and relatively equal economies, the effects of education are less pronounced in developing and highly unequal countries. These findings question the universality of the *homo economicus* assumption and suggest that “basic needs generosity” or reciprocity (Bowles and Gintis 2000) or other cultural or contextual variables (e.g., Lübker 2007) may also explain attitudes toward redistribution.

TABLE 2 HERE

Though the figures are illustrative, we can estimate random slope models that will measure the statistical significance of the contextual effects of economic development and income inequality on the slopes of education and income that are illustrated in Figure 2, while controlling for the size of the state. Table 2 presents results for five random slope models. Model 1 includes estimates of the effect of economic development, income inequality, and government size on the individual-level effects of education and income on attitudes toward redistribution. Models 2 and 3 add dummy variables for regions, with North America as the excluded category, to capture cultural and historical effects. Models 4 and 5 add contextual effects for other individual level variables.^{xv} Across all the models in Table 2, the fixed effects indicate that education and income continue to have a negative effect on support for redistribution at the individual level. Individuals with higher education or income are less likely to support government redistribution, which is consistent with the assumption of economic self-interest. However, once country-level variables are added to explain cross-national variation in the effect of individual-level income and education coefficients, the substantive and statistical significance of the fixed effects are reduced.

In addition, the interactive, or contextual, effects in Models 2-5 of country-level economic development and income inequality on the role of individual education or income in shaping support for redistribution suggest a more complex pattern. The results of the interaction between country-level inequality and individual-level coefficients for education and income indicate that higher levels of income inequality reduce the effects of individual education or income on support for government redistribution, though the effect is only statistically significant in the instance of education. These results are consistent with the pattern illustrated in panels a. and c. of Figure 2. Meanwhile, higher levels of economic development increase the negative effect of individual-level education and income as predictors of support for redistribution, though the effect is only statistically significant in the case of income. These results suggest that individual education and income are more negatively associated with support for redistribution in more developed economies. This too is consistent with the graphs in panels b. and d. of Figure 2. In general, the models suggest that the economic self-interest assumption that education and income are inversely related to support for redistribution may be less tenable in less developed countries or those with inequitable distributions of income. These patterns are consistent with our hypotheses regarding “basic needs generosity” in developing countries and unequal societies.

These patterns remain even with controls and alternative specifications. As expected, larger states reduce overall average country-level support for redistribution (as represented by the constant). Further, the larger the state, the stronger the relationship between individual-level income and education and support for redistribution. This indicates that as the state grows, economic self-interest becomes a stronger predictor of support for redistribution, or that in countries with larger states, those with higher incomes or education are more likely to oppose

more redistribution. In order to account for potential level-two autocorrelation across time periods and potential differences in sampling across different survey types, additional models were estimated. A two-stage method was used where each a regression for each country-survey with individual-level predictors is estimated separately, and then the estimated parameters are regressed on country-level predictors, including economic development, inequality and government consumption.^{xvi} At the second-stage, Models 2 and 3 from Table 2 are re-estimated two ways. First, the second-stage is estimated applying a Prais-Winsten correction to account for level-two autocorrelation. Second, the second-stage is estimated with dummy variables to account for potential differences of effects across different surveys. The results are presented in Table 3. Even with these corrections, the results are consistent with those of the multilevel models presented in Table 2.

Despite the consistency and robustness of the results from the multilevel models in Table 2, the estimates of the variance of the individual level parameters (random effects) suggest that there is still significant cross-national variation in the effects of all the individual level characteristics except unemployment. The variances in the random slope models of Table 2 are smaller than those in the random coefficient models of Table 1, indicating that the country-level characteristics in the models of individual preference formation explain some of the cross-national variation in the individual-level regression coefficients. However, statistically significant variation in the individual-level parameters between country-years remains. This variation persists because there are probably important country-level predictors of individual-level parameter variance that we have not included in our models, such as democracy, dominant religious beliefs, ethno-linguistic diversity, or quality of government which may explain some of the remaining variation in the individual level parameter estimates. Though we do not model

these country-level measures directly, we included regional dummies in Models 2-5, Table 2 to capture these unmeasured factors.

The results suggest that regional characteristics play a role in shaping the effects of income and education on support for redistribution. As expected, all of the regional dummies used in modeling variation in the model constant, or average country-level support for redistribution, are positive. This indicates that the public opinion in all the regions have statistically significantly higher country-level average support for redistribution than North America, the baseline category. The Middle East and Latin America have the highest country-level average support for redistribution, followed by Europe and post-communist Europe. That the average support for redistribution in Europe and post-communist Europe is higher than that in North America is consistent with arguments that large or generous welfare states lead to greater support for redistribution (Esping-Andersen 1990, 1999; Alesina and Glaeser 2004; Osberg and Smeeding 2006). On the other hand, that Latin America, a region with fewer extensive welfare states but a history of state intervention in the economy, has higher support for redistribution than either Europe or post-communist Europe suggests that welfare state effort alone may not explain the remaining variation in average levels of support for redistribution across regions. Furthermore, using the regional dummy variables to explain variation in the 267 or 238 individual-level model constants reduces the statistically significant effect of economic development or inequality on cross-national variation in country-level average support for social justice, which suggests that cross-regional historical or cultural differences are important in explaining these differences.

