Does Inequality breed Altruism or Selfishness? Gauging Individuals' Predispositions Towards Redistributive Schemes

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Abstract[1]

Economic and political decisions usually involve a trade-off between efficiency and equality considerations. While some inequality is expected to prevail in our societies, high levels of it are objectionable on various grounds. One of the fundamental roles of government is to collect and reallocate resources among its citizens, and identifying the right policies to guide these reallocations is central to promoting higher equality. While we now have a good grasp of which policies lead to more equality and which do not, we know much less about why they seem to be adopted to varying degrees of intensity in some places and times and not in others. To explain this variation in policy outcomes, the most fundamental task is to identify the constituencies for the different policies. Who supports what policies and under what conditions do they support them? In this paper this question is investigated based on public opinion data on preferences over taxation and government spending on conditional-cash-transfers, pension schemes, and education. All policies that were found to significantly affect inequality. We find that disagreement across socio-economic groups arise not so much on whether the government should tackle inequality, but on how it should go about doing it. Poorer respondents tend to support cash transfers to a greater extent than the rich. But the rich tend to be more likely to support expenditures on public provision education than the poor. Contrary to what is commonly assumed, inequality seems to breed altruism among the rich when it comes to the quintessential poverty reduction scheme of conditional-cash-transfers.

JEL Classification: H53, I28, I38

Keywords: Preferences for redistribution, Inequality, Conditional cash transfers, Public pensions

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1 Introduction

Economic and political decisions usually involve a trade-off between efficiency and equality considerations. While some inequality is expected to prevail in our societies, high levels of it are objectionable not only on fairness grounds, but also for their negative effects on other desirable goals such as political and economic development (Alesina and Rodrik (1994), Persson and Tabellini (1994), Bourguignon and Verdier (2000)) and social cohesion (Glaeser et al. (2002), Gylfason and Zoega (2003)). A central concern for both researchers and practitioners in the development community has been to identify and propose solutions to high inequality. This is particularly true in the case of Latin America, whose countries still figure prominently among the most unequal in the world.

One of the fundamental roles of government is to collect and reallocate resources among its citizens. There are many different ways in which this can be done, and identifying the right policies to guide these reallocations is central to promoting higher equality. But also important is understanding the political feasibility of such policies, that is, their chances of being adopted as a result of the political process. Given that governments might expropriate the earnings of some to dole out on others, some of these schemes are bound to face considerable opposition.

Based on a prolific literature, we now have a good grasp of which policies lead to more equality and which do not. What we know much less about is why they seem to be adopted to varying degrees of intensity in some places and times and not in others. According to data compiled by the OECD, for example, public expenditure on social policy has reached an average of 19% of GDP in 2007 in the developed world. It ranged, however, from 16% of GDP in Australia and the US to 28% in France. In Mexico and Chile, these numbers were 7% and 11% respectively, while in Brazil it was about 20%. The composition of these expenditures also vary considerably. In Europe countries spend on average 7% of GDP in pensions and 6% in health. In Brazil the government spends about 4% of GDP in health and 10% in pensions.

The natural initial step in understanding this variation in policy choices and extent of implementation is to ask ourselves how much support these policies garner among citizens. Who supports what policies and under what circumstances do they support them? Whether politicians are motivated by their own convictions, votes or campaign contributions, they rely on pleasing some constituency. The primary input to the political process is thus individuals' preferences. And identifying these constituencies and how strongly they feel about different policies is the most fundamental task in explaining policy outcomes.

The main determinant of preferences for redistributive policies has long been thought to be income. More precisely, it has been believed to depend on relative income, most commonly captured by inequality levels. Higher inequality usually means a higher proportion of poorer people

– those earning less than the average income – in society. Given that they tend to benefit from public services and transfers to a greater extent than the richer – who in addition tend to foot a bigger share of the bill through taxes –, higher inequality is expected to be associated with higher demand for such services and transfers by the poorer majority. This argument has been formalized among others by Meltzer and Richard (1981) under the assumptions that citizens are subject to uniform taxes and equal lumpsum transfers by the government. The result is that those earning less than the mean income end up paying less in taxes than they earn back in transfers. Given that in unequal societies a majority earns less than the mean income, such transfers would garner enough support to be implemented by politicians seeking to win elections.

More generally, the expectation that the worse off would press the elites for redistribution proportionally to their relative position in society is not new. While many scholars attribute the extension of the franchise to the elite trying to contain a revolution caused by an increase in these redistributive pressures (Acemoglu and Robinson (2000), Acemoglu and Robinson (2006)), others claim that once afforded political rights, the poor would continue to make such demands, in particular if inequality were to increase (Romer (1975), Alesina and Rodrik (1994), Persson and Tabellini (1994)).

While these dynamics and expectations have been around for quite some time, empirical analyses that are consistent with them have been scarce. To begin with, to many empirical researchers this was not just a claim about how inequality affects demand for redistributive policies, but a claim about the relationship between inequality and actual levels of redistribution. Empirical evaluations of this relationship are usually explored at the country level using "government redistributive efforts" (usually measured as the share of social spending over GDP) as a dependent variable and common measures of inequality, like the GINI coefficient, as the main explanatory factor. Most of these studies, however, have been unable to find a positive relationship between the two (Bénabou (1996), Bénabou (2000), Milanovic (2000), Moene and Wallerstein (2001), Kaufman and Segura-Ubiergo (2001)). Even in some rare cases where the dependent variable was support for the government promoting equality, based on public opinion data, inequality was not found to matter (Haggard et al. (2010)) at the country level.

Many factors may account for these results. First, redistributive policies come in different shapes and sizes and we know little about who supports each type and to what extent they do. There is no agreed upon conceptualization of the term as a homogeneous bundle of policies permitting clear comparisons across countries and studies. In fact, the same transfer scheme or service provision may have a different impact on inequality in different countries and different periods of

time[2].Most studies rely on the assumption that the low income majority would invariably support more of everything, but that is not necessarily the case.

Second, even if we assume this demand is high, the political process culminating in the actual adoption of policies is long and complex. Leaping from preferences straight to final outcomes, may be too simplistic an assumption to make. In cross-sections it is practically impossible to control for all institutional and structural factors that might explain differences in the extent to which governments redistribute.

Third, inequality measures are notoriously heterogeneous. This is not only in terms of methodological approach, but also in terms of the baseline information and time periods used to compute them across countries. This severely compromises comparability, specially if we include developing countries in the analysis.

In this paper we evaluate the link between income, inequality and demand for redistributive policies empirically in a way that addresses those concerns. First, the focus is on support for different redistributive policies and not on how much governments spend on social policy overall. The specific policies studied were chosen based on who are found to be the net payers and the net beneficiaries in each case, and on the estimated effects of each policy on inequality. Based on the findings of de Barros et al. (2002), Velez et al. (2003), de Barros et al. (2006), Lindert et al. (2006) four policies are considered: conditional-cash-transfer, provision of public education, non-contributory pensions, and pensions to public employees. The first three were found to be highly redistributive from rich to poor, while the last highly regressive. They were also found to significantly affect levels of inequality. In addition to these four policies, the analysis also includes a common item on public opinion surveys about support for the government fighting inequality – without specifying a particular policy – and an item on support for progressive taxation. Overall, patterns of support for these different policies should provide a good understanding of citizen's predispositions towards redistribution and government efforts to promote higher equality.

Second, the analysis is based on data from just one country, Brazil. This set up brings institutional variation to a minimum and allows the use of measures of inequality that are comparable across units of analysis – in this case Brazilian municipalities. Brazil is an interesting case study as it has been making progress in promoting more equality, but its level of inequality remains comparatively very high.

To preview the main results, disagreement across socio-economic groups arise not so much on whether the government should tackle inequality, but on how it should do it. This is true both in terms of how to collect funds and how to go about spending it. Regarding patterns of support, poorer respondents display a lot more variation across different policies than their richer

[2] The canonical example being unemployment insurance, which tends to be regressive in developing democracies and progressive in more developed ones.

counterparts, whose willingness to pay higher taxes to finance these policies is usually low. As expected in models of lump sum transfers, the poor display higher levels of support for cash-transfer schemes (be them pensions to the old or conditional cash transfers to all ages) than richer respondents. However, the reverse is true in the case of public provision of education. In that case, richer respondents display higher levels of support, even if they are not the primary beneficiaries of this policy. Inequality, in turn, seems to matter when the policy in question is conditional-cash-transfer or how progressive the tax system should be. Contrary to expectations, however, as inequality rises so does the support of the rich for conditional-cash-transfer. Thus inequality seems to breed altruism when it comes to the quintessential poverty reduction scheme of helping the poor conditional on certain behavioral requirements.

The paper is organized as follows. The next section presents a brief overview of the literature on the determinants of preferences for redistribution. While income and inequality have received disproportionate attention, there is a host of previously identified determinants that we need to take into account. The third section describes the data and methodology used in the analysis and the final section provides a brief discussion of the results.

2 The Determinants of Preferences for Redistribution

As highlighted in the previous section, the objective of this analysis is to understand the main patterns of support for different types of redistributive policies. These preferences are the main input to the political game culminating in the actual adoption of policies, specially in democratic countries. The literature on preferences for redistributive policies is rich. Usually each contribution has focused on a particular set of factors and comparability across studies is further hindered by lack of a common conceptualization of redistribution. In order to bring this scattered literature together, we deal with each one of these issues in turn. This should help set the stage to evaluate these contributions under a common approach in the empirical section.

