VIEWS OF ECONOMIC INEQUALITY IN LATIN AMERICA

Brian D. Cramer
PhD. Candidate, Rutgers University
cramer@rci.rutgers.edu

Robert R. Kaufman
Professor of Political Science, Rutgers University
kaufrutger@aol.com
732-932-9280

Abstract.   We assess the factors that affect judgments about the fairness of the distribution of wealth with pooled public opinion data from Latinobarometro surveys conducted in 1997, 2001, and 2002. We test hypotheses with a multilevel logit model that allows us not only to examine the effects of the class background and perceptions of individual respondents, but also to assess the impact of societal-level differences in economic growth, GDP per capita, income concentration, and the availability of information. Examining the direct and conditional effects of these societal- level factors, we find support for relative deprivation approaches, but much more limited evidence for hypotheses derived from distributive conflict and development theories.

Introduction

"Between a condition of objective inequality and the response of a disadvantaged person," Robert Dahl (1971: 95) has written, "lie the perceptions, evaluations, expectations – in short, the psyche – of the individual." Dahl goes on to warn that political responses to economic inequality will depend on many factors other than the "individual psyche." Even when individuals believe that the distribution of wealth in their country is unjust, they can be deterred from action by skepticism about government capacity, by repression and/or by collective action problems and the lack of political resources. Nevertheless, judgments about whether distribution is fair or unfair are likely to play a significant role in decisions to vote for redistribution or to engage in protest against inequality.

In this paper, we assess hypotheses about the social and economic determinants of such judgments with pooled public opinion data from Latinobarometro surveys conducted in 1997, 2001, and 2002.[1] To measure normative assessments of the distribution of wealth (our dependent variable) we use responses to a question which asked respondents whether they believed the distribution of wealth in their country was very fair, fair, unfair, very unfair, or if they don't know. Ideally, of course, we would also want to know which reference groups were salient to the respondents (neighbors, elites, etc.) when making their judgments about economic inequality, as well as whether they thought the gaps in wealth were increasing or diminishing. Nevertheless, perceptions of unfairness provide a reasonable first approximation of how people judge the existing distribution of wealth.

To analyze the sources of such judgments, we deploy a hierarchical logit model that allows us to deploy not only survey information about the respondents' background and beliefs, but also data about the societies in which they live. "Individual-level" responses provide

information about a respondent's "objective" economic circumstances and her "subjective" perceptions of economic and political conditions. "Societal" variables include measures of GDP per capita, economic growth, economic inequality, and access to information. The multilevel model, finally, also allows us to examine the interactions between individual and societal variables. We focus primarily on the effects of these broader socio-economic variables, which have been central to ongoing theoretical debates over the effects of economic inequality.

The remainder of the paper proceeds as follows. The first section reviews some of the theoretical debates about responses to economic inequality and the social-psychological dynamics that underlie them. The second section discusses hypotheses about individual-level and macro-level variables that might affect judgments about inequality. The third and fourth sections lay out our analytic approach and present the results of our statistical estimates. The fifth section concludes.

I. Inequality and Political Conflict: Ongoing Debates

The idea that societies with wide disparities in income and wealth are prone to intense distributive conflict goes back at least as far as Aristotle. Nevertheless, there remains a lively debate about how people react to such disparities, and how such reactions affect social stability and democratic politics. For example, early empirical work that linked inequality to social violence (Russett 1964; Gurr 1970; Tilly 1978; and Midlarsky 1988) has been challenged in more recent decades by a growing literature on contentious politics (McAdam, Tilly, and Tarrow 2001) and civil war (Collier and Sambanis 2005, Fearon and Laitin 2003). These later studies emphasize the causal importance of the resources and opportunities available to contending forces, but they find no systematic effect of real or perceived income inequality.

Similarly, although median voter theory pioneered by Meltzer and Richard (1981) constitutes an important point of departure in some analyses of redistributive conflict (Boix 2003), both survey and aggregate-data research have cast doubts on its basic premise: that the demand for progressive taxation will vary directly with the difference between average income and the income of the median voter (for example, see Moene and Wallerstein 2003; Kenworthy and McCall 2008).

Despite such evidence, however, concerns about the effects of inequality remain very much on the agenda of comparative political analysis, and the jury is still out. Our examination of the sources of judgments about economic distribution is relevant to three important lines of contemporary research on these questions. First, and most directly, struggles over economic inequality and redistribution provide the central focus of recent landmark studies by Boix (2003) and Acemoglu and Robinson (2007; hereafter A&R) on democratization and democratic stability. There are, to be sure, important differences in the way each of these studies conceive the effects of inequality: for example, A&R argue that democratization is most likely at middle levels of inequality, whereas Boix posits a linear effect. But both studies converge around the proposition that democracies are unlikely to take root or survive distributive conflicts that erupt at very high levels of economic inequality. At the individual-level, this implies that dissatisfaction with distribution should increase as income gaps grow wider.

A second body of research – an "economic development" perspective – places greater emphasis on economic growth and national wealth than on distribution *per se*. This approach dates at least as far back as Lipset's (1959) classical work on the relationship between development and democratic stability. Far more recently, Przeworski et al. (2000) have shown that high levels of national wealth strongly increase the probability that democracies will survive.

The causal mechanisms that underlie this relationship are unclear, as Przeworski et al. acknowledge. Nevertheless, the findings suggest that high levels of country wealth should reduce the sense of dissatisfaction among people at all levels of the income pyramid, since they can be expected to have achieved a higher standard of living than their counterparts in poorer countries.

Finally, theories of relative deprivation (Gurr 1970) provide still another approach to the effects of inequality. They differ from those of A&R and Boix in that the sense of deprivation does not necessarily arise from high levels of economic inequality; it can stem from an individual's expectations about her own achievements as well as from a comparison with the situation of others. Nevertheless, large or increasing gaps between one's own economic wellbeing and that of the rest of society might be expected to increase the sense of relative deprivation and, therefore, dissatisfaction with the distribution of wealth. Hirschman and Rothchild's (1973) famous "tunnel theory" provides a classic statement of this possibility. They argue that while people may tolerate growing inequality at early stages of development, they become less tolerant over time if they believe that others are moving ahead more rapidly. More recently, Reenock et al. (2007) find empirical support for their claim that "regressive socioeconomic development" – national wealth combined with continuing high levels of poverty – is positively linked to political conflict and the breakdown of democracies. In short, we would expect that dissatisfaction with distribution would increase among people who fear that development has left them behind.

Each of these bodies of writing emphasize the causal importance of large-scale social and economic factors and their effects on political behavior and outcomes. But as Dahl (1971) implied, these effects pass through individual attitudes and perceptions; and although this

connection is often acknowledged theoretically, it is rarely examined empirically. Instead, tests

of the arguments sketched above rely either on the societal or on the individual-level of analysis.

Studies which explore the relationship between democratic stability or civil war, for example,

usually rely on large-N aggregate data comparisons that only indirectly infer the motives of

actors (see for example, Boix 2003, Przeworski et al. 2000, Laitin and Fearon 2003, and Collier

and Sambanis 2005). Conversely, although a large behavioral literature examines the individual-

level influences on preferences for redistribution (for a review, see Alesina and Giuliano 2009),

most of these studies do not test for the causal effects of societal-level factors.

     Our hierarchical model provides a statistically appropriate method for examining both

levels of analysis – individual and societal – and the interaction between them. Moreover, it

focuses on a region of the world, Latin America, in which there are substantial cross-national

differences in wealth, rates of growth, and degrees of economic inequality. To our knowledge,

no similar studies have been conducted on that region or on other parts of the developing world.

The limits of this study should also be noted. It does not allow us to draw conclusions about how

our dependent variable – judgments about economic distribution – might in turn affect the

political behavior of individuals who make these judgments or the consequences of this behavior.

We examine only one link in a long causal chain. Nevertheless, dissatisfaction with inequality is

a potentially crucial link, and our study helps provides a more complete picture of the attitudinal

underpinnings of these outcomes.

II. Hypotheses

     In this section, we describe the individual and societal-level variables and hypotheses we

test below. Normative judgments about the distribution of wealth – our dependent variable –

distinguish between respondents who believe distribution is 'very unfair" (31.9 percent of the

sample) and all other responses. These other responses include another 50.0 percent who believe that distribution is "unfair," and much smaller percentages who answer "fair" (11.1), "very fair" (2.9), or "don't know or no answer (4.2). There are both theoretical and empirical reasons for constructing the dependent variable in this way. On the one hand, because Latin America is in fact one of the most unequal regions in the world, it should not be surprising that the overall distribution of opinion is weighted heavily toward negative responses. In light of this, we believe that focusing on those who believe distribution is "very unfair" is a plausible way to capture the judgments of people who are especially dissatisfied with the status quo. Empirically, we find that the results of models using three, four, and five-point scales are strikingly similar to the ones reported here.

As discussed above, we examine the effects of three sets of explanatory factors: those directly related to respondents' social background and beliefs (level-1), those related to economic structure and performance (level-2), and the interactions between these two levels. In addition to specifying the socioeconomic conditions within a given country, the level-2 variables also control for the year of the survey, which captures very different region-wide conditions: 1997 was a year of recovery from the region-wide peso crisis, while 2001 and 2002 were generally ones of deep recession. We also include a level-3 random intercept in all our models (there are no predictors at this level), which accounts for the different effects of lower level predictors across countries.[2]

Level-1 hypotheses

Our individual-level predictors include both measures of social class and of economic and political perceptions of the respondents. Pressure for redistribution can come at times from the poor, but it can also come from middle-class groups protesting the gap between their

economic situation and that of the rich.[3] We examine the judgments of both types of respondents. We construct our class-background variables from an index of household wealth, described in the Appendix. Respondents in the two bottom deciles of the household wealth index are identified as poor. Classifying "middle-class" respondents is more problematic because white-collar employees, small business owners, and professionals – groups normally identified as having achieved middle-class standards of living -- constitute only a relatively small part of the population in most Latin American countries. Taking this into account, we examine the attitudes of respondents from the 8th and 9th wealth deciles. Our level-1 hypotheses are as follows:

H1: The poor are more likely than other social classes to believe that the distribution of wealth is very unfair.

H2: The middle-class is more likely than other social classes to *believe that the distribution of wealth is very unfair.*

The variables selected for economic and political beliefs replicate, where possible, findings from survey research conducted mostly in the United States and other OECD countries (see Alesina and Giuliano 2009 for an important summary). These include respondents' subjective judgments about their economic wellbeing, attentiveness to the media, self-ranking on a left-right political ideology scale, and the belief that corruption has created an unfair playing field. The Appendix provides the way these variables were constructed and the descriptive statistics (see table A1). Building on the earlier research, we posit the following hypotheses:

H3: Negative judgments about distribution will vary directly with a) dissatisfaction about one's economic situation, b) lack of recent personal economic improvement (RPEI), and c) pessimism about prospects for upward mobility (POUM).

H4: Negative judgments also vary with attentiveness to the media.

H5: Negative judgments vary directly with a) "left" political orientations, and b) with the perception that corruption has increased in recent years.