The results for the effects of the regional country-level dummy variables on the effects of individual-level education and income, while controlling for economic development and income

inequality, suggest that additional political, cultural, or policy factors that vary by region may further explain between country variation in the effects of individual-level education and income on support for redistribution. These unmeasured regional effects do not, however, completely eliminate the statistically significant effects of economic development on the role of income or of income inequality on the role of education in predicted attitudes toward social justice, indicating that the tenability of the assumption of the role of economic self-interest in preference formation still varies by level of economic development even when controlling for unmeasured regional, cultural, or historical factors.

Given the complexity of the statistical results and to facilitate interpretation, Figure 3 graphs along the y axis the predicted slopes of income's effect on support for redistribution from Model 5 in Table 2 by the 5th and 95th percentiles of level of economic development and income inequality and by region. The x axis represents the difference between the 5th and 95th percentiles in levels of economic development *within each region*, and some regions have more variation in economic development than others. The slope of the lines reflect the predicted change in the effect of income on support for redistribution as a country moved from a lower level of economic development in their region toward the upward bound of economic development in their region. That all the lines have negative slopes reflects the finding that income tends to have stronger negative effects on support for income redistribution in countries with higher levels of economic development.

In Figure 3, two lines are graphed for each region, one for high inequality (the 95th percentile within that region) and one for low inequality (the 5th percentile within that region). The distance between the two lines for any one region reflects the shift, or difference, in the average effect of income on support for income distribution between countries with relative low

inequality and high inequality in that region. This distance is, in part, a function of the amount of variation in income inequality, and thus the difference between the 5th and 95th percentile, in any one region. Finally, the relative location along the y axis of the lines for each region reflect the range of predicted effects of income on support for education for the range of economic development and income inequality typical of that region. The graph illustrates that, on average, the negative association between income and support for redistribution is likely to be strongest in North America. Put differently, the assumption that economic self-interest shapes preferences over redistribution is most likely to be true in North America. In contrast, the effects of income on support for redistribution are closer to zero in the Middle East and Latin America, implying that this assumption is less tenable in these regions. As suggested earlier, a variety of additional factors may explain these variations, but at a minimum these results suggest that the effects of income and education on support for redistribution may not be as universal as some models of individual behavior assume.