2.1 Which Policies Redistribute?

Redistributive policies are not all made equal. Some target specific groups – e.g. the unemployed, the elderly, school aged children – while others are more inclusive – e.g. public health provision. Some government provided benefits are delivered in kind – e.g. education, health – , while others in cash – e.g. old age pensions, conditional-cash-transfers. Given these differences we should not expect the same underlying dynamics of support to be at work in each case (Machado (2010)). While demand for cash transfers might always be high among those in need, this is not necessarily the case when the benefit is delivered in kind and requires investment on the part of the recipients.

One example is education, where the opportunity cost of sending children to school, even if free, might be too high for some poor families to afford.

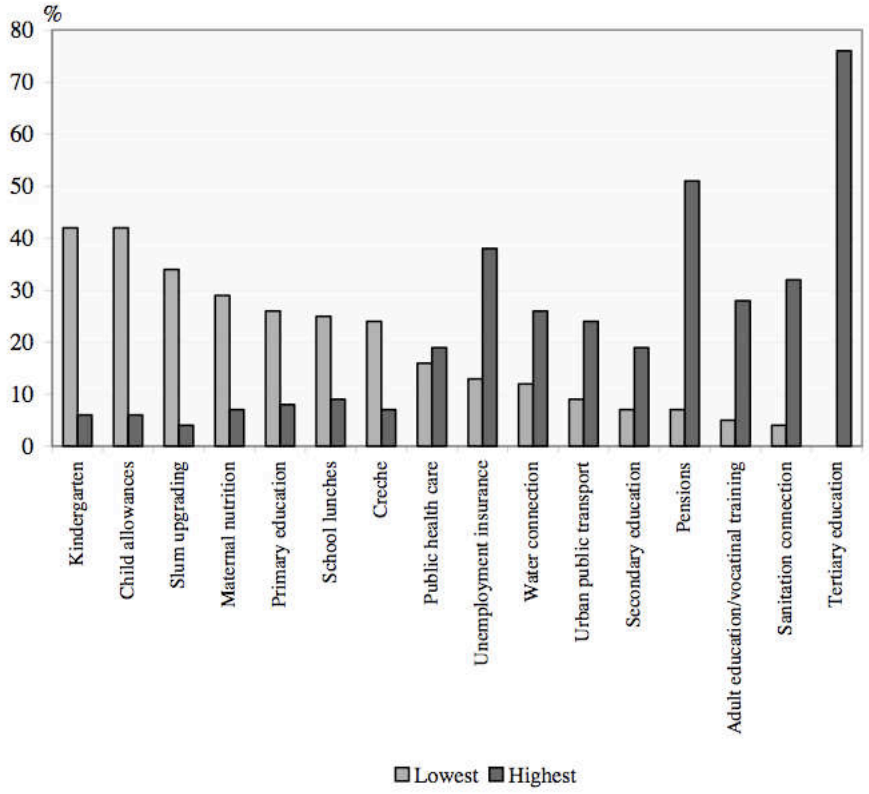
This means the choice of dependent variable should play a major role in estimating the effects of individual and contextual factors on citizens' predispositions towards fighting inequality. A recent study commissioned by the Brazilian Institute of Applied Economic Research (IPEA) on the causes of the observed reduction in inequality in Brazil estimates that around 15% of that decline is due to a decrease in educational inequality and how the labor market responded to it. More important than education, the study estimates that 35% of the decrease in inequality can be attributed to the social protection system, encompassing both the Bolsa Família program and the Benefício de Prestação Continuada (BPC), which is a non-contributory pension scheme to the old and handicapped poor.

These results are in line with a study on social policy in Latin America conducted by the World Bank in 2003. Considering a broader range of policies, this study has found their individual effects on inequality to vary considerably. Figure 1 displays the percentage of government spending on selected public-funded programs accruing to the lowest and the highest income quintiles. Three striking patterns emerge from this figure. The first is that classical welfare policies such as pensions, unemployment benefits and adult skills training are actually regressive. Currently in Brazil more than half of the total economically active population is working in the informal sector. This automatically excludes this group from contribution based benefits such as employment insurance and pension schemes. As revealed in a study by the IBGE (Instituto Brasileiro de Geografia e Estatística), the informal sector tends to employ in higher proportion those with lower educational attainment. If we take into account that half of total social expenditures goes towards pensions, then we have a situation where the poor, in particular the urban poor, is excluded from most of these money.

In Brazil there are two non contribution based pension like transfers that benefit the poor. One is the Rural Pension (Previdência rural) created in 1992 reaching those who live from subsistence farming (no employees) and have worked as such for the same amount of years required of regular employees in the formal sector (30 to 35 years). The benefit corresponds to one minimum wage. The second is the BPC implemented in 1996 which pays one minimum wage to the elderly and handicapped whose monthly family per capita income falls below one fourth of the minimum wage. Contrary to the rural pension, the BPC is not part of the pension system and is much less encompassing than the regular contribution based benefit which also covers sickness, death, among others.

The second pattern emerging from Figure 1 refers to policies in the area of education. On the one hand primary education and related services – kindergarten, school meals and day care – are progressive. However, secondary education, adult skills training and tertiary education are

Figure 1. Percent of government spending accruing to the lowest and highest income quintiles on selected publicly-funded programs.



Source: Velez et al. (2003)

all regressive. This picture reflects an important problem in the redistributive system, where the policies that are most likely to help lift people out of poverty are the privilege of a few. Notice, that public services like education are non-excludable. This means that there are barriers other than blatant exclusion preventing the worse-off from taking advantage of available secondary and tertiary education. Without good primary and secondary schooling public universities are rarely an option to those born in poorer households. Public universities are highly sought after making acceptance difficult to the less educated (entrance is determined based on standardized test scores). In the case of secondary education the problem is likely related to the expected returns being low relative to the investment required mainly in terms of time and wages forgone.

If we consider the proportion of total social expenditures that is in fact allocated towards each of these groups of policies, a revealing picture emerges. Brazil spends about 20% of its GDP on social policies. Practically half of it goes towards pensions, around 4% towards education and another 4% towards health. Overall, more is spent on contribution based benefits, even though the country's tax system is found to be regressive. Furthermore when the subject is human capital, the

distortions in the system are felt both in education, where public universities are prioritized, and health, where more expensive procedures are dispensed mostly to the rich (Arretche (2003)).

In sum, the mapping of the left (pro-poor)/right scale onto specific policies in new democracies is rather different than what we usually take for granted in the field. As the academic and research debate in general has evolved over the years on the issue of poverty and inequality, so have the policies deemed most effective to combat these ills. The multifaceted problem posed by these issues to new democracies today is indeed complex and clearly different from what it was at the time western welfare states emerged. This heterogeneity of effects of policies on inequality, even if we limit ourselves to the so called "redistributive" ones, raises three important issues when we are concerned with patterns of demand for them.

First, since some important forms of redistribution can be regressive, it is not quite clear that the poor would invariably demand high levels of it. Second, given that transfers are targeted, the poor may not exactly agree on one single form that would benefit them all as a group. According to the World Bank study (Velez et al. (2003)) on inequality in Brazil, for example, the poverty rate among the old is reduced after pension transfers, while that of the younger cohort is made worse. Thus the poor may not vote together, even if the only salient issue is redistribution. Third, the dynamics determining demand for different types of redistribution may differ according to the nature of the transfer.

In order to explore this potential heterogeneity, the empirical analysis is conducted on several questions related to redistribution. Five of them were designed to gauge support for specific social spending policies – primary education, secondary education, conditional-cash-transfer, non-contributory pensions, and public sector pensions. One item was intented to capture preferences for redistribution through taxation (as opposed to spending), measured as the extent of progressiveness of income taxes. Finally, for comparative purposes, the analysis is also conducted on a common survey item about how proactive the government should be in fighting inequality, without mention to a specific policy.

2.2 Who supports redistribution?

The primary factor determining preferences for social spending is arguably the likelihood of being a beneficiary of such policies. In most cases this is determined on the basis of income. Poor people are more likely to be eligible for cash-transfers, to enroll their children in public schools, and to rely on public provision of health services. However, as argued in Machado (2010), given that the poor in most cases pay an important amount of taxes (Lindert et al., 2006), social spending on services providing long term benefits (such as education), might not be a priority to poor households. *Thus income might not always be positively associated with higher demand for services that are found to be redistributive and to have an important effect on reducing inequality*.

Moreover, at the individual level, the literature has identified three main factors likely to influence support for redistributive policies. The first two are ethnicity and religion [3]. The effect of race on preferences for redistribution has been studied more at length based on the US context (see Alesina and Glaeser (2004)). A prominent argument is that certain races may favor higher levels of redistribution if they are overly represented among the poor group. The alignment of class and race would prompt altruism towards ones race group that would reflect on higher levels of support for transfers targeted to that group independent of the individual being a direct beneficiary. That would be the case for blacks in the US, and, arguably, for blacks in Brazil as well. *We would thus expect black or pardo*[4] *respondents to display higher levels of support for redistributive policies favoring the lower segments of society*.