We control for a number of other factors that have been found in other studies to influence attitudes about the distribution of wealth or income. Age has been shown by Graham & Sukhtanker (2004), to have a concave relationship with unfairness about the distribution of wealth, rising as one reaches late middle age and then falling among older respondents. Since judgments about the distribution may also reflect a more general sense of satisfaction or dissatisfaction with one's life, we also include a variable for personal happiness.[4]

We also control for the educational background of the respondents, although our expectations about its impact are unclear. On the one hand, since income and education are correlated, people with more limited education might be expected to be more dissatisfied with the distribution (Alesina and Giuliano 2009). On the other hand, educational achievement can also reflect a middle-class sense of deprivation, and greater awareness of income disparities, both of which might also increase dissatisfaction with distribution (Graham and Sukhtankar 2004). In light of these ambiguities, we offer no prediction as to the direction of its effects.

Finally, we note that we were unable to test in the final models for the effects of race or place of residence (size of city/town), because these items were not included in all three surveys. However, in separate analyses, we found that indigenous people (using the 2001 survey) and individuals living in more populated areas (using the 2002 survey) were more likely to be intolerant of inequality. Their substantive effects were minimal: indigenous people were about 3% more likely to think that the distribution of wealth is very unfair while individuals living in more populated areas were about 4% more likely to hold such an opinion. Inclusion of the race and residence variables, moreover, did not substantially change the signs, statistical significance, and substantive effects of the variables included in the statistical models below.

Level-2 and cross-level interactions: Hypotheses

We turn now to hypotheses more directly related to the three approaches discussed in the preceding section: distributive conflict, economic development, and relative deprivation. A core assumption of each approach is that individuals' reactions to inequality will be shaped not only by their personal backgrounds, but also by the societal conditions they confront. Thus, our primary concern in this paper is to examine the effects of level-2 (country-year predictors) and the interactions between these predictors and several level-1 variables.

The causal importance of "objective" levels of economic inequality figures most directly in the "distributive conflict" theories elaborated by Boix (2003) and A&R (2007). Both argue that high levels of inequality will induce dissatisfaction with the distribution of income and intensify conflicts over redistribution. Moreover, although the authors acknowledge that such conflicts may not necessarily fall along class lines, the transfer of wealth is the primary stake in the struggle. Thus, high inequality might be expected to increase the dissatisfaction of people from poor or middle-class backgrounds, as well as those who report dissatisfaction with their personal economic situation. To explore these possibilities, we test the following level-2 and cross-level hypotheses.

H6: Dissatisfaction with the distribution of wealth varies directly with the extent of inequality in a society.

H7: High inequality intensifies dissatisfaction a) among individuals from poor households, and b) among individuals from middle-class households (cross-level).

H8: High inequality intensifies dissatisfaction among people who believe their needs are not met (cross-level).

Development theories, as noted, place less emphasis on distribution and attach greater importance to economic growth and high levels of national wealth. High levels of wealth might be expected to dampen dissatisfaction with distribution, since all social strata are better off in absolute terms. Similarly, although growth may involve some "transitional" disruptions, it also

holds out the promise of economic improvement for all or most social groups (a rising tide lifts

all boats) and therefore might be expected to ameliorate dissatisfaction with the status quo. The

relevant hypotheses are as follows:

H9: High levels of GD/capita reduce perceptions of unfairness.

H10: High growth reduces perceptions of unfairness.

H11: a) Poor or b) middle-class individuals will become less dissatisfied with distribution in relatively wealthy societies (cross-level.)

H12: a) Poor or b) middle class individuals will become less dissatisfied with distribution as growth rates increase (cross-level).

Finally, "relative deprivation" arguments focus on frustrations that arise when an

individual's economic achievements do not match her personal hopes or expectations. As noted

above, such frustrations can arise from reference to past or prospective improvements in one's

own economic situation, as well as from "invidious comparisons" with others. But social

conditions that encourage comparisons with others may matter as well. Poor people or those in

the middle-class may become even more dissatisfied with distribution when they believe they are

not sharing in the benefits of a growing or a wealthy society. Economic growth and national

wealth might also have similar effects on the judgments of those who – independent of class

position – are dissatisfied with their personal economic situation or who are pessimistic about

their chances for upward mobility. We would expect as well that dissatisfaction would increase

as such individuals gained greater access to information about social conditions. The following

cross-level hypotheses are relevant to these arguments. Note that the first two posit effects that

are the opposite of *H11* and *H12* above.

H13: a) Poor or b) middle-class individuals will become more dissatisfied with economic distribution in wealthier societies (cross-level).

H14:   a) Poor or b) middle class individuals will become more dissatisfied with economic distribution as growth rates increase (cross-level).

H15: High growth is likely to exacerbate the dissatisfaction of people who have not experienced recent improvement in their personal situation (cross-level).

H16: High levels of national wealth are likely to exacerbate the dissatisfaction of people who believe their needs are not being met (cross-level).

H17: Access to information is likely to exacerbate the dissatisfaction of the poor or the middle class, and of those who believe their needs are not being met (cross-level).

III. Analytic Method and Model

Our theoretical expectations contain predictions about the effects of societal factors in specific countries that do not vary across all individuals in our data set. Ignoring the multilevel nature of the data violates the assumption of independent errors, which can lead to the underestimation of the standard errors associated with our contextual variables and invalid inferences about their effects (Steenbergen and Jones 2002). The hierarchical, or multilevel, models deployed here not only enables richer analysis but also solves problems that conventional statistical methods confront.

With separate error terms for each country-year intercept, our hierarchical models allow factors at the three levels to explain variation in judgments about distribution, without assuming that they fully account for such outcomes at each level. Given the nested nature of our data and our dichotomous dependent variable, we estimate our models with a hierarchical generalized linear model (HGLM) that uses a logit link function. We report the results from the unit-specific models (as opposed to population average models) because we are interested in describing how the effects of level 1 and level 2 predictors vary across level 2 units (as opposed to describing such effects for the whole population, which are generated from population-average models. All level-1 non-binary predictors are centered around their group means, while all level-2 non-binary

predictors are centered around their grand means[5]. The variance components for these various

models are shown in Table A2 in the appendix. The HLM6 software program (Raudenbush et al. 2005) was used to analyze our data.

Our decision to use a multi-level model is also based on our findings from an ANOVA, or unconditional, model (or null model). The variance components for levels 2 and 3 were highly statistically significant (see Table A2). This indicates that there was systematic variation in perceptions of the distribution of wealth at levels 2 and 3, or in other words, that higher level (macro) factors systematically affect what individuals think about the distribution of wealth (see the varia. Using the results from the ANOVA model to calculate rough estimates of the fraction of total variation in our dependent variable explained by our three levels, we find that the fraction explained by level 1 is approximately .93, the fraction explained by level-2 is approximately .03, and the fraction explained by level-3 is approximately .04 (for the formula used to find these numbers, see Rabe-Hesketh and Skrondal 2008). Given that our dependent variable is measured at the individual-level, the overwhelmingly large amount of level-1 variance as a proportion of total variation explained is not surprising (Steenbergen and Jones 2002, 231). However, to ignore the level-2 and 3 sources of variance is to miss important aspects that potentially shape attitudes about the distribution of wealth, which could result in erroneous substantive conclusions about such attitudes.

For each individual i in country-year j in country k, the generic equation used to estimate our 3-level models is the following:

Attitudes about economic inequality$_{ijk} = \beta_0 + \beta_1 X_{1ijk} + \dots \beta_n X_{nijk} + \dots + \alpha_1 W_{1jk} + \dots \alpha_n W_{njk} + \gamma_1 W_{1jk} X_{1ijk} + \dots + \gamma_n W_{mjk} X_{mijk} + \mu_{0k} + \delta_{0jk}$

The perception of economic inequality for an individual (i) in a country-year (j) and in a country (k) is explained by the global average (β_0), individual characteristics (X, or with the estimator β), country-year level characteristics (W, or with the estimator α), and cross-level interaction effects ($W_{mjk}X_{mijk}$, or with the estimator γ) between the mth country-year level variable (W_{mjk}) and the mth individual level variable (X_{mijk}). The error terms for each country is μ_{0k} and the error terms for each country-year is δ_{0jk}. The same equation, minus the interaction effects ($\gamma_n W_{mjk}X_{mijk}$), is used to estimate Model 1.

IV. Results

The general results of our analysis are shown in Table 1 and Figure 1 below. The first model in Table 1 shows the coefficients for level-1 and level-2 predictors; subsequent models add cross-level interactions. Model 2 shows interactions with inequality that are relevant to the "distributive conflict" approaches. Models 3, 4, and 5 show interactions with GDP/capita, growth, and information availability that are relevant to both the "development" and "relative deprivation" approaches. All of the interaction models examine the impact of variations in social conditions on the attitudes of the poor and the middle-class. The inclusion of other interactions is constrained by limits on the available degrees of freedom in the models. But we also include at least one variable that reflects more "subjective" assessments of economic wellbeing.

Figure 1 provides a summary of the substantive effects on judgments about inequality of the level-1 and level-2 predictors. We estimate these effects from all of the coefficients in Model 1 that are significant at the .10 level or lower.[6] Because the independent variables are scaled in different ways, we compare changes in standard deviations to estimate the substantive effect of a given predictor. More specifically, we estimate how a change from two standard deviations below the mean of a predictor to two standard deviations above it will affect the probabilities of a negative judgment, holding all other predictors at their mean values.

<<< INSERT TABLE 1 HERE >>>

<<< INSERT FIGURE 1 HERE >>>

Level 1 predictors. Beginning with the level-1 predictors, we find first that the effects of social class are mixed, but generally rather weak. The level-1 effects of poverty (*H1*) do not reach standard levels of significance, and actually go in the "wrong" direction in Models 1, 2, 4, and 5. Results are no stronger, moreover, when we substitute the wealth index for the "poverty"

measure used in the table. On the other hand, as we will see below, our cross-level analysis shows that our level-2 variables modify the effects of poverty on perceptions of unfairness. The coefficients for middle-class dissatisfaction (*H2*) are significant and are in the expected direction in all of the models in Table 1.[7]   Moreover, the "middle-class" variable is also significant when we substitute a quadratic expression of wealth for the measure used in the table.[8]   However, the substantive effects are weak: middle class people (i.e., those in the 8th and 9th deciles of household wealth) are only about 2 percent more likely than other social classes to be dissatisfied with distribution.

The effects of economic and political beliefs are all highly significant and in the expected direction. People who think distribution is very unfair are also more likely to be dissatisfied with their current and future economic prospects (*H3a, b, and c*). Those who are attentive to the media are more dissatisfied as well (*H4*). Moreover, political variables also matter: "leftists" (*H5a*) and people who believe that corruption has increased in their country (*H5b*) are also inclined to judge the distribution as very unfair. Negative judgments about the distribution also increase with educational achievement, perhaps because it reflects middle-class dissatisfaction discussed above. Consistent with the findings in other studies, finally, dissatisfaction is high among middle-age people, as well as among those who are generally unhappy about their lives.

Although these factors are statistically significant, however, their substantive effects are modest when compared to the impact of societal variables. As Figure 1 shows, the substantive effects of the latter range between about 13 and 26 percent, whereas the level-1 variables are all estimated in single digits. Individuals who believe their needs are not satisfactorily met are only about 8 percent more likely to express negative views about distribution than those who are satisfied. People who are pessimistic about their children's future and those who reported no

recent improvement in their economic situation were, respectively, only about 9 and 8 percent more likely to believe that distribution is very unfair than respondents with positive perceptions.