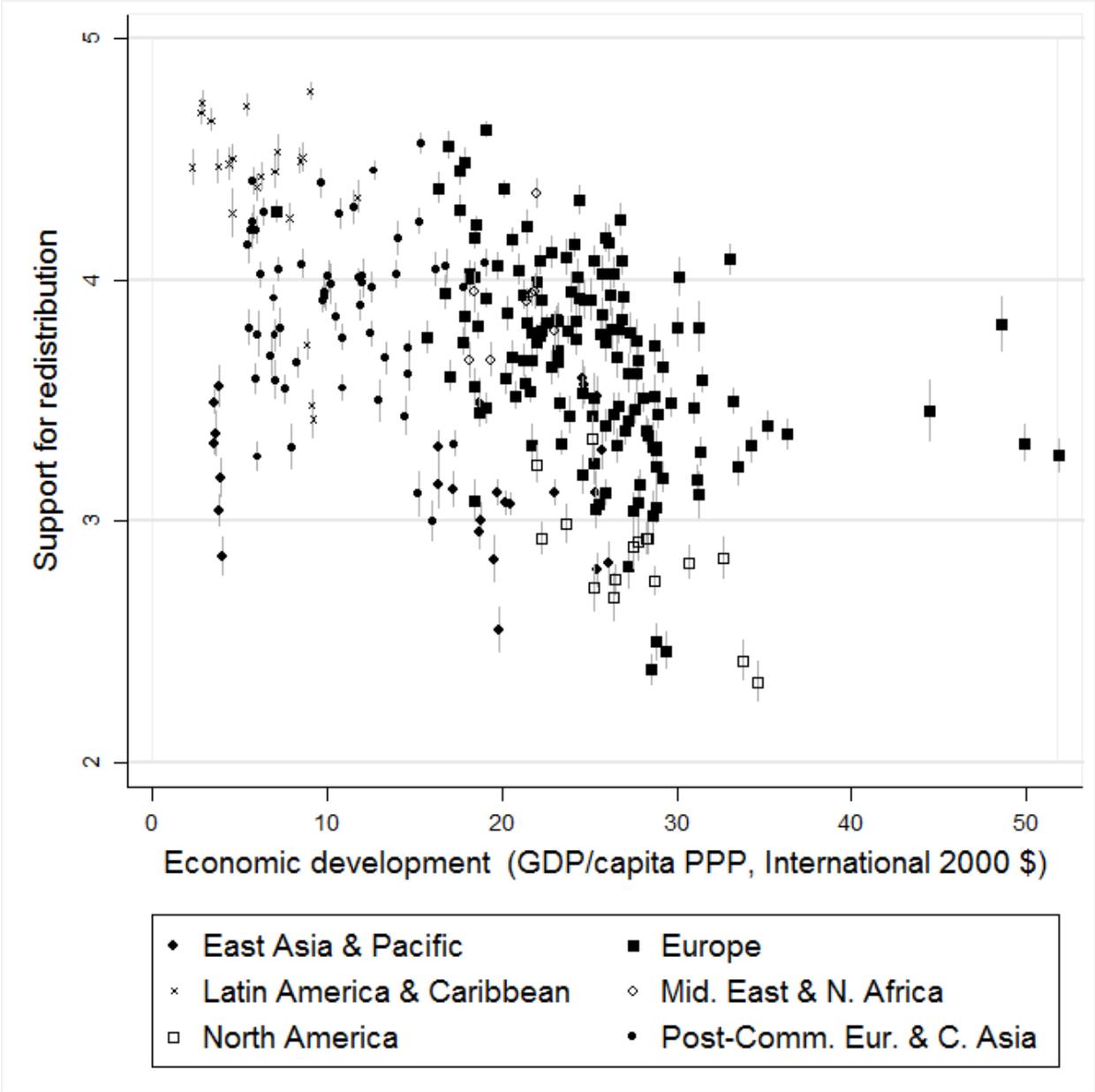
IMPLICATIONS AND CONCLUSIONS

Overall, the results of the data analysis suggest that the effects of individual level characteristics on attitudes toward redistribution vary significantly across regional and even national contexts. Though country-level economic development and income inequality explain some cross-national variation in the individual-level models of preferences for redistribution, significant unexplained variation remains. This key finding has at least two important implications. First, cultural, political, or historical factors that were not measured (beyond simple regional dummy variables) in our models may partially explain this remaining variation. Future

studies that seek to understand the cross-national differences in support for redistribution should attempt to directly measure and model these sources of variation. Second, though some individual characteristics may *tend* to produce certain preferences for government redistribution, analysts would be remiss to assume the effects are constant across different economic, cultural, political, or historical contexts. For example, the results presented here suggest that the key assumption of the Meltzer-Richard model upon which many studies of welfare expenditures and income inequality is based may not be universally true. To the extent that individual preferences are not universally shaped by economic interests across national contexts, theories that seek to extend or explain the failures of the Meltzer-Richard model may be missing the mark.

Beyond the implications for research on welfare states and income inequality, our findings suggest that in our collective quest to understand the micro-foundations of preference formation, political economists should be wary of universalizing the origins of preferences. In our efforts to extend and refine micro-economic models of voter preferences, we potentially reduce the range of relevant variables, (e.g., excluding the role of values or culture), that are considered relevant for explaining political and policy outcomes. This is not unlike the “marketization” of public discourse, or as Block explains: “Increasingly, public debate has come to hinge, not on what kind of society we are or want to be, but on what the needs of the economy are. Hence, a broad range of social policies are now debated almost entirely in terms of how they fit in with the imperatives of the market” (1990: 3). When preferences for government redistribution do not follow the logic of individual economic self interest, policy in responsive democracies is also likely to diverge from the needs of the market.

Figure 1: Average country-level support for redistribution by economic development, 1985-2004



Note: Bars represent 95% confidence intervals for mean country-level support for redistribution.

Figure 2: Economic development, inequality and the effects of income and education