When it comes to religion there are two lines of argument. The first emphasizes the effect of particular religious thoughts on individuals' take on fairness and tolerance for inequality. *Thus protestants, to whom individual effort is of great importance, would favor less redistribution than their catholic counterparts*, usually associated with more conservative values. A second line of argument emphasizes the extra support afforded to members of religious groups, both psychological and material (Scheve and Stasavage (2008)). That is, when facing economic hardships, members of a religious community can count on both support groups and, in some cases, financial aid. This makes them less dependent on government provision of social protection and thus less supportive of it. According to this view, it is not so much the religion that matters, but membership or attendance in a religious group. *Thus higher levels of participation in religious groups' activities should be associated with lower propensity to support redistribution*.

Another common factor associated with preferences for redistribution is social mobility (Alesina and La Ferrara (2001), Kristov et al. (1992), Piketty (1995), Roemer (1998)). According to this approach the prospect of upward mobility can depress demand for redistribution. The reasoning is that since policies are sticky, individuals who expect not to benefit from them in the long run might not support them today, even if in the present they could be advantageous. *Therefore, the more individuals see themselves as moving up the economic ladder, the lower we would expect their levels of support for redistribution to be*.

As argued by many scholars, however, not only personal factors matter for how much redistribution an individual is willing to support. Characteristics of the environment are crucial in

[3] For some authors, both religion and ethnic fractionalization opens up the opportunity for the elite to make issues related to these cleavages more salient to keep taxes and redistribution at check (Amat and Wibbels (2009)). That is, while the poor might favor redistribution they are led to vote on other issues related to their ethnicity or religion that are purposefully made more politically relevant. Given the within-country approach, however, and the fact that most redistributive policies in Brazil are decided at the federal level, we have no variation in that respect. Instead, we focus on the specific effects these factors are believed to have on preferences for redistributive policies.

[4] Pardo is a category used by the Brazilian Institute of Geography and Statistics (IBGE) that lies between black and white.

determining the losers and winners of redistributive schemes. This is particularly true for levels of poverty and inequality, as they determine the relative position of individuals in the income scale. Poverty levels affect the size of the pie to be redistributed and is usually associated with a higher number of eligible beneficiaries. As a result higher taxes would need to be collected to cover a given benefit. *Therefore, under the assumption of a fixed benefit amount and no changes in the tax structure, we would expect individual willingness to support redistributive schemes to be lower in poorer areas.*.

Inequality, in turn, determines the relative position of individuals in the income scale. Following the logic of political economy models of redistribution, higher inequality means a median voter further away from the mean and thus more supportive of redistribution. Moreover, higher inequality means greater discrepancies between the incomes of the rich and that of the poor, and therefore a larger tax burden on top earners. *If individuals have reason to value their own wealth to a greater extent than the potential social gains from redistributive policies, we would expect the rich to favor less redistribution as inequality increases. Conversely, given that the median is relatively poorer in less equal societies, we would expect her to favor more redistribution as inequality increases*.

A final contextual variable included in the analysis is the level of urbanization of an individual's community (Haggard et al. (2010)). It is argued that in bigger urban areas, collective action problems are lower, public provision of services and benefits tends to be higher and so tend to be citizens' expectations of what the government is actually capable of providing. *This means that smaller town dwellers would be more skeptical about the government providing social protection to them and thus less supportive of it*.

An important issue that deserves attention is whether local levels of the contextual factors or national levels should matter for individual support. While these policies are mostly set by the federal government, it is known that individuals tend to extrapolate to the national level what they experience locally. Given the within country approach used, we have the opportunity to investigate this issue empirically.

3 Data and Methods

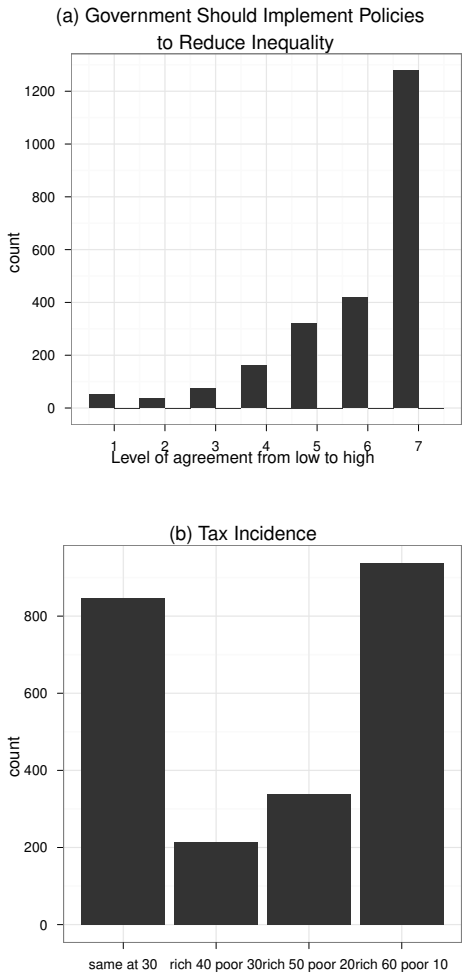
The data used come from the Latin American Public Opinion Project (LAPOP) collected in the beginning of 2010 in Brazil. The sample of 2485 respondents was drawn randomly to be representative of the country and its five regions. Out of the 27 states in Brazil, 17 are in the sample encompassing 54 municipalities. Each municipality contains about 30 observations, which allows us to estimate the effect of municipal level variables on individual responses using multilevel es-

timation techniques. This is fortuitous, given the focus on estimating the relationship between individual and community level characteristics on people's preferences for redistribution.

3.1 Different Measures of Redistributive Effort

As explained in the previous section, it is difficult to capture preferences for redistribution with one single question. The analysis is thus carried out on seven different measures of support for governments' redistributive efforts. First, and for the purposes of comparison with studies surveyed in the previous section, we use an item asking respondents to indicate their level of agreement with a statement that says "The Brazilian state should implement firm policies to reduce the income inequality between rich and poor." (Figure 2a).

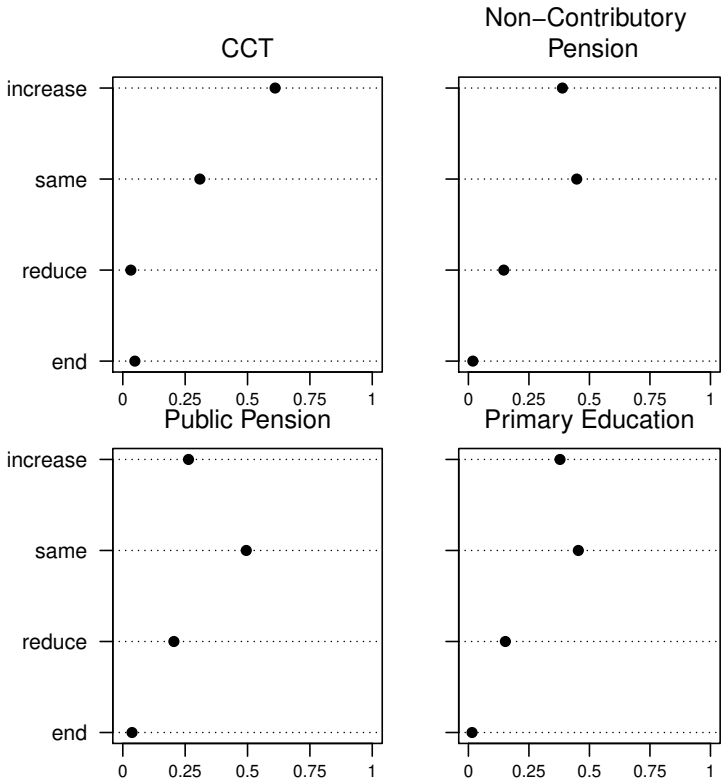
Figure 2. Responses to Redistributive Effort and Taxation.



Source: LAPOP Brazil 2010

This is followed by the analysis of six specific policy questions, covering individuals' preferences over expenditures on public provision of primary and secondary education, non-contributory pensions to the old poor, conditional-cash transfer (Bolsa Família), the generous pension scheme to public employees (see Figure 3) and the incidence of taxation across income groups (Figure 2b). The questions on spending (except for conditional-cash-transfers) were asked making it explicit to respondents the trade-off between expenditures and tax levels. For each policy they were asked whether they preferred increasing tax and expenditures, keeping taxes and expenditures as is, reducing taxes and expenditures or reducing taxes and terminating the intervention. The item on taxes, prompted respondents to choose a preferred level of progressivity in income taxes. These levels ranged from equal across income groups to highly progressive (rich paying six times more taxes than the poor).

Figure 3. Responses to Social Policies.