The effects of education and media attentiveness were even lower: People with a high-school education were 4 percent more likely than illiterates to view the distribution of wealth unfavorably, and those who pay most attention to the media are only about 2 percent more likely to make unfavorable judgments than those who pay the least attention. Finally, although the substantive effects of political perceptions and of general satisfaction with life are higher, they were still weaker than the level-2 effects of economic inequality, national wealth, economic growth, and the availability of information.

Country conditions (level-2) and cross-level interactions. We are primarily interested in the effects of country conditions and the way they interact with individual-level variables. All of the level-2 variables – economic inequality, national wealth, economic growth, and information availability – have significant and substantively large effects in Model 1 and in almost all of the subsequent cross-level models.[9] The single exception is the coefficient for growth in Model 5, which does not reach the 0.10 level of significance. These findings, moreover, are robust to the inclusion of controls for political democracy (Freedom House data) and for estimates of corruption (World Bank data), although problems of multicollinearity and restrictions on the degrees of freedom precluded the incorporation of those variables in the interaction models (2-5). Below, we discuss these results and their implications for theories that emphasize distributive struggles, relative deprivation, and economic development.

We turn first to the results relevant to distributive conflict theories, as represented in the work of Boix (2003) and A&R (2007). The findings are ambiguous and raise some troubling puzzles. On the one hand, we find substantial support for the level-2 hypothesis, *H6,* that higher

levels of economic inequality increase public disapproval of the distribution of wealth. A person living in the a country two standard deviations above the mean for inequality (Bolivia 2002, 60.1) is about 23 percent more likely to believe distribution is very unfair than is someone in the country with a Gini two standard deviations below the mean (Uruguay 2001, 44.3).[10] Moreover, as Figure 2 shows[11], these effects are evident as well among respondents from the middle class: consistent with *H7b*, there is a statistically and substantively significant increase in the likelihood of middle-class dissatisfaction with the distribution at moderate (Gini of about 50) to high (Gini of about 62) levels of economic inequality.

Other results, however, do not comport with expectations of the distributive conflict approach. Inequality does not – as predicted in *H8* – have a conditional effect on the attitudes about the distribution held by individuals who are less satisfied with their needs being met. Such respondents do remain more dissatisfied than other groups across the full range of Gini values, but they are essentially no more likely to object to the distribution at high levels of inequality than at low levels (graph not shown). Even more puzzling, high inequality does modify the attitudes of the poor, but in the opposite direction from that predicted in *H7a*. As we show in Figure 3, at high levels of inequality (Gini values at about 58.5 to 62), there is a statistically and substantively significant increase in the likelihood that poor people will be inclined to *accept* the existing distribution of income.

<<< INSERT FIGURES 2 AND 3 HERE >>>

The implications of these results for the stability or performance of democratic regimes are unclear, especially since we do not know how such judgments affect behavior. The consistently strong effects of inequality on the dissatisfaction of the general public indicate that high concentrations of income can delegitimize the political regime. Nevertheless, the decline of

dissatisfaction among the low-income respondents relative to other social classes clearly challenges assumptions that high inequality is likely to intensify distributive conflicts between the rich and poor. One possible explanation for this contradictory result is that at high levels of inequality, the poor are more vulnerable and therefore more likely to accept small clientelistic benefits in exchange for tolerance of the distributive status quo. It is also possible, of course, that high inequality intensifies ethnic or regional cleavages, which are not examined in this paper.

The level-2 and cross-level results in Models 3, 4, and 5 address hypotheses relevant to both the development and relative deprivation approaches. Although the results are again mixed, Models 3 and 5 provide evidence that directly contradicts core propositions of the development approach and offer some support for relative deprivation hypotheses. Developmental approaches imply that high levels of national wealth will reduce dissatisfaction with distribution *(H9)*. Instead, the coefficient for wealth in all models goes strongly in the *opposite* direction; people who live in wealthy societies are substantially more dissatisfied with distribution, not less (about 26% higher probability for those in wealthier societies compared to those than in the more poorer ones). While there might be many explanations for this result, it may be a consequence of greater access to information about social disparities. TV ownership is highly correlated (.74) with GDP per capita and therefore should not be included in the same model with national wealth. However, our level-2 coefficient for information availability in Model 5 also shows an increase in negative judgments about distribution. People who live in a country (Argentina 2002, 95.5) two standard deviations above the mean TV ownership rate are about 19 percent more likely to make such judgments than people in a country (Honduras 1997, 38.9) with an ownership rate that is two standard deviations below the mean.

The cross-level interactions in Models 3 and 5 also produce results that are generally more consistent with relative deprivation than with development hypotheses. Figure 4, which graphs the interaction between GDP per capita and poverty, shows statistically and substantively significant effects at both low levels of national wealth and at moderate to high levels. As GDP per capita increases from about US$700 to US$1500, the poor become increasingly less tolerant of the distributional status quo; from US$4600 to US$8000, they become increasingly more likely than other classes to believe the distribution is very unfair (compare *H11* and *H13a*). The poor also become increasingly less accepting of inequality as TV ownership rates increase, although the conditional effects are statistically and substantively significant only at levels of ownership between about 36 and 58 percent (Figure 5).

<<< INSERT FIGURES 4 AND 5 HERE >>>

National wealth and information availability have much weaker conditional effects on the attitudes of the middle class (*H13b*) and on the judgments of people who are less satisfied with their needs being met (*H16* and *H17*).[12] Still, most of the results in Figures 6 through 8 are, for the most part, more favorable to relative deprivation than to development hypotheses. While those that are less satisfied with their needs being met are more likely to feel that the distribution of wealth is very unfair across all levels of GDP per capita and (almost all) TV ownership rates, their probability in feeling this way does not significantly increase as levels of GDP per capita and TV ownership rates increase (Figures 6 and 7). There is a similar conditional effect between information availability and the middle class on attitudes about the distribution of wealth. As indicated in Figure 8, higher TV ownership rates does not significantly increase the probability of dissatisfaction among middle class respondents, even though the they are more likely to be dissatisfied with the distribution of wealth relative to other classes at moderate to high rates of

20

TV ownership (rates at about 74% to 97%). Against *H13b*, middle class respondents are not increasingly more likely than other classes to be dissatisfied with inequality as GDP per capita increases. While they are slightly more likely than other classes to be more dissatisfied around the mean level for GDP per capita, the negative sign on the interaction indicates that this difference in dissatisfaction between groups decreases as GDP per capita rises (graph not shown).

<<< INSERT FIGURES 6, 7, AND 8 HERE >>>

In several respects, the effects of economic growth show greater support for the development hypothesis in Model 4. At level-2, high growth reduces the likelihood that people will view the distribution as very unfair (*H10*). The substantive effect is about 13 percent (from Model 1). The interaction shown in Figure 9, moreover, shows that as growth increases from about -4 percent to 6.9 percent, there is a substantial and statistically significant decline in dissatisfaction about inequality among people less inclined to believe that their economic situation has not recently improved (for every one unit increase in more negative evaluations).[13] While these conditional effects lose their significance at very high rates, the overall results indicate that growth can mute the effects of personal economic frustrations.

<<< INSERT FIGURE 9 HERE >>>

While the conditional effect of growth on middle class attitudes about the distribution is weak, the dissatisfaction of the poor substantially increases as economic growth rates climb. Middle class respondents are more likely to be dissatisfied than other classes within a growth range of about 3 percent to 5.1 percent; however, the increase in the probability within this range is trivial and statistically insignificant (Figure 10). On the other hand, the effects of growth on the attitudes of the poor are statistically and substantively significant (Figure 11). Although the

poor remain generally more inclined than other classes to tolerate the distribution of wealth at negative to low rates of growth (about -4.5 percent to 2 percent), the rate of acceptance relative to other classes significantly declines as growth improves within this range. At very high rates of growth (about 5.9 percent to 8.2 percent), the poor are increasingly more likely than other classes to think that the distribution of wealth is very unfair. This result is consistent with our findings on the conditional effects of national wealth and information availability. Overall, it supports the relative deprivation approach: poor people became increasingly less willing to tolerate distribution in growing, informed, and relatively well-off societies.

<<< INSERT FIGURES 10 AND 11 HERE >>>

V. Conclusions

In this paper, we proceed from the assumption that normative judgments about the distribution of wealth are central to debates about whether and how economic inequality affects demands for redistribution and the prospects of political stability. We acknowledge that the conclusions from our analysis are necessarily limited, not only because of the constraints imposed by the survey data, but also because we do not examine the factors that might lead individuals to *act* on the belief that the distribution of wealth is very unfair. Despite these limitations, however, we believe our findings contribute to the debate above in a number of ways.

Most generally, our hierarchical analysis shows clearly that people's judgments about distribution are based to an important extent on the nature of the society in which they live. Regardless of an individual's wealth, political perceptions, media exposure, and subjective perceptions about their own economic situation, people judge distribution more unfavorably in countries that do in fact have highly skewed distributions of income, as well as in societies where

there is greater access to information. Poor people in wealthier societies are also more inclined to judge distribution as very unfair.

Predictably, these beliefs are also affected by an individual's class background and perceptions of economic wellbeing – past, current, and future. The magnitude and even the direction of the impact of these variables, however, are contingent on the developments within the larger society. Understanding the way societal conditions are connected to personal background and preferences, therefore, is a major area for continuing research.

Of the three "macro" approaches examined in this paper, we generally do not find support for "distributive conflict" hypotheses. Higher inequality does increase the dissatisfaction of the general public and – to a small extent at mean Gini values and higher– the middle class. Overall, however, disaffection with inequality does not reflect divisions between the rich and poor (or even significantly between the middle class and other classes), as might be expected in distributive conflict theories.

Our findings with respect to relative deprivation and development are also mixed. As argued above, however, the overall direction of our findings provide more support for relative deprivation hypotheses than development ones, raising troubling questions about the latter. Development, in itself, is not sufficient to ameliorate discontent with the distribution of wealth and seem to cause greater discontent among the poor and middle class at higher, yet different, levels of development.

These results in turn have important implications for public policy. It has sometimes been argued that, because it is difficult to decrease inequality in the short run, governments should prioritize economic growth, mobility opportunities, and the reduction of absolute poverty (see Fields 2007; Bermeo 2009). Up to a point, this may make sense. We have seen that high

growth does ameliorate dissatisfaction with distribution among the general public, and that –

except at very high levels – it decreases the dissatisfaction of people who have not experienced

recent improvement in their own economic situation. But neither high growth nor high levels of

development (national wealth and information) can be counted on to reduce the dissatisfaction of

the poor or the middle class. On the contrary, these factors – under certain conditions – seem to

reduce more severely their tolerance for existing levels of inequality or increase the belief that

distribution is very unfair. In that respect, development has potentially destabilizing implications

for the political system.

APPENDIX

MEASUREMENT OF THE VARIABLES

Level-1 (individual-level) dependent variable

Attitudes about the unfairness of the distribution of wealth within one's country: We use a

dichotomous variable that distinguishes between respondents who believe distribution is "very

unfair" (category 1) and all other responses (category 0, which includes the very fair, fair, don't

know, and unfair responses). We obtain essentially similar results with alternative model

specifications that code these judgments on 3, 4, and 5-point scales.