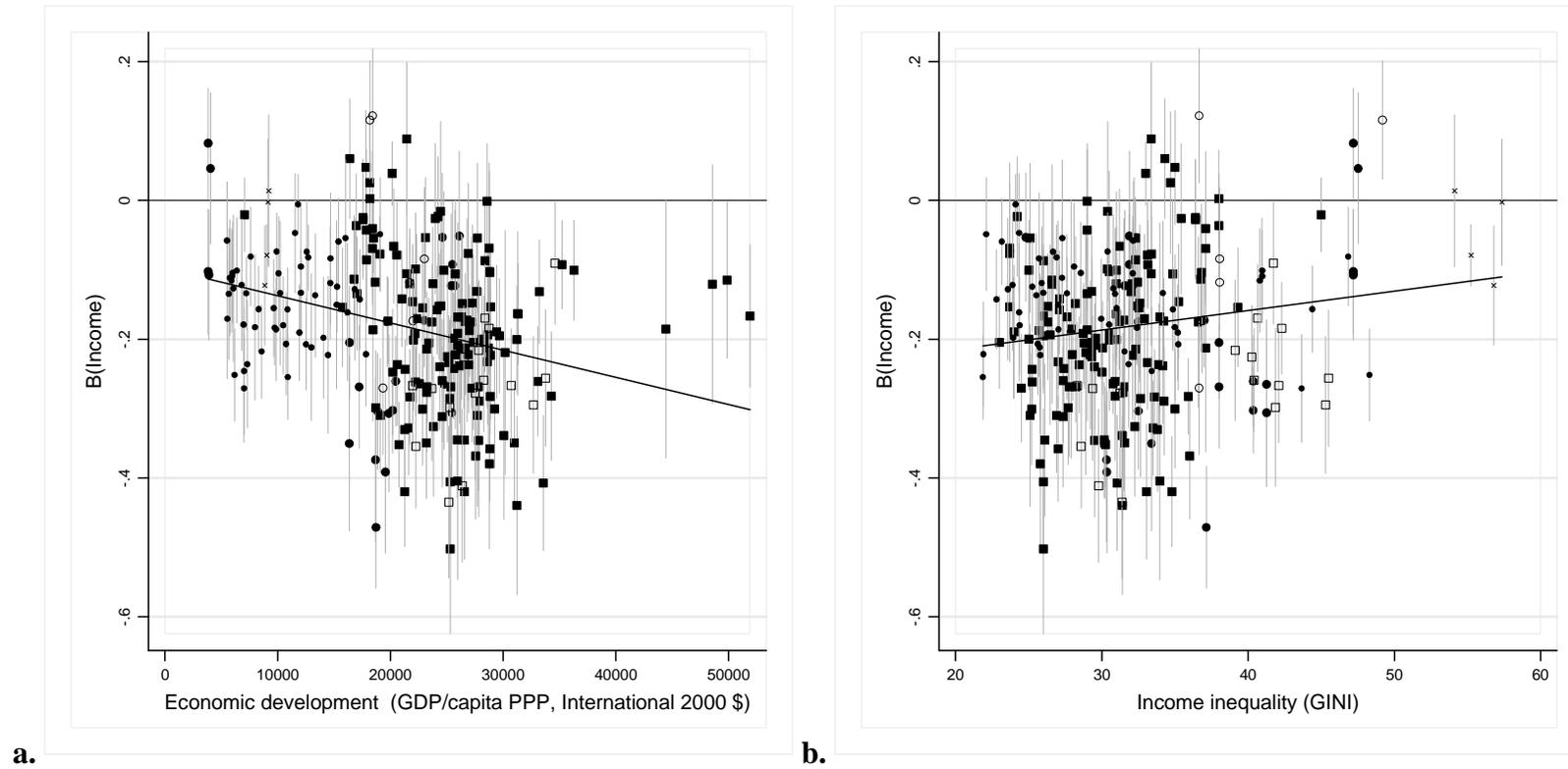
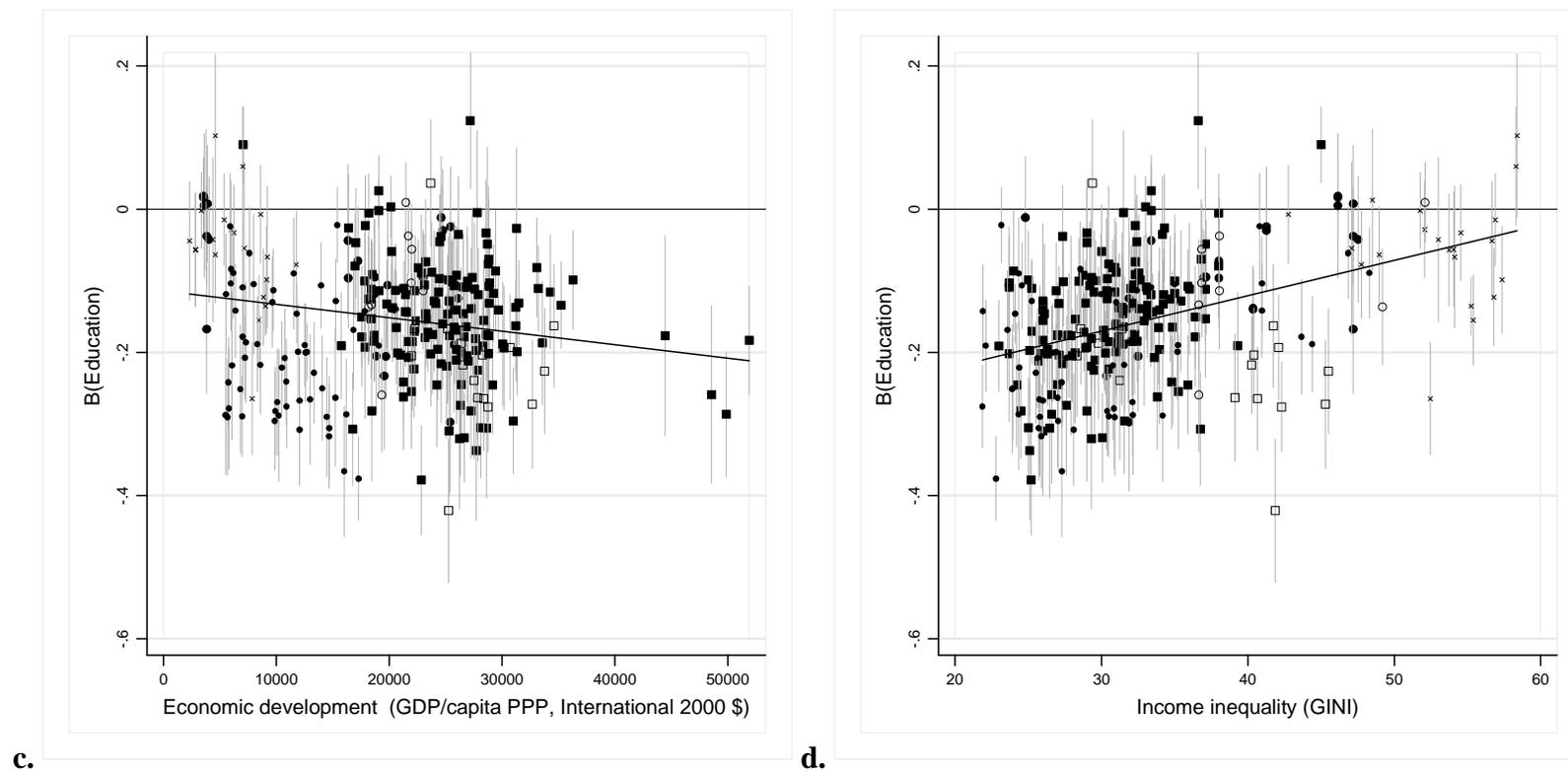