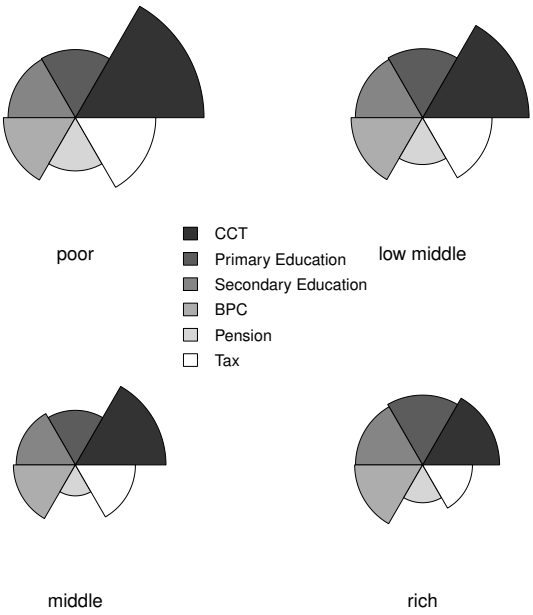


Source: LAPOP Brazil 2010

As shown in Figure 2a, there is almost complete agreement that the government should be proactive in fighting inequality. Figures 2b and 3, however, indicate that individuals may hold very distinctive views about what specific policies should be implemented to achieve it. If we look at

the percentage of individuals in each income group who supports increasing each of these policies – and supports very progressive taxation – (Figure 4), we notice some disagreement.

Figure 4. Support for Policies by Income Group.

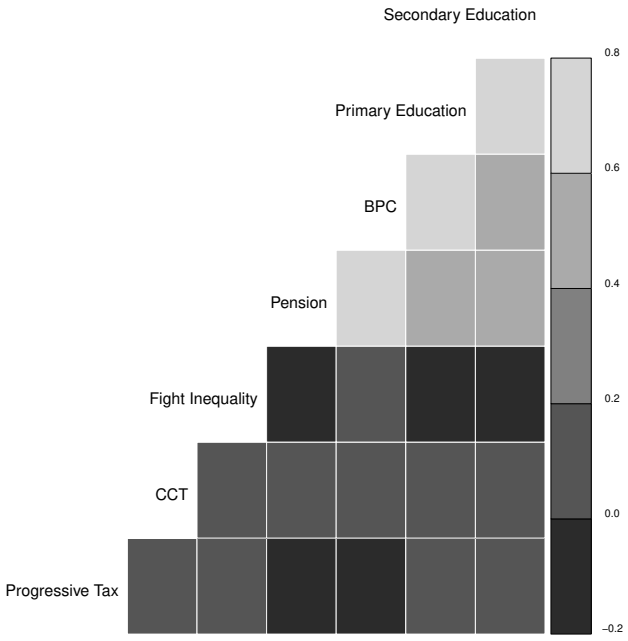


Note: Each section of the income group plots represents the percentage of individuals belonging to that income group that agrees with paying higher taxes to increase the provision of the corresponding service. The section corresponding to Tax, represents the percentage of individuals supporting highly progressive taxation (for every Real earned, a rich person should pay .60 and a poor person should pay .10).

Another way to look at the issue is to inspect the correlation between answers to the policy items. Do respondents tend to agree with the same bundle of policies? Based on the correlation matrix displayed in Figure 5 the answer is most likely not. Preferences over the incidence of taxation tend to be uncorrelated with the different ways in which the government might spend what is collected. Even among different classes of spending, support for the Bolsa Família Program is practically orthogonal to support for pensions and public provision of education.

Moreover, answers to the item commonly employed in studies of preferences for redistribution (whether the government should be proactive about it) is not correlated with any of the answers to the items about specific policies. It is not even related to the now quintessential redistributive policy of conditional-cash-transfers. These results suggest that the dynamics of support for each of these policies are conceivably different. They illustrate how difficult it is to talk about preferences for redistribution in general, thus warranting the analysis performed in the next section on each of these items separately.

Figure 5. Correlation Matrix for Policy Items



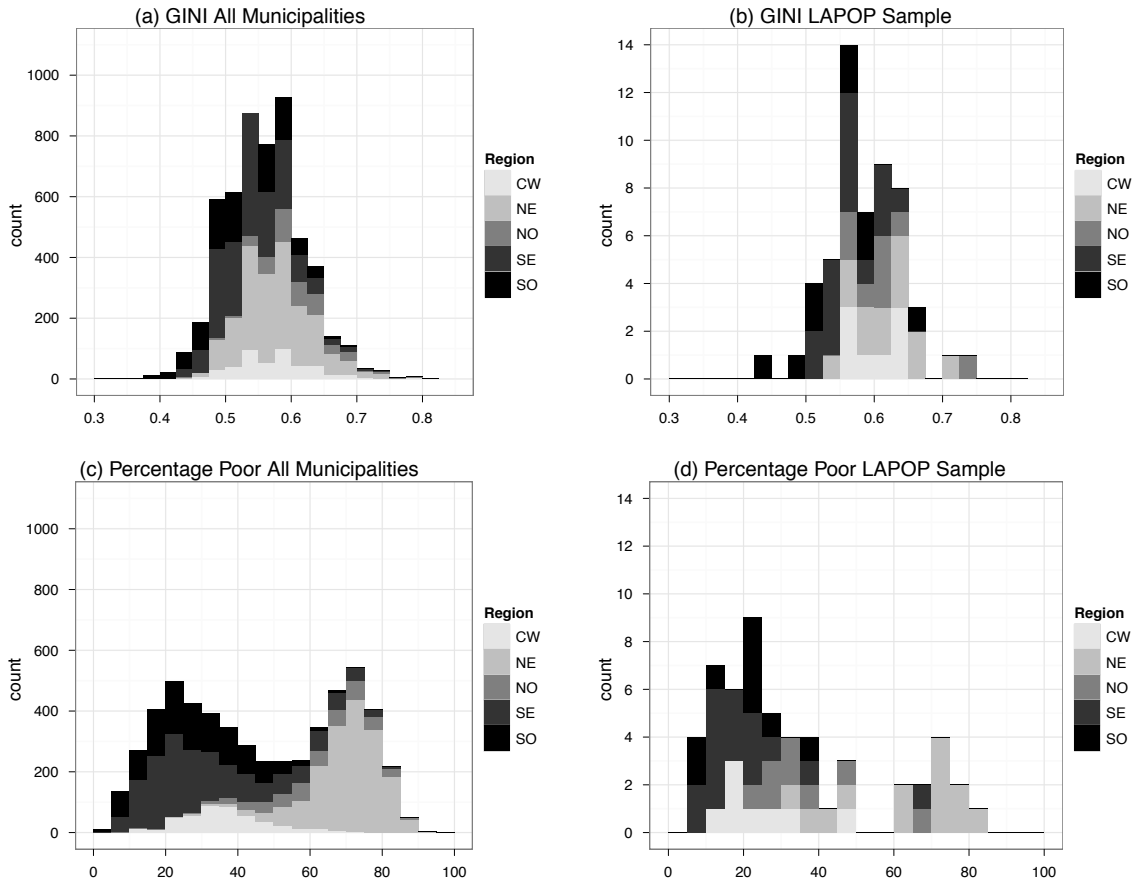
3.2 The Explanatory Variables

We explore the effects of both individual and community level factors on support for redistributive policies. Three municipal characteristics are considered: inequality, poverty, and size. The measures of inequality were compiled based on the 2000 census. All the models were run using the Theil index and the GINI index – calculated by individual using the household per capita income[5]. The results hold for both measures with a slightly better fit using the GINI. For the sake of space We just report the results obtained using the GINI.

A second important factor at the municipal level is the extent of poverty. Different measures are available to gauge that: income per capita, percentage of inhabitants below the poverty line, and a more general measure based on the United Nation's Human Development Index methodology. They are all highly correlated (at about .95) with each other. All the models were estimated alternating between them with no significant differences. Results are reported for the percentage of poor. Figure 6 displays the incidence of poverty and inequality across Brazilian municipalities comparing the distribution of the full universe of municipalities with that of municipalities included the LAPOP sample.

[5] We also tried using different ratios of municipal income, but given the small size of some of the municipalities, these measures were prone to extreme outliers, so they were not included in the analysis.

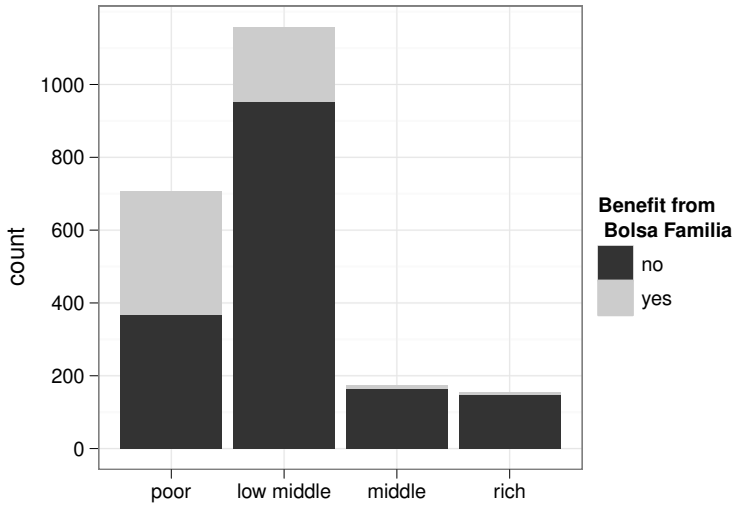
Figure 6. Poverty and Inequality Across Municipalities



A host of individual characteristics is also included in the analysis following the discussion in the previous section. An important factor bearing on preferences for redistribution is an individual's socio-economic status. In the developing world this is usually captured by a combination of a person's educational achievement and income, as they tend to be highly correlated. On income, individuals were asked to place the earnings of their household in one of eleven brackets. Given the levels of inequality in Brazil, we take the average of the log of the minimum and maximum income of the range to be the mean household income. Based on information about the number of members of the household, we then compute the average mean household income per capita. Since some of the households benefit from social protection and that we have information on who receives cash transfers from the Bolsa Família program, before running these calculations we subtract from the maximum income of each household the estimated amount of the benefit using information on the number of children in the household (the actual benefit varies according to this information).

