# Individual income and voting for redistribution across democracies

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**Abstract**

We analyze the relationship between individual income and vote choice across 23 democracies. Our goal is to understand how the economic, social and institutional context affects support by low-, middle- and high-income voters for political parties that oppose taxes and redistribution. We examine how macro level variables related to ethnic heterogeneity, national wealth, electoral laws, and party systems affect the "redistributive center of gravity" (the propensity for all voters in a country to support right-wing parties') and income-based voting polarization (i.e., differences in voting by different income groups).

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# 1. Introduction

A bedrock assumption of many studies of democracy and redistribution is that voters' electoral choices depend heavily on their income, with support for left-wing parties that advocate redistribution from rich to poor increasing as income decreases. The assumption that lower-income voters will support more leftist tax-and-transfer parties – and that higher income voters will oppose them – has been a mainstay of the political science literature for many years (e.g., Lipset et al. 1954, 1334), and it has allowed scholars to explore a wide range of important issues. In their classic work, Meltzer and Richard (1981) use it to study the relationship between income distributions and taxes, and since then, political economy models have used the undimensional "tax and transfer" framework to study an enormous range of questions.

The basic argument of tax and transfer models is well-rehearsed. If one considers a single-dimensional policy that describes the tax rate that is imposed for purposes of redistributing income from higher- to lower-income individuals, then democratic competition should drive the equilibrium tax rate to that preferred by the median voter. Therefore, to understand when one should expect higher taxes and redistribution, one can focus on factors that affect the tax preferences of the median voter. One of the central claims that emerges from this framework is that redistribution should be highest in polities with the highest levels of inequality, because in such societies, the median voter has the most to gain from taxes that redistribute income.

Despite its intuitive appeal, however, a number of scholars argue that the basic Meltzer-Richards model simply does not describe empirical reality. Some argue that empirically, there is a lack of responsiveness of redistributive programs to levels of inequality (e.g, Alesina and Glaeser 2003; Moene and Wallerstein 2001, Bénabou 1996 ). But this issue does not seem to be settled. Milanovic (2000), for instance, argues that existing tests do not actually measure redistribution, and that when redistribution is measured properly, then there is evidence that inequality is associated with higher levels of redistribution. But Milanovic does not find support for the mechanism that is central to tax-and-transfer models – the level of redistribution is not significantly affected by the difference between the median voter's income and average income in society, as stadard models would predict.

Other scholars have focused on the question of whether voters attitudes toward redistribution are affected by inequality. Kenworthy and McCall (2007), for example, examine the survey attitudes of respondents in 8 countries over time to ascertain whether perceptions of inequality are correlated with actualy changes in inequality. They conclude that the median voter model is on shaky ground because citizens' attitudes regarding redistribution do not change (as the theory would predict) in response to changes in the real income distribution. But in a more rigorous empirical analysis of this question, Finseraas (2008) finds that the demand for redistribution is sensitive to the level of inequality, and that the preferences of the median voter are also sensitive to levels of inequality.

At the theoretical level, considerable work has begun enriching tax and transfer models by examining a wide range of factors that should affect taxes and redistribution. The literature is vast and diverse, and includes things like electoral laws, targeted transfers, social insurance schemes, and policy dimensions unrelated to redistribution. Despite the diversity of models, what the various approaches share in common is the basic assumption that all else equal, voters will support parties that advance their economic interest. Thus, if we can situate parties on a redistributive dimension, the voters' willingness to support particular parties should be a function of voters' incomes, with support for more right-wing parties increasing with voters' incomes.

It is surprising, then, that the assumption that is most central in the broad family of tax-and-transfer models – that voters choose based on economic considerations – has not been the subject of careful empirical scrutiny. There has been a great deal of effort to test the implications of various models for redistribution. There has been substantial research on the values of voters regarding inequality and redistribution. And scholars of US politics have scrutinized the relationship between income and the voter. But outsider the US, there has been very little research on to what degree voter behavior is consistent with the simple assumptions of the standard tax and transfer models. And since comparative research is very rare, we have little understanding of the circumstances under which income is most salient to the vote.