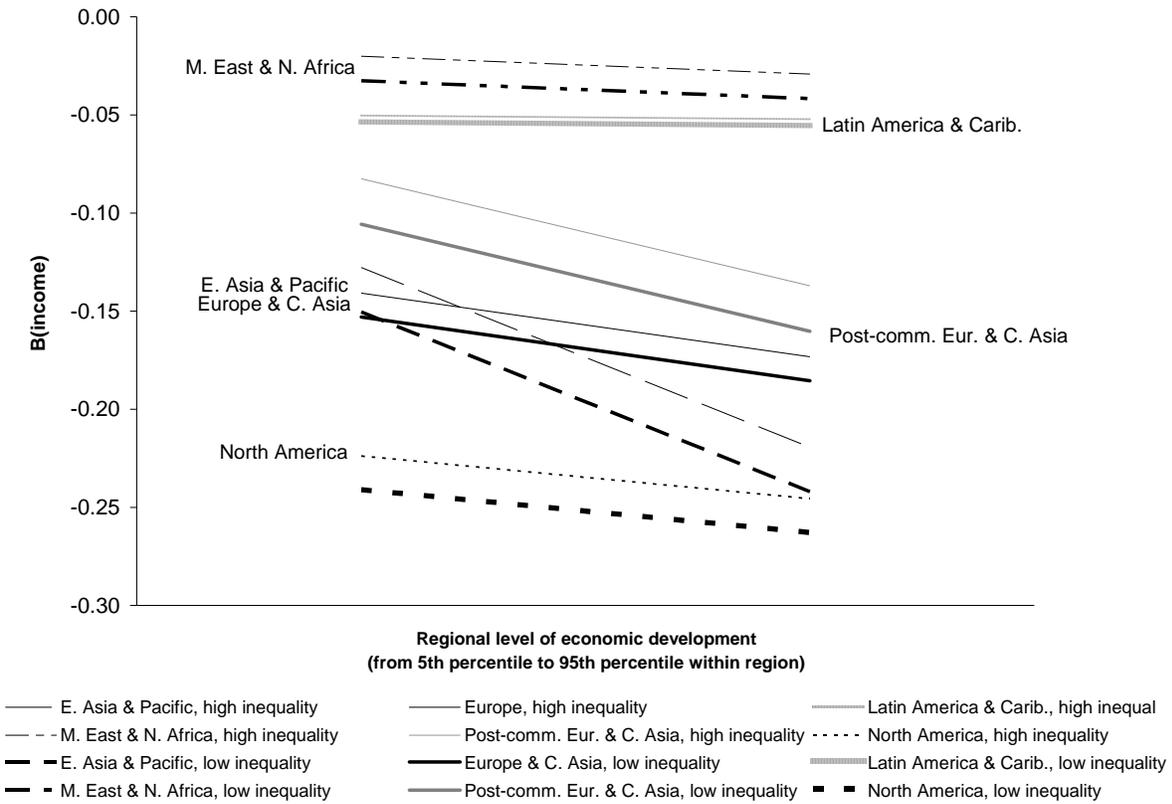
Figure 2: Economic development, inequality and the effects of income and education (continued)



- East Asia & Pacific
- × Latin America & Caribbean
- North America
- Western Europe
- Middle East & N. Africa
- Post-Comm. Eur. & C. Asia

Note: Bars represent 95% confidence intervals for the regression coefficient for separate country-year, individual-level models of support for redistribution.

Figure 3: Economic development, inequality and the effects of income by region



Note: Lines represent predicted effects of individual-level income on support for redistribution for region-specific levels of economic development and income inequality.

Table 1: Random coefficient models of support for redistribution

<i>Fixed effects</i>	<i>Model 1</i>	<i>Model 2</i>
Income		-0.181** (0.007)
Education	-0.152** (0.006)	-0.114** (0.006)
Employed	-0.059** (0.008)	0.020* (0.008)
Unemployed	0.200** (0.014)	0.163** (0.013)
Female	0.124** (0.008)	0.123** (0.009)
Age	0.017** (0.004)	0.015** (0.004)
Constant	3.589** (0.032)	3.505** (0.033)
<i>Random effects</i>	<i>Variance</i>	<i>Variance</i>
Education	0.007**	0.006**
Income		0.010**
Employed	0.008**	0.006**
Unemployed	0.019**	0.009
Female	0.013**	0.013**
Age	0.003**	0.002**
Constant	0.255**	0.243**
Σ^2	1.554	1.541
- 2 X Log Likelihood	1113682.84	842405.05
N (country-surveys)	338805 (267)	256788 (238)