Four income categories are included in the analysis. The first comprises all of those eligible for the Bolsa Família benefit, that is, those with income per capita below one fourth of the minimum

Figure 7. Beneficiaries of Bolsa Famlia by Income Group.



Source: LAPOP 2010 data and author's calculations

wage. The second category comprises those that we denote as the low middle class. Their income is too high to benefit from social protection, but still low enough that they cannot be considered middle class[6]. This is an interesting class to study in the context of redistribution. This group includes the median voter, on which many theories place considerable emphasis. And individuals in this group are excluded from social protection, but can still be considered poor incomewise. The next class is the middle class, calculated based on a 10 dollars minimum per capita income up to the 95th percentile of the income distribution (see Birdsall (2010)). Figure 7 shows the incidence of beneficiaries of the Bolsa Família Program in each of the income groups.

Educational attainment, in turn, is measured as a factor of three levels: primary education or less (48%), secondary education (42%), and college or higher (10%). The remaining controls include race, religion, church attendance, social mobility, city size, and age. These variables are coded as follows:

Race The LAPOP survey provides six categories of race: black (9%), white (35%), indigenous (2%), asian descent (3%), other (1%), and pardo (50%) – this last category corresponds to those who see themselves between the black and the white category.

[6] Here we employ the common definition of middle class as usually having some college education and with an income that afford members of the household a reasonable level of security. Nancy Birdsall (2010) and other authors have proposed a threshold of 10 dollars a day to meet this requirement.

Religion We work with five main religions: catholic (61%), protestant (13%), evangelical (15%), no religion (7%), and other – Jeova witness, candomblé, umbanda, etc – (4%).

Church This measure captures frequency of church attendance from low (never to almost never) to high (more than once a week).

Mobility This is captured by a three level factor measure of individuals' expectations of future mobility. It can be negative – individual believes own economic situation will deteriorate in the next twelve months – (5%), the same – individual expects no change – (25%), or positive – individual believes situation will improve – (70%).

City Size Municipalities in the sample are categorized according to their size into four groups: small (27%), medium (12%), large (22%), and capitals (39%).

Age A continuous variable measured in years.

3.3 Methodology

The combination of municipal and individual level covariates calls for a multilevel approach to data analysis. Not only we expect factors at these different levels to matter, we also expect individual factors to matter differently depending on the municipal level characteristics. More specifically, we expect an individual's socio-economic status to be associated with varying levels of support for policies depending on this individual's relative position in his surroundings. This position is mainly determined by the levels of inequality in the municipality.

In order to explore the possible hierarchical structure of the data, the models are specified with flexibility, allowing for both random intercepts and random slopes. In each model the estimated effect of individual income and education is allowed to vary by municipality. We can then estimate the variance of these slopes to gauge their degree of heterogeneity across cities.

Given the different scales in which the dependent variables are coded, different assumptions about the distribution of the errors are made in each case. In particular, the first dependent variable analysed – whether the respondent agrees that the state should implement policies to fight inequality – a normal distribution is assumed. Formally, the model is given by:

$$
\begin{aligned}
y_{j[i]} &= \alpha_j + income_{j[i]}\beta_j + education_{j[i]}\gamma_j + X_{j[i]}\psi_1 + U_j\psi_2 + GINI_j * income_{j[i]}\psi_3 \\
\alpha_j &\sim N(\mu_\alpha, \sigma^2_\alpha) \\
\beta_j &\sim N(\mu_\beta, \sigma^2_\beta) \\
\gamma_j &\sim N(\mu_\gamma, \sigma^2_\gamma),
\end{aligned}
$$

for $i = 1, ..., n_j$ and $j = 1, ..., 54$, where i indexes individuals, $j[i]$ means individual i belongs to municipality j, n_j is the number of individuals in municipality j, $y_{j[i]}$ is the level of agreement of individual i with the statement, X is a matrix containing individual level covariates except income and education and U is a vector of municipal level covariates.

The remaining categorical variables are analysed in dichotomous form[7]. As shown in Figure 3 very few respondents display a preference for reducing or eliminating any of the policies listed in the survey. The interesting variation lies between those favoring an increase in the provision of the policies – even if they need to pay higher taxes for it – and those favoring the status quo. Thus those favoring higher levels of provision are coded as 1 while those preferring to either maintain the status quo or reduce provision are coded as zero[8]. Regarding taxes, two different categorizations were analysed. First, grouping all those favoring progressive taxation versus those favoring equal rates. Second, singling out the group favoring the most progressive alternative.

These models were specified as follows:

$$\begin{aligned} Pr(y_{j[i]} = 1) &= logit^{-1}(\alpha_j + inc_{j[i]}\beta_j + educ_{j[i]}\gamma_j + X_{j[i]}\psi_1 + U_j\psi_2 + GINI_j * income_{j[i]}\psi_3) \\ \alpha_j &\sim N(\mu_\alpha, \sigma_\alpha^2) \\ \beta_j &\sim N(\mu_\beta, \sigma_\beta^2) \\ \gamma_j &\sim N(\mu_\gamma, \sigma_\gamma^2), \end{aligned}$$

for $i = 1, ..., n_j$ and $j = 1, ..., 54$, where i indexes individuals, $j[i]$ means individual i belongs to municipality j, n_j is the number of individuals in municipality j, $y_{j[i]} = 1$ means individual i prefers to increase expenditure on policy, X is a matrix containing individual level covariates except income and education and U is a vector of municipal level covariates.

4 Results

The various items analyzed seem to respond differently to the individual and municipal factors investigated. We find mixed evidence in favor of the expectations described in the previous section. For a general overview of the main results, Figure 8 displays the estimated coefficients of the control variables (with the 90% confidence intervals) while results on the main coefficients are plotted in Figure 9[9]. Overall, respondents falling under the category of poor do not always display

[7] Multilevel models have a complex structure raising issues of convergence and interpretation. Both are severely complicated in the case of an ordered probit or ordered logit specification.

[8] Preliminary analysis of an alternative dichotomization – coding as 1 those favoring a reduction in provision and as zero those favoring the status quo or an increase – display a poorer fit of the model. Most likely this is due to the very small variation in answers, with only very few respondents choosing to reduce provision.

[9] The codes for Figures 3, 9 and 8 were taken from www.tables2graphs.com.

the highest levels of support. They tend to report significantly more support for conditional-cash-transfers and non-contributory pensions, but lower levels for public provision of education, in particular secondary schooling.

On race, there is evidence that blacks and pardos are significantly more likely to agree with an expansion of the Bolsa Família Program than whites. This difference is not significant, however, in any other case. When it comes to religion, there is no evidence of more participation leading to lower support. In fact, there is no evidence of religious engagement affecting preferences at all. Differences in religious thoughts are significant in the expected direction when the issue is whether the government should implement policies to reduce income inequality. Protestants are significantly less likely to agree with it than catholics (the baseline category in the estimation). When looking at specific policies, however, religion has no significant effect.

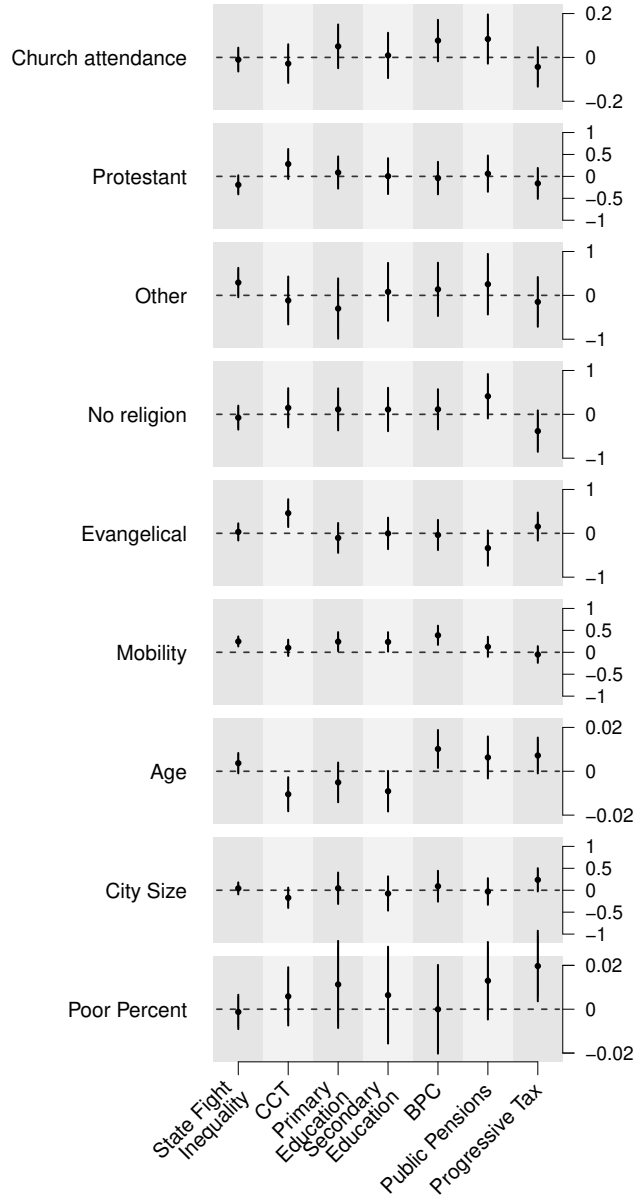
Perceptions of social mobility seem to matter in most cases, but in the opposite direction claimed in the literature. Prospects of upward mobility is significantly associated with higher support for increasing provision of public education, both primary and secondary, non-contributory pensions to the old poor, and for the government implementing policies to reduce inequality.