The goal of this paper is to examine income and the vote in comparative perspective. Does a voter's income affect the propensity of the voter to support parties that favor or oppose redistribution? How is the answer to this question conditional on the social and institutional context? Are there particular country-specific factors that tend to push voters to the left or the right? And how do country-specific factors affect differences in voting behavior across income groups? These are the questions that are central to this paper.

## 2. How should macro factors influence the relationship between income and the vote?

Scholars of American politics have demonstrated a clear effect of income on voting (e.g., Brooks and Brady 1999). The basic question is whether wealthier people are more Republican, and the simple answer is "yes." Studies show that the impact of income on the vote has been increasing over time (McCarty, Poole and Rosenthal 2006), and that the size of the effect varies across states, with income playing a stronger role in poorer states (Gelman 2008). In behavioral research outside the US, little attention has been devoted to understanding how income affects the vote. Instead, scholars have focused predominantly on the role of class, with the central question motivating recent research being to understand whether there has been a decline in class voting. While there remains disagreement

in the literature, many studies argue that class is a less reliable predictor of the vote than was the case thirty years ago (e.g., Heath et al 1991, Nieuwbeerta and de Graaf 1999, Erikson and Goldthorpe 1992, Dalton 2006). This decline in class voting is believed to be linked to a number of factors, including increased social mobility, cognitive mobilization leading to issue rather than group oriented voters, and "post-materialism."

The existing literature suggests that the effect of income on voting should not necessarily be the same everywhere. The macro-level (i.e., country-specific) factors could have two distinct effects on voting for or against redistribution. First, macro factors can affect the magnitude of income-based voting differences. In some countries, the differences between low- and high-income voters in their support for anti-redistributive parties might be quite large, and in others it might be quite small. The standard tax-and-transfer mode, for instance, might lead one to expect that differences between middle-income and high-income support for right-wing, anti-redistributive parties might decline as inequality decreases. We will refer to income-based differences in voting as income-based "*voting polarization*."

Second, macro factors can affect whether all voters tend to support parties that are more left- or right-wing wing, in effect moving the party system's redistributive *center of gravity* in one direct or the other. Economic development, for example , might encourage all voters to support parties that are more anti-redistributive by increasing general opposition to taxes. In what follows, we draw on a variety of arguments in the literature to understand how macro-level factors affect voting polarization and the party systems' center of gravity.

There are basically two types of arguments that are relevant to our analysis. The first type of argument focuses on factors other than income that can trump a voter's preferences regarding redistribution. Such 'second-dimension' arguments have commonly been applied at the individual level. In US politics, for instance, moral conservatism is often held up as a second dimension that encourages low-income voters with conservative values to vote against their redistributive interests. If poor voters have conservative values on issues pertaining to individual liberty – such as abortion, gay rights, or separation of church and state – then they may vote for Republican candidates, even if these candidates are known to advance redistributive policies that are not in the interest of the poor voters. We apply this simple intuition about a second dimension not at the individual level, but rather at the macro level. That is, we identify elements of the social and institutional context that vary across countries and that affect the salience of a second dimension to voters.

The second type of argument concerns the salience of the vote choice for redistributive outcomes. If the likely effect of the election outcome on redistribution is relatively small, then so too should be the effect of income on redistributive-based voting. It is therefore important to identify macro-level factors that should influence the effect of elections on redistribution.

With respect to "second dimension" arguments, we consider three types of macro factors. The first is *ethnic*

*heterogeneity*. The argument has been made most forcefully in studies of American politics, where scholars have examined how racial attitudes affect vote choice. There is ample evidence that whites are more strongly opposed to redistribution than blacks, and the explanation for this is typically that preferences regarding redistribution have an interpersonal component. Members may not mind if government revenues are expended on their own group, but they dislike it when benefits are provided to members of another group (e.g., Gillens). Following this logic, Alesina and Glaser argue that countries that are more ethnically homogenous should have higher levels of support for redistribution because there is less worry about using taxes to support members of other groups. In countries like Sweden, for example, where ethnic, racial or linguistic differences have historically been less salient in the US, we should not see this dampening effect on attitudes toward redistribution.