** $p \leq 0.001$ * $p \leq 0.050$. Robust standard errors in parentheses.

Table 2: Random slope models of support for redistribution

<i>Fixed effects</i>	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
Income	-0.166 (0.108)		-0.121 (0.115)		-0.043 (0.115)
Education	-0.209* (0.081)	-0.173 (0.089)	-0.176 (0.115)	-0.141 (0.089)	-0.148 (0.114)
Employed	0.020* (0.008)	0.059** (0.008)	0.021* (0.008)	0.016 (0.034)	-0.053 (0.045)
Unemployed	0.157** (0.013)	-0.195** (0.014)	-0.153** (0.013)	-0.227** (0.055)	-0.223* (0.072)
Female	0.124** (0.009)	0.125** (0.008)	0.124** (0.009)	-0.178** (0.049)	-0.194* (0.069)
Age	0.014** (0.004)	0.017** (0.004)	0.014** (0.004)	0.059 (0.036)	0.100* (0.041)
Constant	4.830** (0.448)	4.127** (0.411)	4.251** (0.502)	4.333** (0.423)	4.383** (0.518)
<i>Interactive effects</i>	<i>Income</i>	<i>Income</i>	<i>Income</i>	<i>Income</i>	<i>Income</i>
Economic Development	-0.029* (0.017)		-0.048* (0.021)		-0.071* (0.022)
Inequality	0.001 (0.001)		0.001 (0.001)		0.001 (0.001)
Government consumption	0.001 (0.002)		-0.002 (0.002)		-0.002 (0.002)
East Asia & Pacific			0.010 (0.034)		0.008 (0.034)
Europe & Cent. Asia			0.080* (0.026)		0.077* (0.026)
Latin America & Caribbean			0.118* (0.041)		0.116* (0.040)
Mid. East & N. Africa			0.191* (0.068)		0.188* (0.068)
Post-Comm. Europe			0.076 (0.041)		0.076 (0.041)
<i>Interactive effects</i>	<i>Education</i>	<i>Education</i>	<i>Education</i>	<i>Education</i>	<i>Education</i>
Economic Development	0.014 (0.015)	-0.036* (0.015)	-0.016 (0.021)	-0.047* (0.015)	-0.025 (0.021)
Inequality	0.004** (0.001)	0.003* (0.001)	0.004* (0.001)	0.003* (0.001)	0.003* (0.001)
Government consumption	-0.003* (0.001)	-0.001 (0.001)	-0.002 (0.001)	-0.001 (0.001)	-0.002 (0.001)
East Asia & Pacific		0.065* (0.028)	0.058 (0.031)	0.066* (0.028)	0.058 (0.031)
Europe & Cent. Asia		0.070* (0.025)	0.053* (0.027)	0.069* (0.026)	0.054 (0.027)
Latin America & Caribbean		0.034 (0.035)	-0.018 (0.034)	0.031 (0.035)	-0.018 (0.035)
Mid. East & N. Africa		0.085* (0.036)	0.020 (0.043)	0.082* (0.036)	0.020 (0.043)
Post-Comm. Europe		-0.021 (0.034)	-0.022 (0.040)	-0.021 (0.034)	-0.021 (0.040)

TABLE CONTINUED ON NEXT PAGE....

Table 2: (continued from previous page)

	<i>Model 1</i>	<i>Model 2</i>	<i>Model 3</i>	<i>Model 4</i>	<i>Model 5</i>
<i>Interactive effects</i>	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>
Economic Development	-0.288* (0.089)	-0.286** (0.075)	-0.319* (0.100)	-0.296** (0.076)	-0.333* (0.103)
Inequality	-0.018** (0.005)	-0.010* (0.005)	-0.009 (0.005)	-0.004 (0.005)	-0.003 (0.006)
Government consumption	0.005 (0.007)	-0.006 (0.006)	-0.014* (0.006)	-0.024** (0.007)	-0.027** (0.007)
East Asia & Pacific		0.211* (0.090)	0.213* (0.089)	0.219* (0.092)	0.213* (0.091)
Europe & Cent. Asia		0.756** (0.068)	0.820** (0.071)	0.768** (0.069)	0.821** (0.072)
Latin America & Caribbean		1.171** (0.139)	0.814* (0.304)	1.168** (0.141)	0.805* (0.303)
Mid. East & N. Africa		1.091** (0.108)	1.215** (0.134)	1.103** (0.109)	1.217** (0.134)
Post-Comm. Europe		0.793** (0.114)	0.896** (0.133)	0.816** (0.115)	0.907** (0.133)
<i>Interactive effects</i>					
Employed X Econ. Dev.				-0.027* (0.011)	0.025 (0.015)
Unemployed X Econ. Dev.				-0.227** (0.020)	0.131** (0.025)
Female X Econ. Dev.				0.07** (0.012)	0.080** (0.018)
Female X Gov't Consump.				0.005** (0.001)	0.004* (0.002)
Age X Econ. Dev.				-0.022** (0.006)	-0.029** (0.008)
Age X Inequality				-0.001* (0.000)	-0.001* (0.000)
Age X Gov't Consump.				0.003** (0.001)	0.002** (0.001)
<i>Random effects</i>	<i>Variance</i>	<i>Variance</i>	<i>Variance</i>	<i>Variance</i>	<i>Variance</i>
Constant	0.234**	0.186**	0.185**	0.173**	0.176**
Employed	0.006**	0.008**	0.006**	0.008**	0.006**
Unemployed	0.009	0.018**	0.009	0.011**	0.006
Female	0.013**	0.013**	0.013**	0.012**	.012**
Age	0.002**	0.002**	0.002**	0.002**	0.002**
Education	0.005**	0.004**	0.005**	0.004**	0.004**
Income	0.010**		0.009		0.009**
Σ^2	1.541	1.554	1.541	1.554	1.541
- 2 X Log Likelihood	842403.02	1113541.33	842341.46	1113466.62	842312.57
N (country-surveys)	256788 (238)	338805 (267)	256788 (238)	338805 (267)	256788 (238)