At the municipal level both the extent of poverty and the size of the city matter for support for progressive taxation. In bigger and poorer cities, popular support for heavily taxing the rich is significantly higher. Results on inequality and its interaction with personal income are discussed case by case below. Given the non-linearity of the models (by assumption about the errors or inclusion of interaction effects), it is difficult to gauge actual levels of significance of the estimated effects, as they depend on values taken by other variables. To help extricate these estimated effects, results will be discussed based on predicted values and probabilities looking at each dependent variable at a time.

4.1 State should implement firm policies against inequality

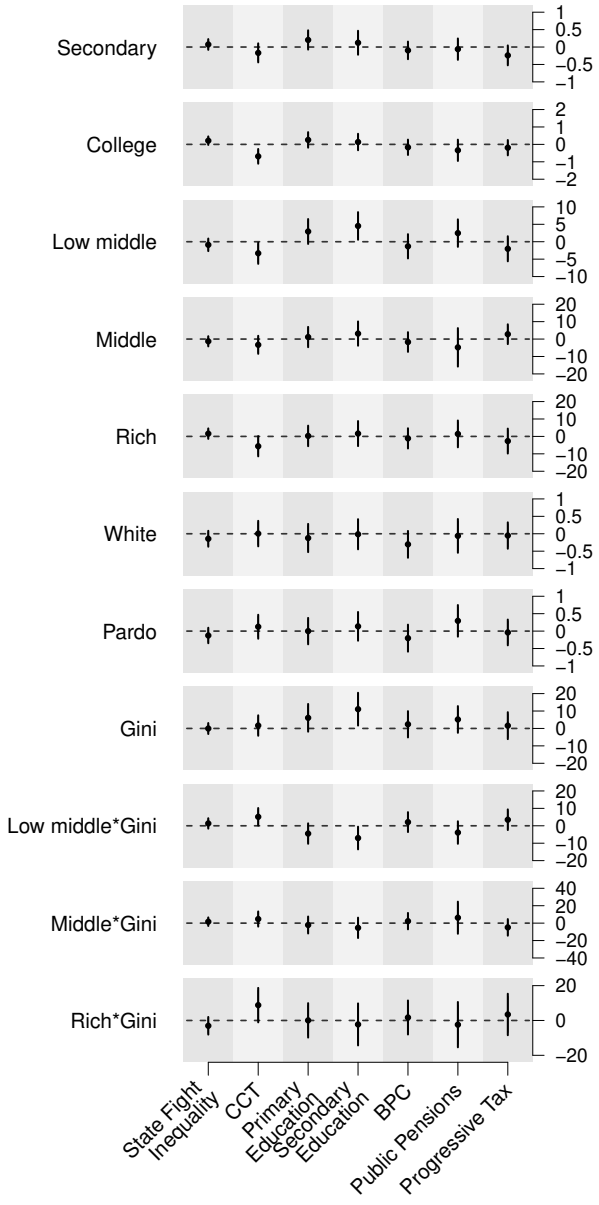
As shown in Figure 2 most respondents to the LAPOP survey tended to strongly agree with the statement that said the state should implement policies to reduce inequality. One possible reason, and an issue to keep in mind, is social desirability bias. No particular policy is mentioned in the wording, just the goal of fighting inequality, a condition usually portrayed as morally reproachable. As shown in the previous section, answers to this item are not correlated with support for any particular policy, including two of the most redistributive ones, progressive taxation and conditional-cash-transfers. Possibly due to the low variation in answers, the model fit is not as good as it is for the other dependent variables. Letting the slopes on income and education vary by municipality leads to non-convergence. Thus results are reported based on a random intercepts model.

Figure 8. Regression Results for Control Variables.



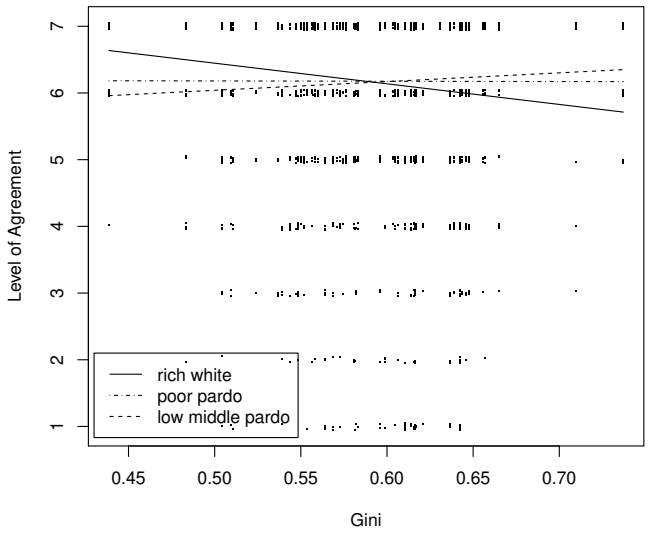
Note: Dots represent coefficient estimates and lines the 90% confidence interval. All models are logit models with the exception of "State Fight Inequality" which was estimated based on a linear regression. Not all variables in the model are represented in this figure. All models also include the income, educational level, and race of the respondent, as well as the level of inequality in the municipality and its interactions with income displayed in the next figure.

Figure 9. Regression Results for Main Variables.



Note: Dots represent coefficient estimates and lines the 90% confidence interval. All models are logit models with the exception of "State Fight Inequality" which was estimated based on a linear regression. Not all variables in the model are represented in this figure. All models also include the controls displayed in Figure 8.

Figure 10. Government Should Adopt Policies Against Inequality.



Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, age to 36 years old and, city size to big city, and percentage of poor to 27%.

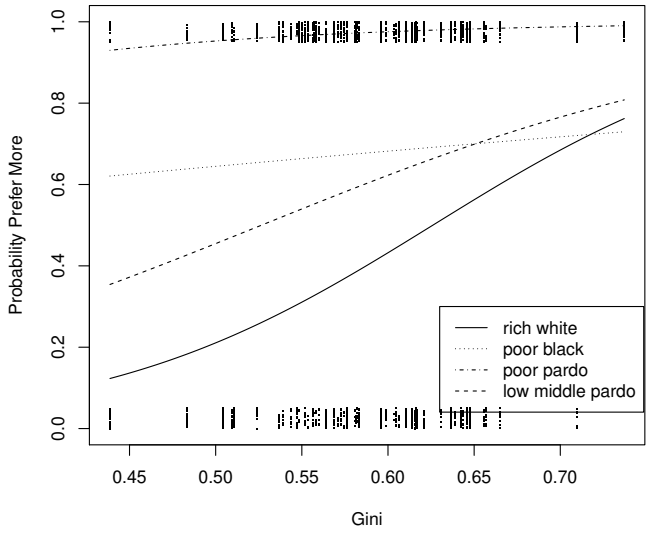
Figure 10 displays the fitted regression line for three profiles of respondents letting the inequality levels vary. While the plot suggests a trend in the expected direction, with richer respondents showing lower levels of support the higher the inequality, it fails to attain conventional levels of statistical significance. The only significant difference in these predicted values is that between the low middle category (which includes the median voter) and the rich for low levels of inequality. In more equal municipalities the rich reports higher levels of support for the government fighting inequality than the median does.

This somewhat contradicts the expectation that income should be positively related to preferences for redistribution. But, again, respondents most likely had different specific policies in mind when answering this question. As we will see below, the rich is less likely to agree with policies such as conditional-cash-transfer and progressive taxation than the poor. According to a study by Reis and Moore (2005) on the elite perceptions of poverty and inequality, this group tends to associate poverty with the rural population and believe that land reform is the most important policy for tackling the issue.

4.2 Conditional-cash-transfers

The Bolsa Família Program is a conditional cash transfer scheme born out of a local initiative by the governor of the Federal District called Bolsa Escola in the 1990s. The program was first implemented nationally, although only in very poor municipalities, under the government of Fernando Henrique Cardoso in 2001. It then witnessed great expansion under president Lula and it now accounts for about .3% of the GDP (very low compared to the other policies analysed). The model estimating preferences for increasing the scope of Bolsa Família, as opposed to leaving it as is or decreasing it, shows important variation in the estimated coefficients of income and education across municipalities.

Figure 11. Agree with Increasing Bolsa Famlia Program.



Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, age to 36 years old and, city size to big city, and percentage of poor to 27%.