Level-1 predictors

Wealth: Estimates of household wealth are based on responses to a question about household ownership of, or access to, various items, including electrical appliances, computers, camera, telephones, telephone, drinking water, hot water, and sewage. Following McKenzie (2005), Montgomery et al. (2000), and Vyas and Kumaranayake (2006), these items are weighted through a principal component analysis and then aggregated into a "wealth index." The index ranges from -2.56 (own/have access to no items in the index) to 2.21 (own/have access to all items in the index).

Middle-class: A dichotomous variable where (1) represents those in the middle class and (0) for all those not in the middle class. The middle class includes deciles 8 and 9 of the wealth index.

Poverty: A dichotomous measure where (1) represents those in poverty and (0) for all those not in poverty. Households in the bottom 20 percent of the wealth index, or deciles 1 and 2, are designated as ones in poverty.

Media Attentiveness: This is measured with the questions: (1) "How many days during the last week did you watch the news on television?" (2) "How many days during the last week did you read a newspaper?" (3) How many days during the last week did you listen to the radio?" The response categories for each question ranges from 0 days – 7 days. Therefore, this variable ranges from 0 – 21.

Negative retrospective evaluation of recent personal economic improvement (RPEI): Based on the question asking whether a respondent's personal economic situation, as well as their family's, is better or worse than 12 months ago. Variable coded as follows: (0) "much better;" (1) "about the same;" (2) "much worse."

Pessimistic about long-term prospective personal economic upward mobility (POUM): Based on the question that asks respondents if they think their children will live better than how the

respondents live today. Variable is coded as followed: (0) "much better;" (1) "about the same;" and (2) "much worse off."

Personal Needs Not Met (PNNM): This is measured with the question that asks respondents whether their salary and their total family income allows them "to satisfactorily cover their needs." Variable coded as follows: (0) "Covers them well, I can save;" (1) "Covers them alright, without great difficulty;" (2) Does not cover them, there are difficulties;" (3) "Does not cover them, there are great difficulties."

Political orientation: Individual self-placement on a 10-point left-right political ideology scale, with the farthest left category coded as 0 and the farthest right category coded as 10.

Corruption: Based on the question that asks respondents if corruption has increased or decreased in the last 12 months. Categories are (0) for people that think corruption has decreased a lot; (1) for people that think that corruption has decreased a little; (2) for those people that think that corruption has remained the same; (3) for those people that think corruption has increased a little; and (4) for those people that think that corruption has increased a lot.

Level-2 (country-year) predictors[14]

Economic growth: Annual percentage change in the GDP of a country. Data come from the World Bank.

Economic inequality: The Gini coefficient. Data are from the Socio-Economic Database for Latin America and the Caribbean (SEDLAC). These data were taken from the UNU (United Nations University) – Wider World Income Inequality Database. Various SEDLAC years were used, and Gini was based on household income in the post-government tax/post-government transfer phase.

Information Availability: The percentage of households within a country-year that own at least one TV set. Data come from the World Bank. We only used TV data because data on the number of newspapers and/or radios for most country-years were unavailable.

National Wealth: GDP per capita (in constant 2000 U.S. dollars). Data comes from the World Bank.

Control Variables[15]

Age (level-1): The response categories for this variable are ordered from low to high, with the years of age for a respondent within our dataset comprising each category.

Age Squared (level-1): This is measured by squaring the age variable above.

Education (level-1): The values range from low to high, with illiterate respondents coded 0, and those who graduated from high-school coded 6.

Happiness (level-1): For 1997 and 2001, based on the following question: "In general, how satisfied are you with your life?" Categories are: (0) not at all satisfied, (1) not very satisfied, (2) fairly satisfied, and (3) very satisfied. For 2002, we used the following question: Generally speaking, how happy are you?" Categories are: (0) not at all happy, (1) not very happy, (2) quite happy, and (3) very happy.

*A Note on Imputing Missing Values***:** All the level-1 predictors in our models had some missing values, with some missing less than 1% of their values to others missing as much as 22% of their values. Using the Amelia Software Program[16] for multiple imputation of missing values, ten imputed datasets were generated, resulting in no missing value for any predictors in each dataset. All ten imputed datasets were used to analyze each model. The statistical results for each model reported in Table 1 are averages of the results from each separate imputed dataset.

Descriptive Statistics and Variance Components

Table A1 Descriptive Statistics

	Min.	Max.	Mean	S. D.	Obs.
Level-1 (individual)					
Fairness of Distribution[17]	0	1	0.32	0.47	53,822
Age	15	101	38.50	15.77	54,424
Age Squared	225	10,201	1,731.26	1,414.23	54,424
Poverty	0	1	.20	.40	54,424
Middle Class	0	1	.20	.41	54,424
Media Attentiveness	0	21	10.20	5.80	54,424
Negative RPEI	0	2	1.07	.72	54,424
Personal Needs Not Met (PNNM)	0	3	1.59	.87	54,424
Pessimistic Long-term POUM	0	2	.70	.81	54,424
Political Orientation (Left-Right)	0	10	5.72	2.85	54,424
Corruption	0	4	3.63	.80	54,424
Happiness	0	3	1.71	.95	54,424
Education	0	6	2.99	1.67	54,424

Level-2 (country-year)

Economic Growth	-4.41	8.11	3.06	2.67	51
Economic Inequality	42.78	61.82	53.42	4.42	51
Information Availability	35.95	96.29	73.67	17.42	51
Wealth	701.59	8,000.01	3,220.71	2,047.55	51

Table A2: Variance Components

	Component	*Degrees of Freedom*	*Chi-Square*	*Significance Level*
RANDOM EFFECTS				
NULL MODEL				
Level-2 intercept	0.12134	34	876.27069	***
Level-3 intercept	0.13350	16	70.93651	***
MODEL 1				
Level-2 intercept	0.11959	31	854.63176	***
Level-3 intercept	0.02241	16	26.15462	†
MODEL 2				
Level-2 intercept	0.13616	31	626.41881	***
Level-3 intercept	0.02311	16	27.08967	*
Poverty	0.01614	49	69.61234	*
Middle Class	0.00754	49	65.11179	†
PNNM	0.01578	49	159.43687	***
MODEL 3				
Level-2 intercept	0.13184	31	599.62588	***

Level-3 intercept	0.02416	16	27.68399	*
Poverty	0.01289	49	63.60631	†
Middle Class	0.01118	49	69.04506	*
PNNM	0.01541	49	159.91983	***

MODEL 4

Level-2 intercept	0.13607	31	647.01310	***
Level-3 intercept	0.02148	16	26.32464	*
Poverty	0.01171	49	65.62039	†
Middle Class	0.01170	49	69.84106	*
Neg. RPEI	0.01385	49	124.70117	***

MODEL 5

Level-2 intercept	0.12056	31	575.64292	***
Level-3 intercept	0.06859	16	49.89805	***
Poverty	0.01699	49	70.18042	*
Middle Class	0.00910	49	68.26457	*
PNNM	0.01540	49	159.47064	***

REFERENCES

Acemoglu, Daron and James Robinson (2006). *Economic Origins of Dictatorship and Democracy*. New York, NY: Cambridge University Press.

Alesina, Alberto, Rafael di Tella, and Robert MacCulloch (2004). "Inequality and Happiness: Are Europeans and Americans Different?" *Journal of Public Economics*, 88: 2009-2042.

Alesina, Alberto and Paola Giuliano (2009). "Preferences for Redistribution." Working Paper 14825, National Bureau of Economic Research, Cambridge, MA (March).

Bermeo, Nancy (2009). "Does Electoral Democracy Boost Economic Equality?" *Journal of Democracy* 20 (4): 21-35.

Boix, Carles (2003). *Democracy and Redistribution*. New York, NY: Cambridge University Press.

Boix, Carles (2008). "Economic Roots of Civil Wars and Revolutions in the Contemporary World," *World Politics*, 60 (April): 390-437.

Collier, Paul and Nicholas Sambanis (2005). *Understanding Civil War: Evidence and Analysis. Volume 1: Africa; Volume 2: Europe, Central Asia, and Other Regions*, Washington, DC: World Bank Publications.

Dahl, Robert A. (1971). *Polyarchy: Participation and Opposition*. New Haven, CT: Yale University Press.

Fearon, James and David Laitin (2003). "Ethnicity, Insurgency, and Civil War," *American Political Science Review* 97 (1): 75-90.

Freedom House. "Freedom in the World Comparative and Historical Data: Country Ratings and Status by region, FIW 1973-2009." Retrieved from: http://www.freedomhouse.org/template.cfm?page=439 Accessed on: August 5, 2009.

Fields, Gary S. (2007). "How Much Should We Care about Changing Income Inequality in the Course of Economic Growth?" *Journal of Policy Modeling* 29: 577-585.

Graham, Carol and Sandip Sukhtankar (2004). "Does Economic Crisis Reduce Support for Markets and Democracy in Latin America? Some Evidence from Surveys of Public Opinion and Well Being," *Journal of Latin American Studies* 36 (2): 349-77.

Gurr, Ted Robert (1970). *Why Men Rebel*. Princeton, NJ: Princeton University Press.

Hirschman, Albert O. and Michael Rothschild (1973). The Changing Tolerance of Income Inequality in the Course of Economic Development," *The Quarterly Journal of Economics*, 87 (4): 544-66.

Kaufmann, Daniel, Aart Kraay, and Massimo Mastruzzi (2008). "Governance Matters VII: Aggregate and Individual Governance Indicators, 1996-2007." World Bank Policy Research Working Paper No. 4654. Washington D.C.

Kenworthy, Lane and Leslie McCall (2008). "Inequality, Public Opinion and Redistribution," *Socio-Economic Review*, 6 (1): 35-68.

Lipset, Seymour Martin (1959). "Some Social Requisites of Democracy: Economic Development and Political Legitimacy," *American Political Science Review*, 53 (1): 69-105.

Lora, Eduardo (2008). *Beyond Facts: Understanding the Quality of Life.* Cambridge, MA: Harvard University Press.

McAdam Doug, Sidney Tarrow, and Charles Tilly (2001). *Dynamics of Contention*. New York, NY: Cambridge University Press.

McKenzie, David J. (2005). "Measuring Inequality with Asset Indicators," *Journal of Population Economics,* 18 (2): 220-260.

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

Midlarsky, Manus (1988). "Rulers and the Ruled: Patterned Inequality and the Onset of Mass

Political Violence," *American Political Science Review*, 82 (2): 491-509.

Moene, Karl Ove and Michael Wallerstein (2003). "Earnings Inequality and Welfare Spending:

A Disaggregated Analysis," *World Politics*, 55 (July): 485-516.

Montgomery, Mark R., Michele Gragnolati, Kathleen A. Burke, and Edmundo Paredes (2000).

"Measuring Living Standards with Proxy Variables," *Demography,* 37 (2): 155-74.

Przeworski, Adam, Michael E. Alvarez, Jose Antonio Cheibub, and Fernando Limongi (2000*).

Democracy and Development: Political Institutions and Material Well-Being in the World*.

Cambridge, UK: Cambridge University Press.

Rabe-Hesketh, Sophia and Anders Skrondal (2008). *Multilevel and Longitudinal Modeling Using

Stata*, 2nd Edition. College Station, TX: Stata Press.

Raudenbush, Stephen, Anthony Bryk, Yuk Fai Cheong, Richard Congdon, and Mathilda du Toit

(2004). *HLM6: Hierarchical Linear & Nonlinear Modeling*. Lincolnwood, IL: Scientific

Software International.