Should ethnic divisions affect the party system's redistributive center of gravity, income-based voting polarization, or both? If group-based factors lead to opposition to redistribution across then income distribution, as some have argued occurs in the US, then ethnic heterogeneity should affect the redistributive center of gravity by pushing voters across income groups to the right. In addition, ethnic divisions could easily affect voting polarization: if the effect of ethnic differences on support for leftist policies is roughly the same across income groups, then the effect of such differences on right-wing voting should be highest among low-income voters because they should be the least likely to support right-wing parties, all else equal. So voting polarization should be highest in ethnically homogenous political systems.

*Cross-pressures on individual freedom issues* should be a second factor that affects income-based voting on redistribution issues. Voters, of course, often do not care only about how their vote affects their economic situation. They also have concerns about other issues. Some issues which are often particularly salient are those related to individual freedoms, such as abortion, gay rights, and euthanasia. In some countries, the party system forces voters to choose their party based on either redistribution or individual liberty issues because there does not exist a party that espouses their preferred position on both of these issue dimensions. Such cross-pressures are present in the US, for example, where the Democrats are left-wing on economic policy and on policies that affect individual rights and liberties, while the Republicans are right-wing on both dimensions. Lower-income voters must therefore vote right if they wish to limit individual rights in issue areas like abortion or gay marriage, and if they care more about such issues than economic ones. Similarly, higher-income individuals may vote against the Republicans if they want to protect individual rights and care more about these individual rights issues than their tax rate. By contrast, if a party system allows a voter to choose among parties with any combination of positions on the most salient dimensions, it will not be necessary to vote against one's interest on one dimension to satisfy preferences on another. If the U.S., for example, had a viable party that was to the left on the economic dimension but to the right on the issues related to individual rights, the cross-pressures would not confront poor voters.

The effect of cross-pressures in the party system on a country's redistributive center of gravity are not completely clear, as when such cross pressures exist, some lower income voters should move to the right and higher-income voters to the left. If we assume that the income distribution is skewed to the rich, as is typically the case, and that attitudes on these individual liberty issues are not correlated with income, then the presence of cross-pressures should shift the center of gravity to the right because low and middle income should be cross-pressured to the right and only high-income voters should be cross-pressured to the left. For similar reasons, the effect of cross-pressure on voting polarization is not completely clear. But if cross-pressures move more lower income individuals to the right than higher income individuals to the left, then income-based voting polarization should be lowest in countries with cross pressures.

The final factor we consider that brings second-dimension considerations to bear on voters is *economic development.* A number of scholars, most notably Ronald Inglehart (e.g., 1990), have argued that the values of voters change as societies develop. In countries with relative economic scarcity, traditional concerns with material welfare and security should be quite salient, As societies develop, such "materialist" concerns should recede in importance and be replaced by "post-materialist" issues, including things like individual participation, women's rights, and the environment, among others. Inglehart argues that in the richest western democracies, political competition is no longer about classic left-right economic conflict, and instead is about these post-materialist issues.

The implications of this argument for electoral support of right-wing parties are not completely clear. One possibility is economic development diminishes income-based voting polarization. If economic issues become unimportant to voters when societies are sufficiently rich, then we might expect income-based differences in voting to disappear. This would be true if party positions on the post-materialist issues are uncorrelated with positions on redistribution, and if voter attitudes on these issues are uncorrelated with their incomes. By contrast, one might argue that many post-materialist issues are the domain of left-wing parties, which typically are strongest advocates for participation rights, women's issues, and the environment. If this is true, economic development might affect a party system's center of gravity, moving it to the left. What we should not expect is for the center-of-gravity to shift to the right.

From the post-materialist perspective, development diminishes the salience of the economic dimension and increases the salience of a dimension related to post-materialist values. A contrary possibility, however, would be that economic development affects voting by increasing the salience of redistribution relative to other issues. If societies become richer, individuals might become more anti-tax because the cost of taxes to individuals will be highest when individuals have more money. Voters may also perceive any inefficiencies associated with taxation to increase as societal income increases. If the effect of societal wealth operates in this way, we might expect a

party system's center of gravity to be farther to the right in societies that are relatively rich.