Figure 11 displays the predicted probabilities for four profiles of respondents letting municipal inequality levels vary. Contrary to the results obtained with other policy variables, we observe considerable variation in answers across groups of respondents. In this case, as expected, there is a strong correlation between income and support for increasing the Bolsa Família Program, up to

relatively high levels of inequality (GINI around 0.63). The poor report significantly higher levels of support, followed by the low middle class and finally the rich.

Given the consistently high levels of support by the poor, inequality matters significantly only for the rich and the low middle class. According to expectations, inequality is associated with increasing support by the income group containing the median voter. This could be either a sign of altruism, as most of them are not eligible for the program, or an indication that models of political economy are right and having an income below the mean makes one more willing to support redistribution. Contrary to expectations, however, inequality is positively and significantly associated with higher support for the Bolsa Família Program by the rich. On the one hand, inequality might prompt some form of altruism in a time where it is widely viewed as morally objectionable. On the other, in more unequal municipalities, the economic stimulus generated by the program might be more readily perceived and appreciated by all.

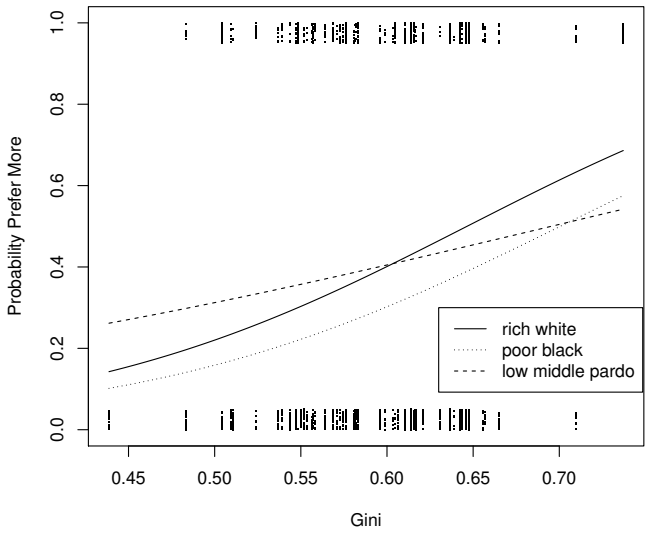
In addition to income and inequality, race plays a significant role in preferences for the program. Respondents who identified themselves as pardo, the race category between black and white, are significantly more likely than whites and blacks to support an increase in the scope of the program. As shown in Figure 11 their probability of agreeing with that increase is estimated to be close to 100% if they are also poor. All else equal, respondents reporting being black have an estimated probability around 60%, while rich white respondents' estimates range from around 10% to 60%.

4.3 Public Education

Public provision of education is considered an important means to promote more equality as it levels opportunities and contributes to increases in the educational attainment of the population. While government spending in primary education has been found to benefit the lowest quintile of the population to a relatively higher degree than the wealthiest, secondary education, marked by high drop off rates, achieves the opposite. Despite this disparity, results displayed in Figures 12 and 13 suggest preferences for increasing spending in these two levels of schooling is very similar across respondents.

Compared to support for increasing the scope of the conditional-cash-transfer program, support for spending on education is much lower. It starts at around 20% in more equal municipalities, reaching up to 60% in more unequal ones. This estimated association between higher inequality and higher support, however, is only statistically significant in the case of secondary education and for poor respondents. One plausible interpretation is that the returns from education in more unequal localities is higher, as inequality is found to be associated with skill premiums in the labor market. Expectations of a positive relationship between inequality and the support of the median voter and a negative one in the case of support by the rich is not born out by these data.

Figure 12. Agree with Increasing Provision of Primary Public Education.



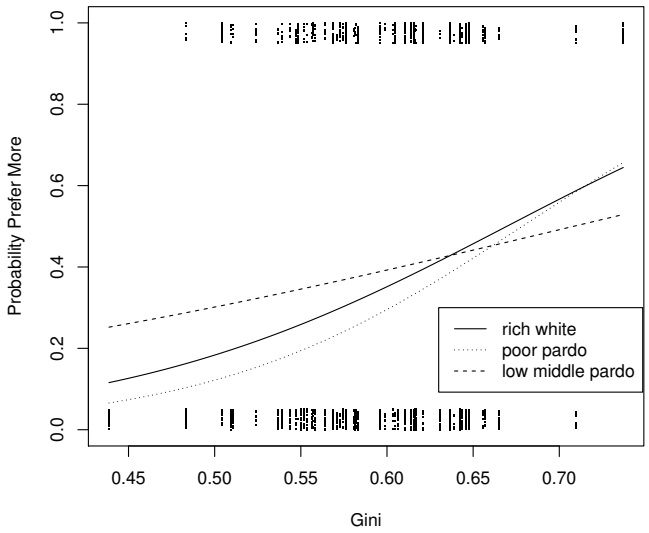
Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, age to 36 years old, city size to big city, and percentage of poor to 27%.

Also contrary to what is commonly assumed in the literature, income is positively associated with agreeing with more expenditures on education. This is true both in the case of primary and secondary education. While the predicted probabilities of the rich is estimated with high levels of uncertainty, those of the poor and the median differ significantly. In municipalities with inequality levels below a GINI of 0.60, the median respondent is significantly more likely to agree with more taxes and higher spending on both levels of education than the poor.

4.4 Non-contributory pension scheme

The Benefício de Prestação Continuada (BPC) is an important non-contributory pension scheme targeted to the old and handicapped poor (those living on less than one fourth of the minimum wage in per capita terms). The amount of the transfer is substantial, at one minimum wage, and much higher than that of the conditional-cash-transfer. For this reason, this benefit has been found to affect inequality levels to a great extent and be highly redistributive, but to the older population. These features of this transfer are somewhat reflected in the results obtained from the analysis. In particular the fact that it targets a very specific subgroup of the poor.

Figure 13. Agree with Increasing Provision of Secondary Public Education.

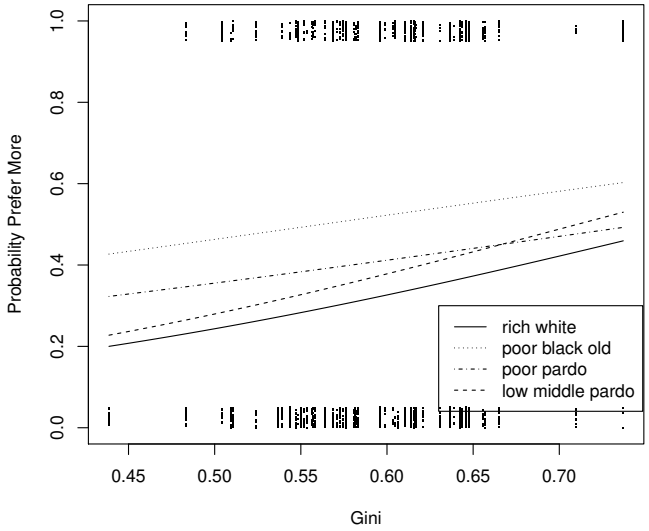


Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, age to 36 years old, city size to big city, and percentage of poor to 27%.

Performing the same exercise as in previous cases, we notice from Figure 14 that older respondents are significantly more likely to support an expansion of the BPC. This is true across income and race categories. That is, the old rich is significantly more likely to support the policy than the young rich, and the old poor is significantly more likely to support it than the young, and also the median, poor.

As was the case with the Bolsa Família, income is negatively associated with support for the BPC. Differences across incomes are statistically significant at middle ranges of inequality. This is most likely due to lack of power in statistical tests. Predicted probabilities across groups are very close and there are fewer observations at extreme levels of inequality (the jittered points at the top and bottom of the graph). Coefficients are thus estimated with higher uncertainty. For inequality levels ranging from a GINI of .5 up to .65, the old poor respondent is significantly more likely to support an expansion of the BPC than the rich. In a narrower interval (GINI between .55 and .60) poor black respondents are also significantly more likely than the rich to agree with more taxes to finance an increase in the provision of the BPC.

Figure 14. Agree with Increasing Provision of Non-Contributory Pensions.



Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, young age to 36 years old, old age to 60, city size to big city, and percentage of poor to 27%.

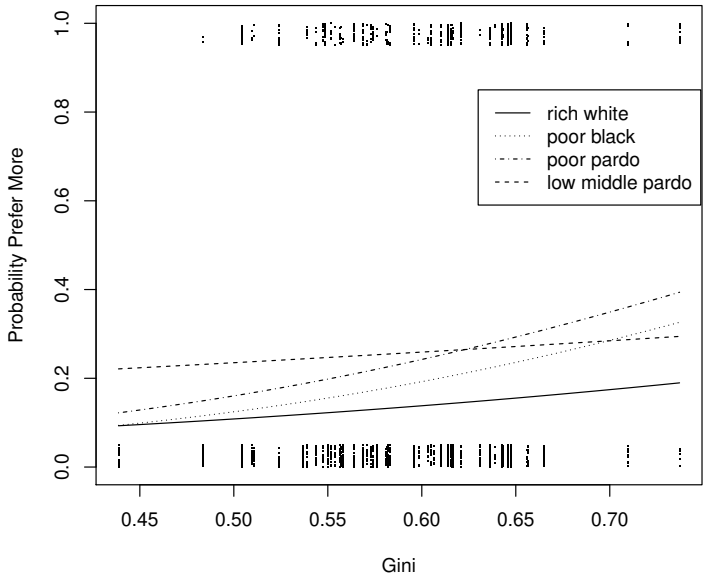
Overall, willingness to raise taxes to expand the BPC does not garner the support of a majority in any group considered. These levels of support are lower than those found for CCT across all levels of inequality. Among the poor, predicted support range from around 20% to 40%, while in the case of CCT it ranged from 60% to practically 100% . Compared to the results obtained from education, support for increasing the BPC is on average similar to those for increasing provision of education. However, support for the BPC tends to fluctuate less across levels of inequality and is higher among the poor than the rich.