Reenock, Christopher, Michael Bernhard, and David Sobek (2007). "Regressive Socioeconomic

Distribution and Democratic Survival," *International Studies Quarterly*, 51 (3): 677-99.

Russett, Bruce M (1964). "Inequality and Insurgency: A Statistical Study of South Vietnam," *World Politics*, 20 (April): 421-53.

Steenbergen, Marco R. and Bradford S. Jones (2002). "Modeling Multilevel Data Structures," *American Journal of Political Science* 46 (January): 218-37.

Tilly, Charles (1978). *From Mobilization to Revolution*. Reading, MA: Addison-Wesley.

UNU – Wider World Income Inequality Database (2008). Version 2.0c, (May). Retrieved from: http://www.wider.unu.edu/research/Database/en_GB/wiid/. Accessed: January 4, 2010.

Vyas, Seema and Lilani Kumaranayake (2006). "Constructing Socio-Economic Status Indices: How to Use a Principal Components Analysis," *Health Policy & Planning*, 21 (6): 459-568.

Waite, Linda J. and Maggie Gallagher (2000). *The Case for Marriage: Why Married People are Happier, Healthier, and Better Off Financially*. New York, NY: Doubleday.

World Bank (2008). *The World Development Indicators*. Retrieved from: http://ddp-ext.worldbank.org/ext/DDPQQ/member.do?method=getMembers&userid=1&queryId=6 Accessed: November 30, 2008.

Brian D. Cramer is a PhD candidate in the political science department at Rutgers University, New Brunswick. His dissertation focuses on contemporary Latin America and the effects that economic inequality has on citizen support for democracy and free markets.

Robert R. Kaufman is Professor of Political Science at Rutgers University, New Brunswick. He has written widely on democratic transitions, market reform, and social policy in Latin America and other parts of the developing world. Publications include: with S. Haggard, Development, Democracy, and Welfare States: Latin America, Eastern Europe, and East Asia (*Princeton University Press 2008*); *with J. Nelson*, Urgent Needs, Weak Incentives: The Politics of Social Sector Reform in Latin America (*Johns Hopkins Press 2004*); *and with S. Haggard*, The Political Economy of Democratic Transitions (*Princeton University Press 1995*).

Table 1: A Multilevel analysis of the determinants of attitudes about the distribution of wealth
(dichotomous dependent variable: 1=very unfair, 0=everything else)

	Model 1- Baseline Estimate (S.E.)	Model 2- Inequality Estimate (S.E.)	Model 3 – Wealth Estimate (S.E.)	Model 4 - Growth Estimate (S.E.)	Model 5- Information Estimate (S.E.)
			FIXED EFFECTS		
Intercept	-0.810 *** (.062)	-0.783 *** (.065)	-0.809 *** (.065)	-0.812 *** (.064)	-0.810 *** (.081)
PREDICTORS					
Level-1 (individuals)					
Poverty	-0.024 (.027)	-0.019 (.033)	0.006 (.033)	-0.017 (.032)	-0.008 (.034)
Middle Class	0.050 * (.025)	0.061 * (.028)	0.064 * (.032)	0.054 † (.030)	0.059 † (.031)
Personal Needs Not Met (or PNNM)	0.103 *** (.012)	0.105 *** (.021)	0.104 *** (.022)	0.105 *** (.012)	0.105 *** (.002)
Negative RPEI	0.145 *** (.014)	0.140 *** (.014)	0.145 *** (.014)	0.144 *** (.022)	0.145 *** (.014)
Pessimistic Long-term POUM	0.177 *** (.013)	0.169 *** (.013)	0.175 *** (.013)	0.173 *** (.013)	0.175 *** (.013)
Media Attentiveness	0.003 * (.002)	0.004 * (.002)	0.004 * (.002)	0.004 * (.002)	0.004 * (.002)
Happiness	-.0.140 *** (.011)	-0.130 *** (.011)	-0.135 *** (.011)	-0.137 *** (.011)	-0.134 *** (.011)
Corruption	0.080 *** (.014)	0.077 *** (.013)	0.080 *** (.014)	0.082 *** (.014)	0.081 *** (.014)
Political Orientation (Left-Right)	-0.028 *** (.004)	-0.027 *** (.004)	-0.028 *** (.004)	-0.028 *** (.004)	-0.028 *** (.004)
Age (Young – Old)	0.012 *** (.003)	0.011 *** (.003)	0.012 *** (.003)	0.012 *** (.003)	0.012 *** (.003)
Age Squared	-0.001 *** (.001)	-0.001 *** (.001)	-0.001 *** (.001)	-0.001 *** (.001)	-0.001 *** (.001)
Education	0.029 *** (.007)	0.025 *** (.007)	0.026 *** (.001)	0.027 *** (.007)	0.026 *** (.007)
Level-2 (country-years)					
Economic Growth	-0.056 ** (.020)	- 0.033 † (.019)	- 0.035 † (.019)	- 0.059 ** (.021)	- 0.026 (.019)
Economic Inequality	0.061 *** (.016)	0.063 *** (.016)	0.058 *** (.015)	0.060 *** (.015)	0.029 † (.017)
Wealth	0.001 *** (.001)	0.001 *** (.001)	0.001 *** (.001)	0.001 *** (.001)	
Information Availability					0.012 * (.005)
Cross-Level Interactions (Levels 1 & 2)					
Poverty * Inequality		-0.013 † (.007)			
Middle Class * Inequality		0.011 † (.006)			
PNNM * Inequality		0.001 (.005)			
Poverty * Wealth			0.001 ** (.001)		
Middle Class * Wealth			-0.001 (.001)		
PNNM * Wealth			0.001 (.001)		
Poverty * Growth				0.038 ** (.014)	
Middle Class * Growth				0.005 (.010)	
Negative RPEI * Growth				-0.019 * (.008)	
Poverty * Information					0.004 * (.002)
Middle Class * Information					0.002 (.002)
PNNM * Information					.001 (.001)

P-values: † p ≤ .10; * p ≤ .05; ** p ≤ .01; *** p ≤ .001. All p-values are for 2-tailed tests. Logistic coefficients are the numbers not in parentheses, while the standard errors for each coefficient are in parentheses.
For all models: Level-1 (individuals) N = 53,822; Level-2 (country-years) N = 51; Level-3 (country) N = 17.
RPEI: Retrospective personal economic improvement.
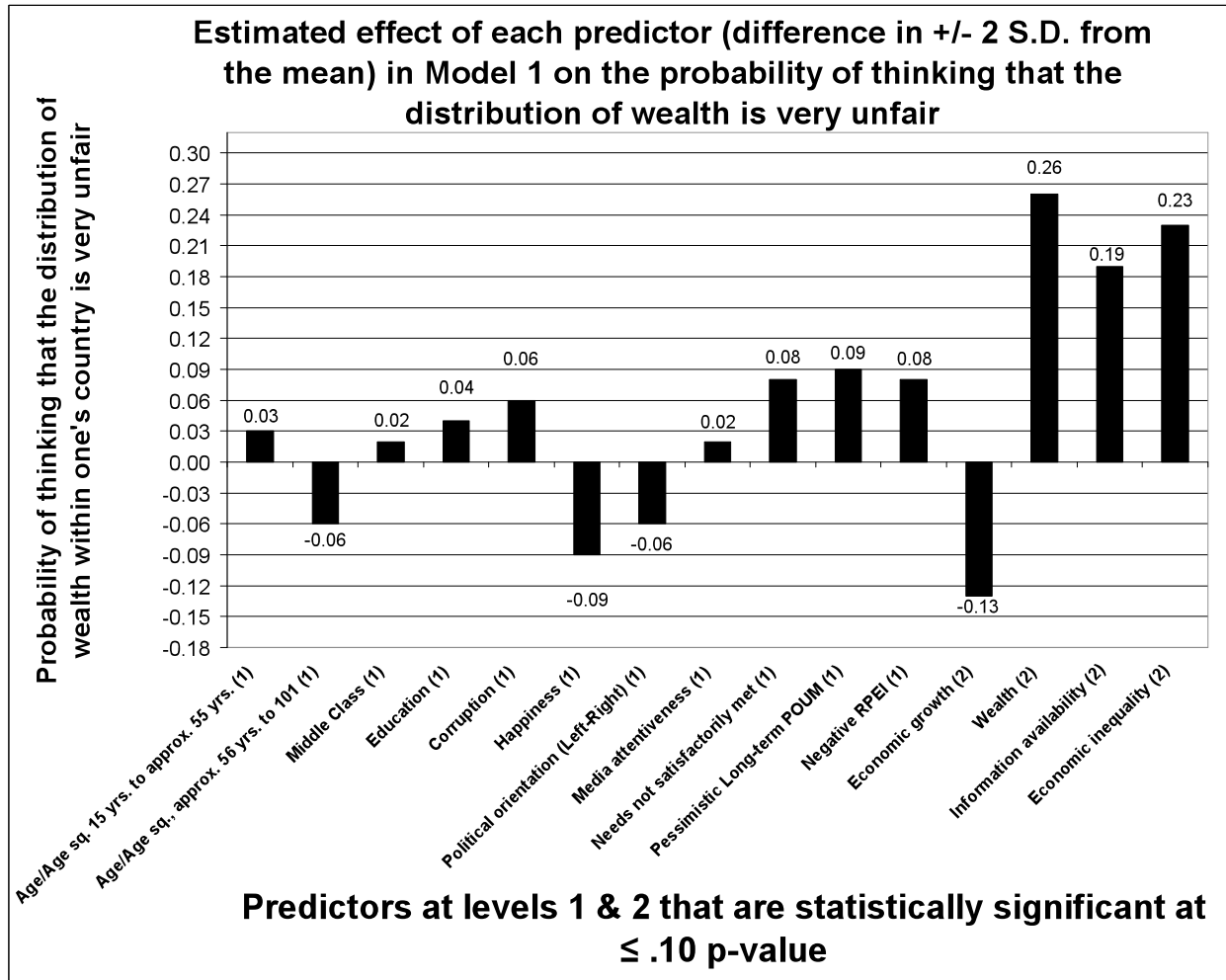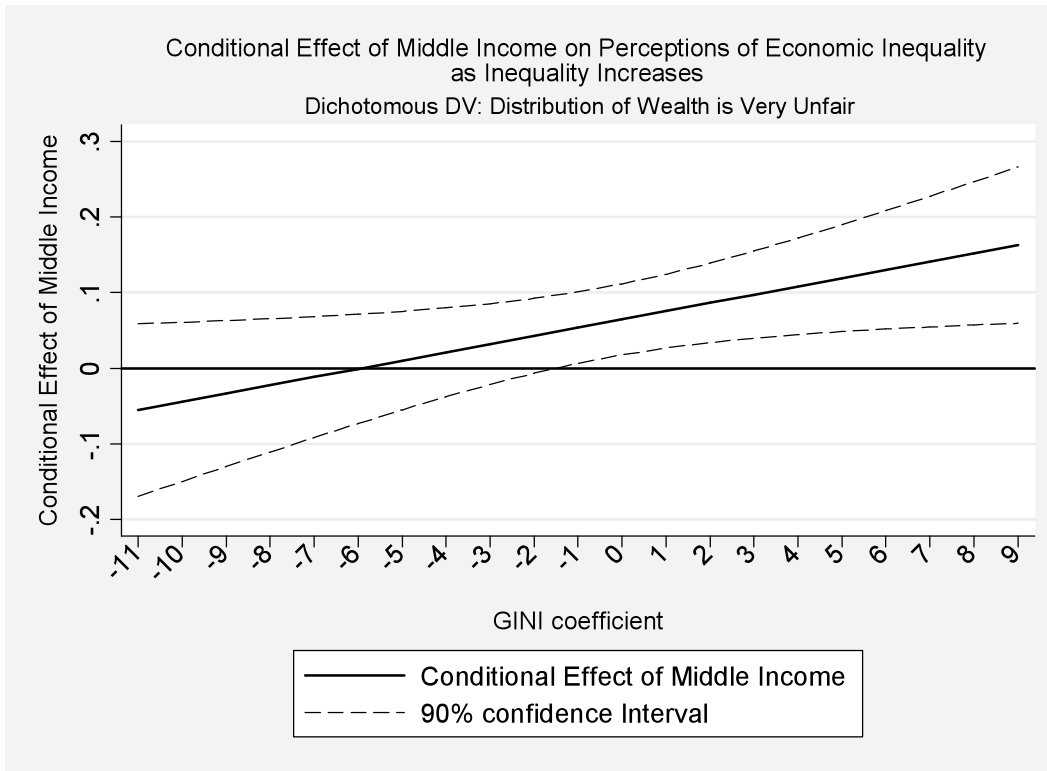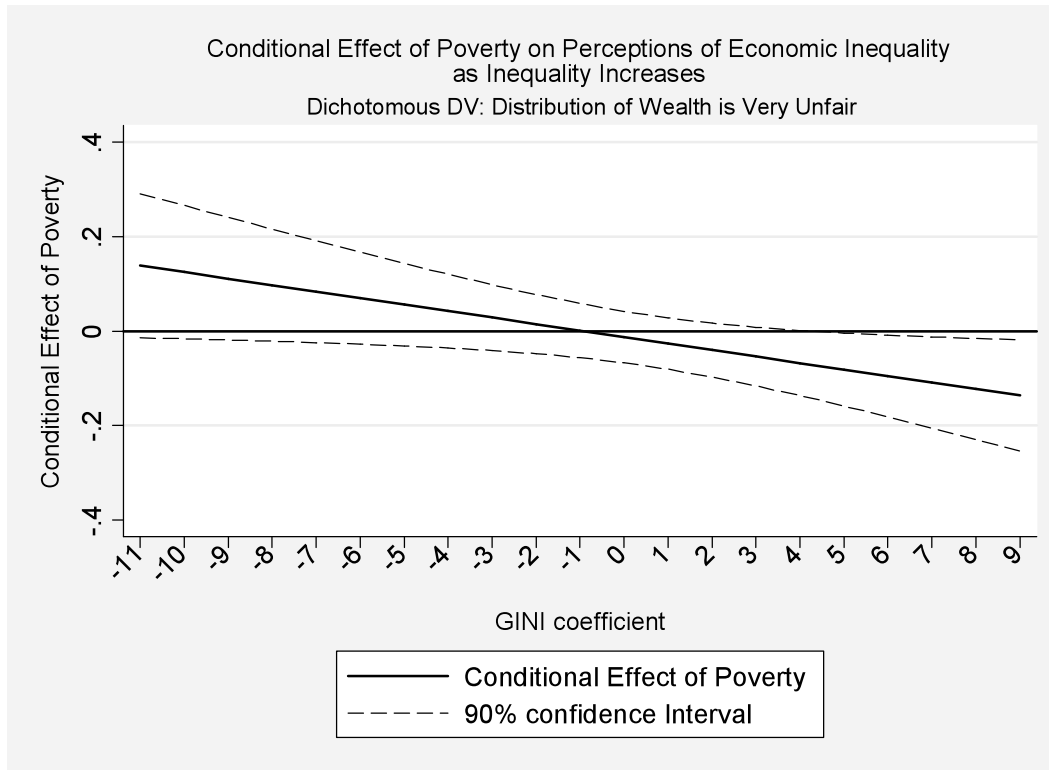
Figure 1: Predicted Probabilities