** p ≤ 0.001 * p ≤ 0.050. Robust standard errors in parentheses.

Table 3: Adjusting for the survey effects and level-2 autocorrelation

	<i>Table 2, Model 2</i>			<i>Table 2, Model 3</i>		
	Table 2	Prais-Winsten	Survey dummies	Table 2	Prais-Winsten	Survey dummies
	<i>Income</i>	<i>Income</i>	<i>Income</i>	<i>Income</i>	<i>Income</i>	<i>Income</i>
Economic development				-0.048*	-0.076**	-0.090**
Inequality				0.001	0.000	0.001
Government consumption				-0.002	-0.002	-0.002
	<i>Education</i>	<i>Education</i>	<i>Education</i>	<i>Education</i>	<i>Education</i>	<i>Education</i>
Economic development	-0.036*	-0.050*	-0.051**	-0.016	-0.028	-0.026
Inequality	0.003*	0.002	0.003*	0.004*	0.003*	0.003*
Government consumption	-0.001	-0.002	-0.001	-0.002	-0.003	-0.002
	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>	<i>Constant</i>
Economic development	-0.286**	-0.365**	-0.336**	-0.319*	-0.415**	-0.375**
Inequality	-0.010*	-0.010	-0.008	-0.009	-0.008	-0.005
Government consumption	-0.006	-0.018*	-0.017*	-0.014*	-.025*	-.024**

* $p \leq 0.050$. ** $p \leq 0.001$ Estimates are based on a two-stage procedure. In the first stage, separate regressions for each level-one country-survey are estimated. In the second stage, the estimates from the first stage for the constant, income and education are regressed on economic development, income inequality and consumption. The “Table 2” column repeats the results from Table 2 for comparison purposes. The “Prais-Winsten” column reports results from the second-stage regressions described above with a correction for autocorrelation and robust standard errors. Country-surveys for duplicate years were dropped. The “Survey dummies” column reports results for second-stage regressions that include level-two dummy variables for those surveys other than the ISSP to account for variation in survey designs.

APPENDIX: List of country-surveys included in the sample

International Social Survey Program

- 1985 Australia, Austria, West Germany, United Kingdom, Italy, United States
1987 Australia, Austria, West Germany, United Kingdom, Italy, United States, Hungary, Netherlands, Switzerland
1990 Australia, Unified Germany, United Kingdom, Ireland, Israel, Italy, Norway, United States
1991 Austria, Unified Germany, United Kingdom, Hungary, Israel, Italy, Netherlands, New Zealand, Norway, Philippines, Poland, Russia, Slovenia, United States
1992 Australia, Austria, Canada, Unified Germany, United Kingdom, Hungary, Italy, New Zealand, Norway, Philippines, Poland, Russia, Slovenia, Sweden, Switzerland, United States, Bulgaria
1993 Canada, Czech Republic, Unified Germany, United Kingdom, Hungary, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Philippines, Poland, Russia, Slovenia, Spain, United States, Bulgaria
1996 Australia, Unified Germany, United Kingdom, Ireland, United States, Austria, Hungary, Italy, Netherlands, Norway, Sweden, Czech Republic, Slovenia, Poland, Bulgaria, Russia, New Zealand, Canada, Philippines, Israel, Japan, Spain, Latvia, France, Cyprus
1998 Australia, Unified Germany, United Kingdom, United States, Austria, Hungary, Italy, Ireland, Netherlands, Norway, Sweden, Czech Republic, Slovenia, Poland, Bulgaria, Russia, New Zealand, Canada, Philippines, Israel, Japan, Spain, Latvia, Slovakia, France, Cyprus, Portugal, Chile, Denmark, Switzerland
1999 Australia, Unified Germany, United Kingdom, United States, Austria, Hungary, Ireland, Norway, Sweden, Czech Republic, Slovenia, Poland, Bulgaria, Russia, New Zealand, Canada, Philippines, Israel, Japan, Spain, Latvia, France, Cyprus, Portugal, Chile, Slovakia
2000 Australia, United Germany, United Kingdom, United States, Austria, Hungary, Italy, Ireland, Netherlands, Norway, Sweden, Czech Republic, Slovenia, Poland, Bulgaria, Russia, Canada, Philippines, Israel, Japan, Spain, Latvia, Portugal, Chile, Denmark, Switzerland, Finland, Mexico

Latinobarometer

- 1996 Argentina, Bolivia, Brazil, Colombia, Costa Rica, Chile, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, Venezuela, Spain

Eurobarometer

- EB 52.1, France, Belgium, Netherlands, Unified Germany, Italy, Luxembourg, Denmark, Ireland, 1999 United Kingdom, Greece, Spain, Portugal, Finland, Sweden, Austria
EB 56.1, Belgium, Denmark, Unified Germany, Greece, Spain, France, Ireland, Italy, Luxembourg, 2001 Netherland, Portugal, United Kingdom, Austria, Sweden, Finland

European Social Values Survey

- 2002 Austria, Belgium, Switzerland, Czech Republic, Unified Germany, Denmark, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Israel, Italy, Luxembourg, Netherlands, Norway, Poland, Portugal, Sweden, Slovenia
2004 Austria, Belgium, Switzerland, Czech Republic, Unified Germany, Denmark, Estonia, Spain, Finland, France, United Kingdom, Greece, Hungary, Ireland, Luxembourg, Netherlands, Norway, Poland, Portugal, Sweden, Slovenia, Slovakia, Turkey

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* An earlier version of this paper was presented at the 2007 meeting of the International Sociological Association's RC19 on Poverty, Social Welfare and Social Policy, University of Florence, Florence, Italy. The authors thank the *ISQ* reviewers and editors for useful suggestions.