4.5 Public servant pension scheme

Pension schemes for public servants are one of the main contributors to increasing inequality in the distribution of income. These are extremely generous schemes that make the already highly paid public servants remain at the top of the income distribution using tax payers money. Given the regressivity of the tax system this becomes a highly regressive redistributive policy.

This policy garners the lowest levels of support among all of the ones analysed, including non-contributory pension schemes to the old and handicapped poor. As shown in Figure 15,

Figure 15. Agree with Increasing Provision of Public Servant Pensions.



Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, age to 36 years old, city size to big city, and percentage of poor to 27%.

individuals from different socio-economic backgrounds display similar preferences. The highest level of agreement with increasing taxes to expand the public pension scheme is among the income group containing the median voter (low middle). Although the predicted probability of this group agreeing is low (around 20%) it is significantly higher than that of the poor (black but not pardo) and the rich for middle levels of inequality.

As suggested by the low variation of predicted probabilities across GINI measures, inequality is not significantly associated with levels of support for increasing the scope of the public pension scheme. Given the extent of regressivity of this transfer, it is surprising that the group containing the median voter, who is relatively poor, displays the highest levels of agreement. Changing the specification slightly to control for the individual's occupation does not change the results. Contrary to what one might expect, respondents who reported being a public servant are not significantly more likely to support more taxes to expand this transfer.

4.6 Progressive Taxation

The particular policies analyzed so far all refer to government spending efforts. An alternative way of redistributing income is through the collection of revenue to finance these expenditures, in particular by taxing the rich to a greater extent than the poor. There is, however, much debate about the merits of using taxation as a means to redistribute income. Distortionary fiscal policy is associated with externalities that can harm economic growth and as a consequence reduce the size of the pie available to redistribute. One often cited mechanism is that higher taxes on the rich can lower investment rates leading to low economic growth.

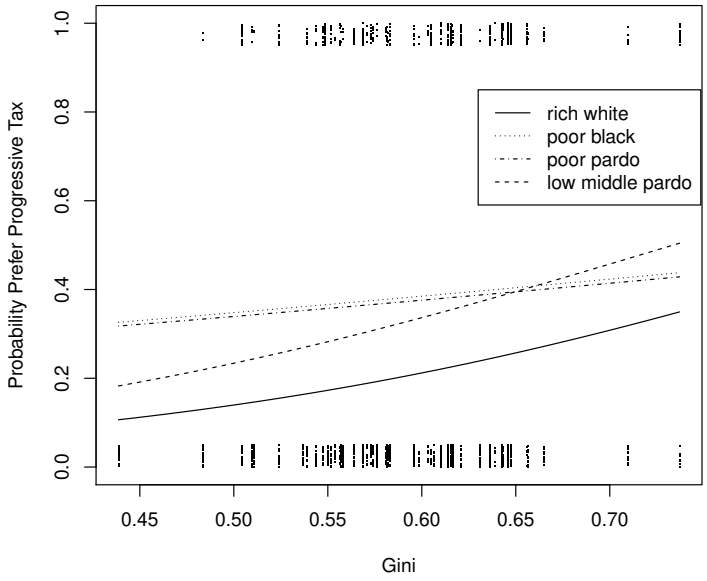
Politics, however, does not always follow expert assessments. As long as a relevant constituency exists supporting a given policy there is a chance it might be adopted notwithstanding the opinion of specialists. In a country such as Brazil, where the tax system as a whole is found to be highly regressive, it would not be surprising to find support for a reversal of the status quo. Overall, about one third of respondents agree with a uniform tax across income groups. The remaining two thirds agree with some degree of distortion ranging from the rich paying 30% more taxes to them paying six times more than the poor.

The analysis was run using different measures as a dependent variable. First, everyone agreeing with some form of progressive taxation was coded as one and those preferring a uniform tax system as zero. In this case, predicted levels of agreement were estimated at around 50% for the poor and low middle respondents and from 30% up to 50% for the rich. These differences, however, failed to attain statistical significance, including the effect of inequality.

Next, the analysis was run pitching those who reported support for a highly progressive tax system (the rich paying six times more taxes than the poor) against all others (those supporting a tax system that ranged from uniform up to the rich paying 2.5 times as much taxes as the poor). In this case, plotted in Figure 16, some significant differences become apparent. First, in line with the results obtained with cash transfers, income is negatively correlated with support for progressive taxation. Over practically the whole range of inequality levels, the poor (whether black or pardo) were significantly more likely to agree with the item than the rich. Respondents in the low middle income category (containing the median voter) were also significantly more likely to agree with a high degree of distortion in taxes than the rich at mid levels of inequality.

Following a similar logic to that of median voter models, inequality is significantly associated with the preferences of the low middle income group. The higher the inequality levels the higher the support of the median voter for highly progressive taxation. In addition to inequality, the level of poverty in the respondent's locality is also significantly related to preferences over the tax system. In poorer municipalities levels of agreement with progressive taxation are higher, in particular among the two lowest income groups.

Figure 16. Agree with Highly Progressive Taxation.



Note: Dots, jittered for graphical clarity, represent actual answers. Lines represent fitted model for each profile of respondents and letting municipal inequality levels vary. For the poor profile education was set to primary or less, for the low middle it was set to secondary and the rich were coded as having college education. All other variables were set to their medians. Church attendance was set to 2, religion to catholic, mobility to 2, age to 36 years old, city size to big city, and percentage of poor to 27%.

Conclusion

Inequality has been a growing concern, specially in the Latin American region whose countries rank among the least equal in the world. Policies that can ameliorate the situation have been the focus of much attention, in particular by development institutions. Prominent among these policies are those dealing with taxation and social spending, mainly transfers to the poor, social protection schemes and education, which were all found to significantly affect the distribution of income.

Variation in the degree of implementation of these policies, however, is great. Why are some policies politically viable in some cases, but not in others? To begin answering this question we sought to identify the constituencies and levels of support for a variety of policies deemed redistributive. The main input to democratic political processes is citizens' preferences. Whether politicians are motivated by votes[10], campaign contributions or their own personal convictions,

[10] One concern raised in the literature is that poorer respondents might be less likely to vote and thus impact policy decisions less. In Brazil, based on data from the Electoral Tribunal, this is not the case. In other countries this might

they base their decisions on some preference and must please some constituency. The bigger the constituency for a policy and the higher the levels of support for it, the higher the chances of that policy being advocated for and implemented.

While many theories have been developed to explain support for redistributive policies, their empirical assessment have usually been carried out in isolation, in many cases relying on a vague definition of redistribution, and usually having countries as the unit of analysis. In this paper we focus on one country for comparability of measures, we combine both individual and contextual factors identified in the literature as important in explaining predispositions towards redistributive schemes, and we consider specific policies as opposed to "government redistributive effort" vaguely defined. Redistributive policies come in different shapes and sizes, and there is no reason to expect them all to garner the undivided support of the poor and the opposition of the rich.

Indeed, that's what results suggest. Disagreement across socio-economic groups arise not so much on whether the government should tackle inequality, but on how it should do it. This is true both in terms of how to collect funds and how to go about spending it. Regarding patterns of support, poorer respondents display a lot more variation across different policies than their richer counterparts, whose willingness to pay higher taxes to finance these policies is usually low. As expected in models of lump sum transfers, the poor display higher levels of support for cash-transfer schemes (be them pensions to the old or conditional cash transfers to all ages) than richer respondents. However, the reverse is true in the case of public provision of education. In that case, richer respondents display higher levels of support, even if they are not the primary beneficiaries of this policy. Inequality, in turn, seems to matter when the policy in question is conditional-cash-transfer or how progressive the tax system should be. Contrary to expectations, however, as inequality rises so does the support of the rich for conditional-cash-transfer. Thus inequality seems to breed altruism when it comes to the quintessential poverty reduction scheme of helping the poor conditional on certain behavioral requirements.

These patterns of support seem to account well for the discrepancies we observe between cash transfers conditional on school attendance and the quality of education. While there is a strong constituency for CCTs, which translates into hefty electoral gains, there is practically none for education. CCTs, however, require that children of eligible families attend school, leading to high rates of enrollment, and in many cases overcrowding of facilities and a heavier burden on teachers. A concomitant policy for increasing the quality of education could help make the most of this increases in enrollment prompted by CCTs. However, a constituency for such initiative that is comparable in strength to that of CCT is lacking. Thus electoral incentives for politicians to advocate for such complex policies are rather small and so are the incentives of users to hold

be true. The main objective in this study, however, is to identify preferences so that further work can be built on sound assumptions about them. It is outside the scope of this project to investigate the next stages of the political process.

politicians accountable in that area. This means that in order to promote such policies these incentives need to come from other sources and more oversight is necessary to achieved the desired objectives.

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