Estimated effect of each predictor (difference in +/- 2 S.D. from the mean) in Model 1 on the probability of thinking that the distribution of wealth is very unfair

Probability of thinking that the distribution of wealth within one's country is very unfair

0.30
0.27
0.24
0.21
0.18
0.15
0.12
0.09
0.06
0.03
0.00
-0.03
-0.06
-0.09
-0.12
-0.15
-0.18

0.03
-0.06
0.02
0.04
0.06
-0.09
-0.06
0.02
0.08
0.09
0.08
-0.13
0.26
0.19
0.23

Age/Age sq. 15 yrs. to approx. 55 yrs. (1)
Age/Age sq. approx. 56 yrs. to 101 (1)
Middle Class (1)
Education (1)
Corruption (1)
Happiness (1)
Political orientation (Left-Right) (1)
Media attentiveness (1)
Needs not satisfactorily met (1)
Pessimistic Long-term POUM (1)
Negative RPEI (1)
Economic growth (2)
Wealth (2)
Information availability (2)
Economic inequality (2)

Predictors at levels 1 & 2 that are statistically significant at ≤ .10 p-value

Figure 2: Middle Income * Economic Inequality

Conditional Effect of Middle Income on Perceptions of Economic Inequality
as Inequality Increases

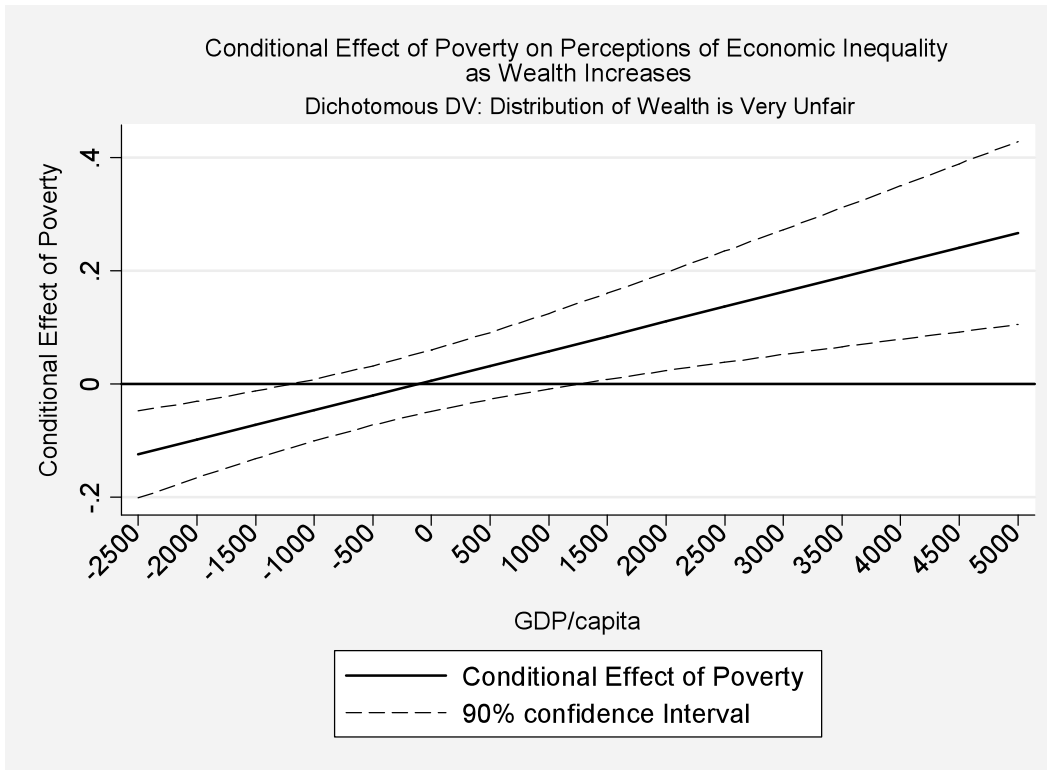Dichotomous DV: Distribution of Wealth is Very Unfair

Note: Values for GINI on X-axis of graph are based on grand-mean centering. Such centering transformed into original GINI values are about: -11 = 42 GINI; 0 = 53 GINI; 9 = 62 GINI

Figure 3: Poverty * Economic Inequality

Conditional Effect of Poverty on Perceptions of Economic Inequality
as Inequality Increases
Dichotomous DV: Distribution of Wealth is Very Unfair

GINI coefficient

Conditional Effect of Poverty
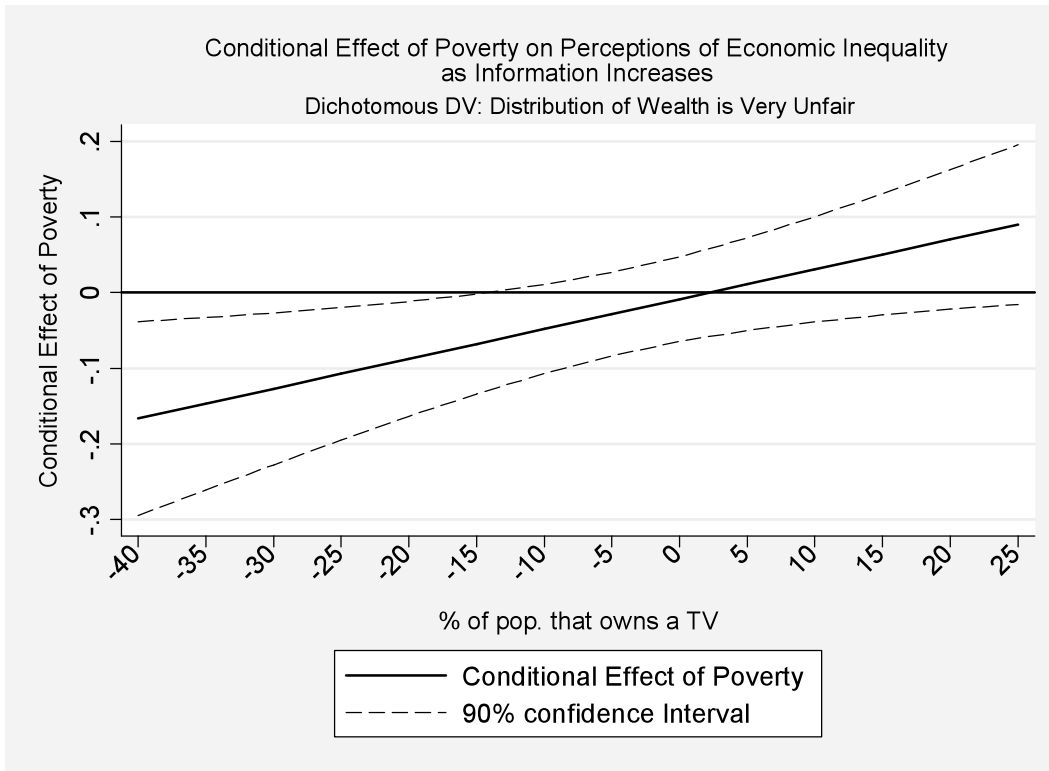90% confidence Interval

Note: Values for GINI on X-axis of graph are based on grand-mean centering. Such centering transformed into original GINI values are about: -11 = 42 GINI; 0 = 53 GINI; 9 = 62 GINI