ⁱ Lübker (2007) is an exception, which questions the *homo economicus* assumption of the Meltzer-Richard model and suggests that cultural factors explain cross-national differences in support for redistribution.

ⁱⁱ Finseraas's (2006) sample includes four post-communist countries.

ⁱⁱⁱ Finseraas (2006) uses the analytical strategy closest to that used here, but he only models the effect of income inequality on the residual average (or individual-level regression constant) support for redistribution.

^{iv} Several studies investigate whether welfare regime policies affect attitudes toward redistribution, with mixed results (Meier Jæger 2005; 2006a; Mehtens 2004). Comparable and quality measures of welfare effort beyond the advanced industrialized democracies are not readily available, nor have coherent cross-regional typologies of welfare regimes yet been developed. IMF data on "welfare spending" typically used in cross-regional studies of welfare state effort are problematic because they include both insurance and redistributive expenditures.

^v The surveys are from the International Social Survey Program (1985, 1987, 1990-1993, 1996, 1998-2000), the Latinobarometer (1996), Eurobarometer (1999, 2001), and European Social Survey (2002, 2004).

^{vi} In a handful of surveys, the statement was "It should be the government's responsibility to reduce income differences between the rich and the poor people."

^{vii} In two surveys, the responses were coded on a four point scale, with no middle category. The responses in these surveys were recoded to match those of the five point scale, omitting the middle category.

^{viii} In advanced industrialized democracies, Iverson (2005) suggests that when education leads to skill specificity, demand for social insurance increases rather than declines. This is consistent with the argument of Moene and Wallerstein (2003) that social insurance is a normal, not redistributive, good. Here we are interested in predicting support for redistribution, not social insurance.

^{ix} For education, the number of years of education was used whenever possible. In most cases, income was coded using standardized deciles in the surveys. Otherwise, the raw income figures were used. Because the data are

standardized, the variable is measured in terms of standard deviations from the country-survey mean for each individual.

^x Results for models of class and attitudes toward redistribution have been more mixed. Jacoby (1994) found a more coherent structure in public attitudes towards social spending than in other areas of government expenditure.

Svallfors (1997) noted that class and status are strong predictors of support for redistribution, but Coughlin (1980) found that class was only weakly related to attitudes towards the welfare state. Despite these conflicting findings, there is general support consistent with earlier claims that the more individuals endorse the concept of “social rights” the greater the likelihood that they will support redistribution (Feldman and Zaller 1992; McClosky and Zaller 1984).

^{xi} Though the dependent variable, support for government redistribution, is only scaled one through five, an examination of the residuals from these models suggests that it is normally distributed. Further, given the large sample sizes within each country-survey, the sampling distribution should be asymptotically normal. Though transforming the dependent variable may improve the efficiency of the estimates, it is unlikely to substantively change the results and would unnecessarily complicate interpretation of the results.

^{xii} Most analyses of cross-national survey data have R^2 in the .02-.12 range because measurement error in survey data can be quite large. Reducing complex and wide-ranging opinions or preferences to a five, or even ten, point scales inevitably includes measurement error, especially as variation in the population surveyed increases. Given the simplicity of our model, using only a handful of demographic characteristics, an average R^2 of .03 is quite reasonable.

^{xiii} Whenever possible, only the GINI coefficients calculated by the UNU-WIDER project using the highest quality data were used. In instances of multiple estimates in one year, the average of the estimates was used. When the highest quality data were not available, the next quality was used. If data were missing for a particular year, prior year data, up to two years prior to the missing data, were used. If prior year data were not available, data from the following year was used.

^{xiv} The evidence for the relationship between state policies and attitudes has been mixed. While more extensive welfare states have been associated with slightly higher levels of support for government welfare programs (Edlund 1999; Gelissen 2001; Mehrrens 2004; Blekesaune and Quadagno 2003; Meier Jæger 2006a), these studies mark a sharp contrast with prior research (Bean and Papadakis 1998; Bonoli 2000; Gelissen 2001; Svallfors 1997).

These studies were restricted to advanced industrialized democracies. Cross-nationally comparable data on redistributive social spending are not available. Instead, we use government consumption as a percentage of GDP as a proxy for state size, consistent with Rodrik (1998). These data come from the Penn World Tables (Heston, Summers and Aten 2006).

^{xv} Additional models were estimated that included income inequality and government consumption as predictors of variation in the coefficients for employed, unemployed, and female. Insignificant effects are not presented here.

^{xvi} For similar applications of a two-stage procedure, see Duch and Stevenson (2005) and Long Jusko and Shively (2005).