Figure 4: Poverty * Country Wealth

Conditional Effect of Poverty on Perceptions of Economic Inequality
as Wealth Increases

Dichotomous DV: Distribution of Wealth is Very Unfair

Conditional Effect of Poverty (y-axis)

GDP/capita (x-axis)

——— Conditional Effect of Poverty
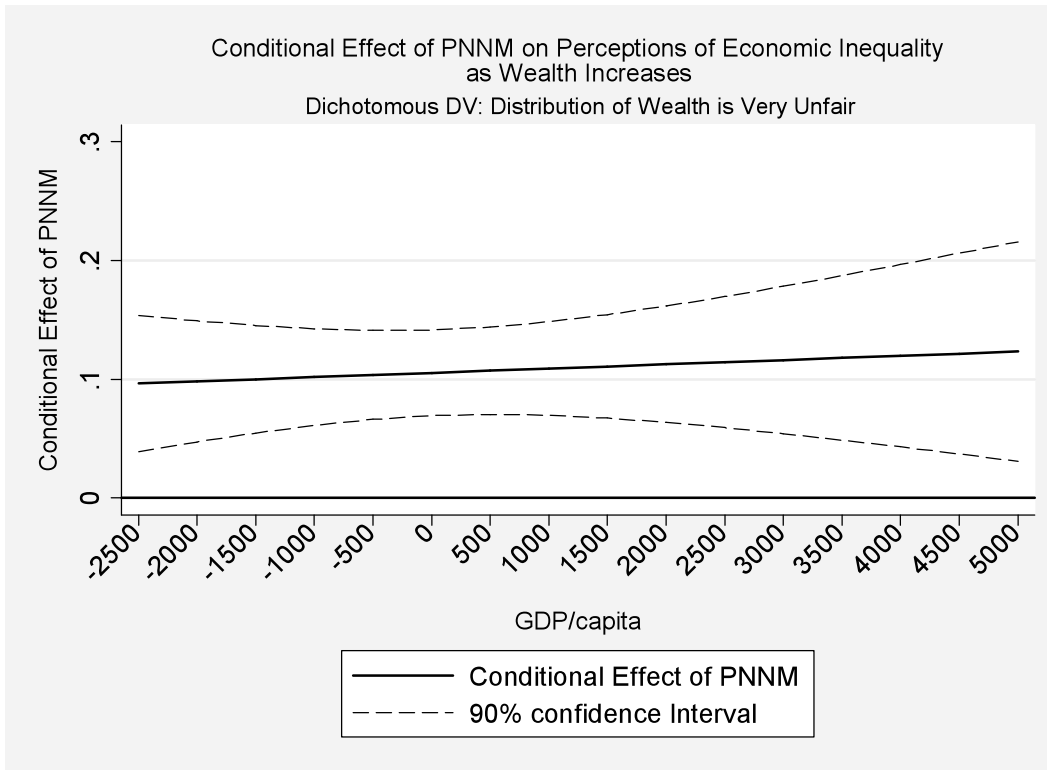- - - - 90% confidence Interval

Note: Values for GDP/capita on X-axis of graph are based on grand-mean centering. Such centering transformed into original GDP/capita values are about: -2,500 = US $700; 0 = US $3,200; 5,000 = US $8,000.

Figure 5: Poverty * Information Availability

Conditional Effect of Poverty on Perceptions of Economic Inequality
as Information Increases
Dichotomous DV: Distribution of Wealth is Very Unfair

% of pop. that owns a TV

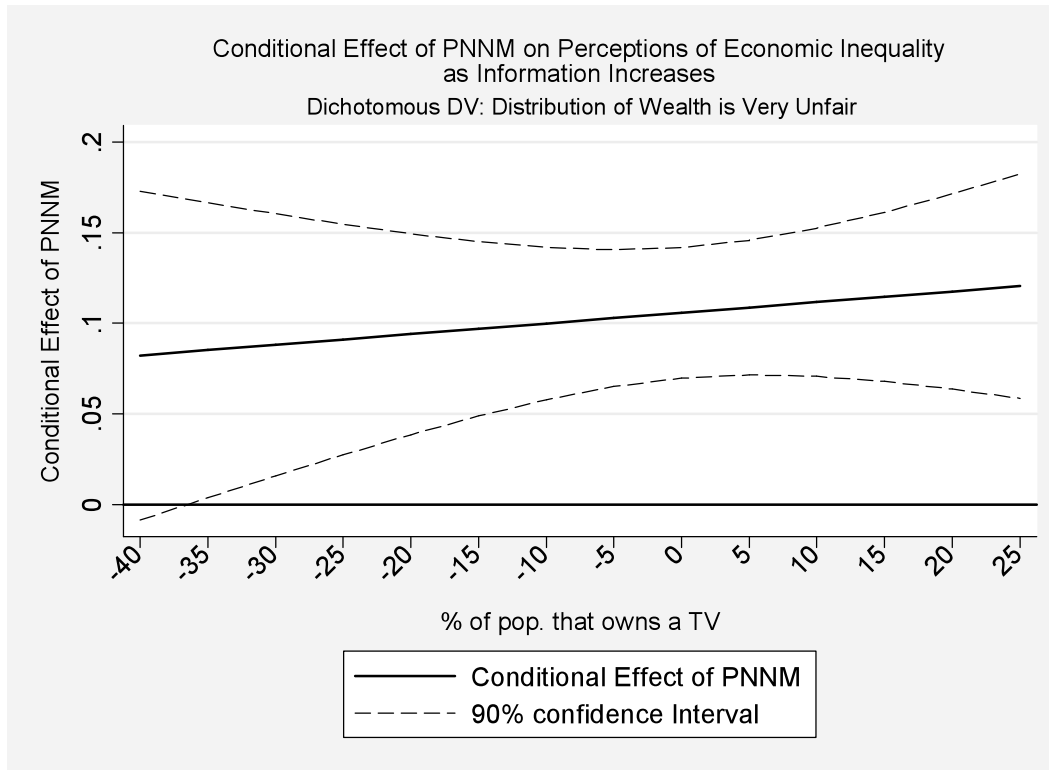——— Conditional Effect of Poverty
– – – – 90% confidence Interval

Note: Values for TV ownership rates on X-axis of graph are based on grand-mean centering. Such centering transformed into original TV ownership rates values are about: -40 = 36%; 0 = 74%; 25 = 97%.

Figure 6: PNNM * Country Wealth

Conditional Effect of PNNM on Perceptions of Economic Inequality
as Wealth Increases

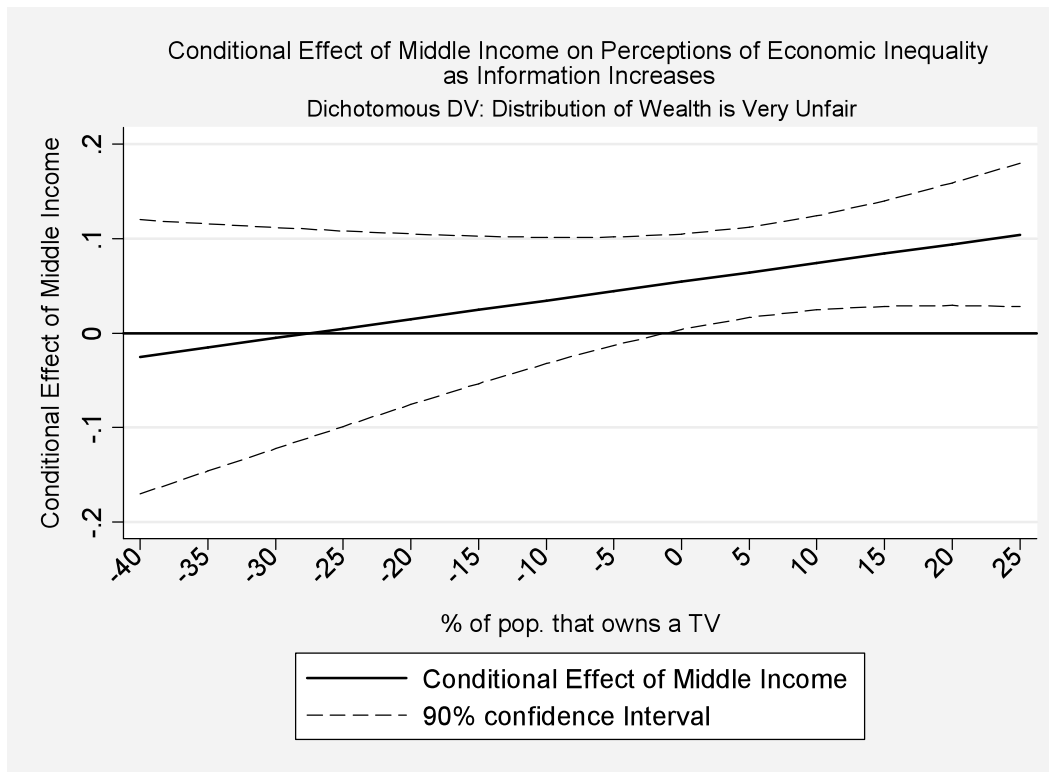Dichotomous DV: Distribution of Wealth is Very Unfair

Note: Values for GDP/capita on X-axis of graph are based on grand-mean centering. Such centering transformed into original GDP/capita values are about: -2,500 = US $700; 0 = US $3,200; 5,000 = US $8,000.
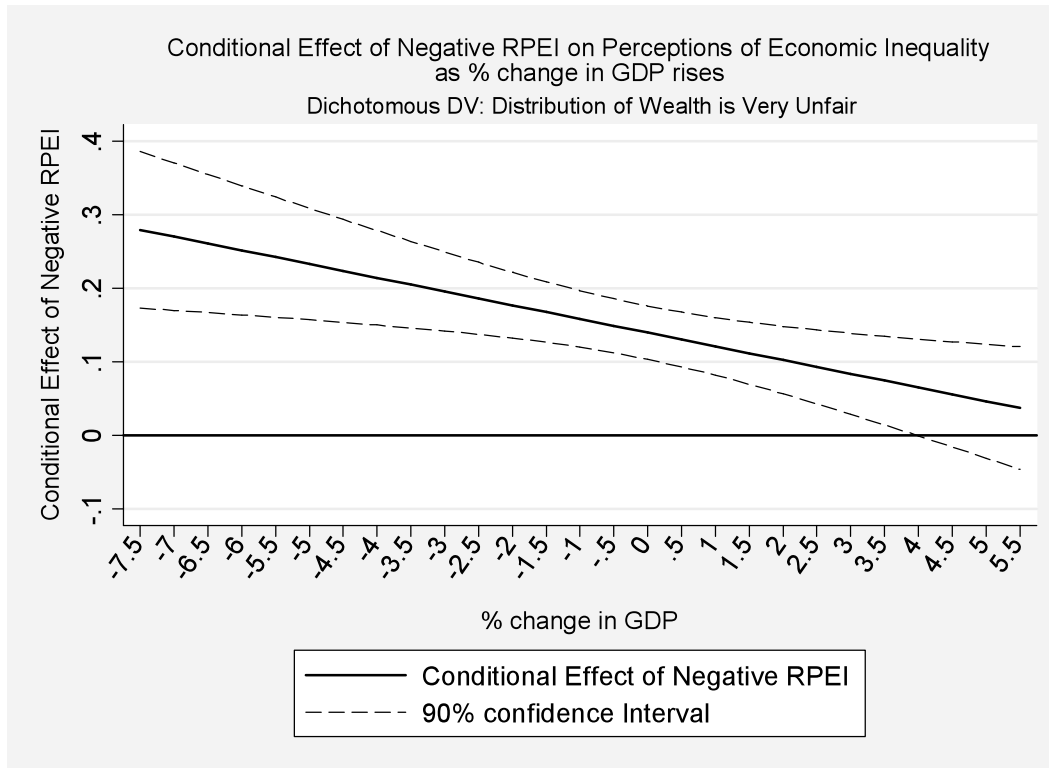
Figure 7: PNNM * Information Availability

Note: Values for TV ownership rates on X-axis of graph are based on grand-mean centering. Such centering transformed into original TV ownership rates values are about: -40 = 36%; 0 = 74%; 25 = 97%.

Figure 8: Middle Income * Information Availability

Conditional Effect of Middle Income on Perceptions of Economic Inequality
as Information Increases

Dichotomous DV: Distribution of Wealth is Very Unfair

% of pop. that owns a TV

——— Conditional Effect of Middle Income
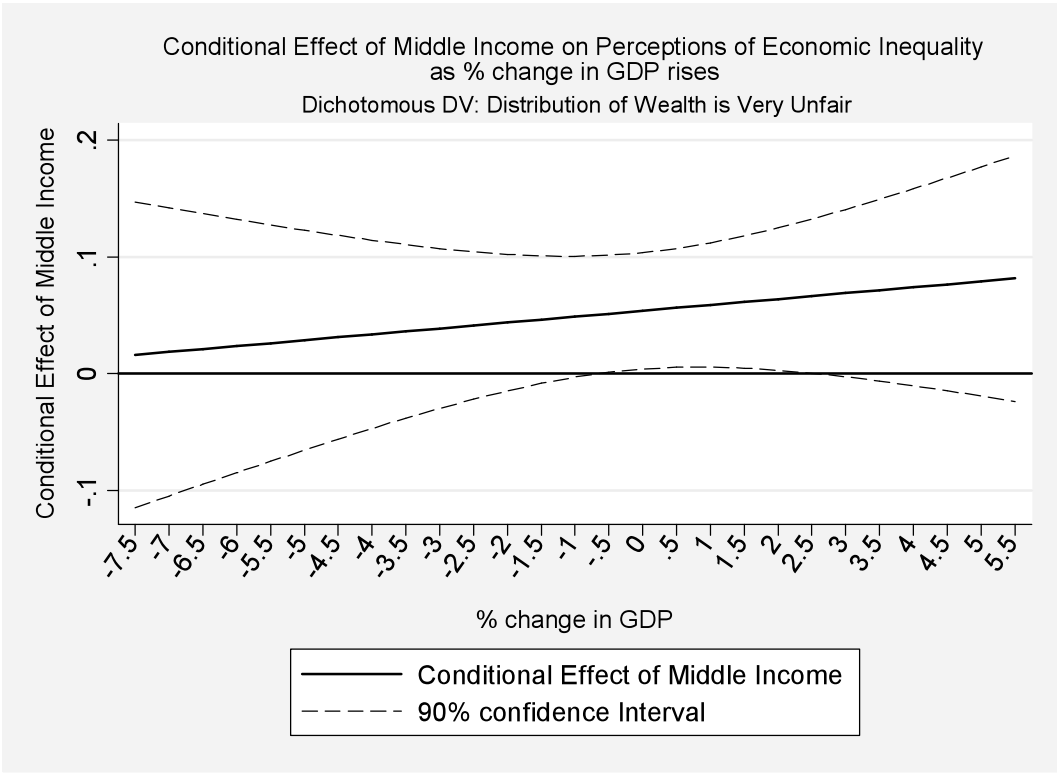– – – – 90% confidence Interval

Note: Values for TV ownership rates on X-axis of graph are based on grand-mean centering. Such centering transformed into original TV ownership rates values are about: -40 = 36%; 0 = 74%; 25 = 97%.

Figure 9: Negative RPEI * Economic Growth

Conditional Effect of Negative RPEI on Perceptions of Economic Inequality
as % change in GDP rises
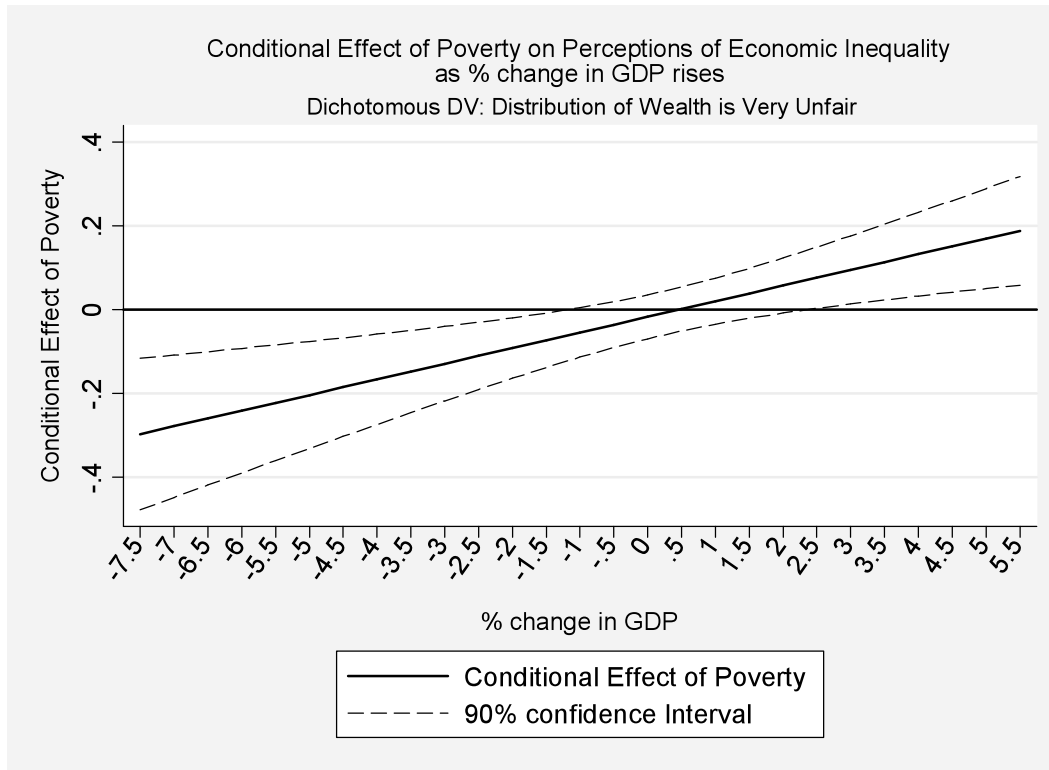Dichotomous DV: Distribution of Wealth is Very Unfair

Note: Values for change in GDP on X-axis of graph are based on grand-mean centering. Such centering transformed into original change in GDP values are about: -7.5 = -4.5%; 0 = 3%; 5.5 = 8.5%.

Figure 10: Middle Income * Economic Growth

Conditional Effect of Middle Income on Perceptions of Economic Inequality
as % change in GDP rises
Dichotomous DV: Distribution of Wealth is Very Unfair

Note: Values for change in GDP on X-axis of graph are based on grand-mean centering. Such centering transformed into original change in GDP values are about: -7.5 = -4.5%; 0 = 3%; 5.5 = 8.5%.

Figure 11: Poverty * Economic Growth

Conditional Effect of Poverty on Perceptions of Economic Inequality
as % change in GDP rises
Dichotomous DV: Distribution of Wealth is Very Unfair

Note: Values for change in GDP on X-axis of graph are based on grand-mean centering. Such centering transformed into original change in GDP values are about: -7.5 = -4.5%; 0 = 3%; 5.5 = 8.5%.

NOTES

[1] The 17 Latin American countries included in all three survey years were: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela. The question about distribution is included in a few other Latinobarometer surveys; however, these other surveys did not include questions that measure important independent variables used in our analysis.

[2] The inclusion of a level-3 intercept is based on the results from the unconditional model and on our theoretical hunches that the effects of lower level predictors will vary by country. In earlier runs of our five models, we included ethnic and linguistic fractionalization variables at level-3. Coefficients for both were statistically insignificant and oftentimes had signs that were not in the theoretically expected direction. In the interest of readability, therefore, we have not included them in the final models. Results from our final models did not change with or without their inclusion.

[3] For example, see Boix (2003: 47-57); on Latin America, see Lora (2008: 41-67). One of the most vivid contemporary examples can be found in the strident protests of "Mainstreet" against "Wall Street" in the United States.

[4] In earlier analyses, we also controlled for gender, religion, and marital status and unemployment, variables which have previously been found to affect preferences for redistribution (Waite and Gallagher 2000; Wilson and Oswald 2002; Alesina and Giuliano 2009). However, these variables were for the most part insignificant and did not affect the results reported below. In the interest of readability, therefore, we have not included them in the final models. For the same reasons, we do not report the effects of "sociotropic' perspectives on the country's economic performance. Although the effects were statistically significant, their

substantive impact was relatively small, and their inclusion did not alter our findings on the substantive variables of interest.

[5] Only the intercepts (as opposed to the slopes for each level-1 predictor) in each model are random. In Models 2-5, however, we set the individual level predictors that are part of the cross-level interactions as random because the effects of each level-1 predictor are contingent upon the value of the level-2 predictor that they are interacted with.

[6] These effects are essentially the same in the subsequent models.

[7] In the cross-level models (2-5), the coefficient of each separate constitutive variable estimates the effect of that variable when the other is at value 0, which is at the variable's mean value (because all variables are mean-centered).

[8] In results not shown, the coefficient for "household wealth" is positive and significant at the .05 level, and "wealth-squared" is negative and significant at the .01 level.

[9] See footnote 7 for the interpretation of the level-2 variables when they are also included in cross-level estimates.

[10] These results, moreover, are robust to the substitution of the Gini index with another commonly used measure: the ratio of the shares in GDP of the highest and lowest income deciles.

[11] For all conditional effects graphs, the solid line indicates the conditional effect of a level-1 predictor (y-axis) as values on a level-2 predictor (x-axis) changes. The effects are calculated based on the logit coefficients and not the predicted probabilities for each level-1 predictor while all other variables in a model are held at some particular value. Therefore, these are not marginal effects graphs. Effects are only significant whenever the upper and lower bounds of the 90% confidence interval (dashed lines) are both either above or below the 0 line on the Y-axis.

[12] We obtain similar results when we substitute pessimism about personal upward mobility for needs not met.

[13] The conditional effects are essentially identical for the interaction between respondents who are less inclined to feel that their needs are satisfactorily met and economic growth.

[14] Because the 2001 and 2002 surveys were conducted in April or May, data used to measure our level-2 variables came from the year preceding 2001 and 2002. We did not use data from 1996 to measure our level 2 predictors from 1997 because the surveys for 1997 were administered toward the end of the year.

[15] Data for all the level-1 control variables come from the 1997, 2001, and 2002 Latinobarometro surveys.

[16] The Amelia Software used was *Amelia II* (v.1.2-14), developed by James Honaker, Gary King, and Matthew Blackwell. The Software can be found at http://gking.harvard.edu.amelia/

[17] Dependent variable used in all models.