In a similar way, *inequality* might affect the center of gravity of the party system. The standard tax and transfer model implies that as the distribution of income becomes more unequal, the median voter will prefer higher levels of taxation and redistribution. In almost all such models, parties converge to the median voter, and thus inequality should shift the party system's center of gravity to the left.

Of course, in reality we know that parties do not converge. We must therefore consider the second type of argument, which takes into account the impact of vote choice on redistributive outcomes. With respect to inequality, if left and right parties do not converge, then inequality should affect voting polarization. As inequality increases, we should see stronger support by low- and middle-income voters for left-wing parties and stronger support by high-income voters for right-wing parties.

The *electoral law* also influences vote choice when parties do not converge. Iversen and Soskice (2006) focus on the effects of electoral law on voting polarization between middle income voters and the other income groups. They argue that low-income voters will have incentives to support the left, independent of electoral laws, and the high-income voters will have incentives to support the right, independent of electoral laws. Middle income voters, by contrast, will have their incentives shaped by the electoral law. Majoritarian electoral laws should push middle class voters toward right-wing parties because under majoritarian electoral systems, they argue, left parties cannot precommit to moderate policies, creating incentives for middle class voters to support right-wing parties. In PR systems, by contrast, the structure of coalition bargaining between centrist and left-wing parties makes it possible for center-left coalitions to commit to moderate policies that favor the middle class. Thus, from the perspective of this theory, the electoral law should not affect the center of gravity, but should affect the type of voting polarization that we observe.

Finally, *party system polarization* on redistributive issues should affect the connection between vote choice and redistributive outcomes. The cost to both rich and poor of cross-over voting should increase as with the polarization of left and right parties on economic issues, as emphasized by McCarty et al.'s (2006) study of the United States.. As America's two main parties diverge from each other, the differences between them in expected tax-and-transfer policies will increase. This makes it more attractive for low-income voters to support the Democrats and rich voters to support the Republicans. By a similar logic, when we should expect to observe more voting polarization by income in countries where the party system is most polarized (i.e., where the distance from the left to right is greatest). If we assume that middle income voters benefit from redistribution (due to the standard skew in the income distribution), then this polarization should exist between the low- and high-income voters (where it should be strongest), and between the middle- and high-income voters (where it may be weaker).

These arguments are summarized in Table 1. The goal of the rest of the paper is to ascertain whether these

arguments receive empirical support.

[Table 1 about here.]

## 3. Patterns of support for anti-redistributive parties

Before testing the arguments, in it useful to describe voting patterns by income groups across countries. To this end, we utilize survey data from the Comparative Study of Electoral Systems ("CSES"). The CSES is coordinated set of election surveys across a wide range of countries. It began in the 1990s, and some countries have conducted more than one election survey. Income is reported in quintiles, and we focus on three income groups: low income (the bottom 40 percent), middle income (the fifth and sixth quintiles) and high income (the top 40 percent). We will examine the voting behavior of individuals from different income groups be examining the levels of support for right-wing parties – that is, parties that favor lower taxes and less redistribution.

It is important to recognize that "voting right" in this narrow tax-and-transfer sense can be quite different than "voting right" on some general left-right dimension. The problem with using a general left-right measure of party locations is that the substantive meaning of "left-right" varies a great deal across countries, and sometimes has little to do with economic redistribution. We use "Dimension 1" from Benoit and Laver (2006) to place parties on a 20-point economic left-right scale. This dimension is the best measure we have found for positioning parties on the tax-and-transfer scale. For this variable, country experts place parties on a scale ranging from 1 (party "Promotes raising taxes to increase public services") to 20 (party "Promotes cutting public services to cut taxes"). We code a voter as having voted for a right-wing party if he or she casts a vote for any party with a score of 10.5 or greater on this 20 point scale. The Benoit and Laver data do not exist for all countries in the CSES, so we are unable to use all CSES surveys.[1]

Since the Benoit and Laver data also place parties on a general left-right scale, we can examine the relationship between party positions on redistribution and party left-right positions. These positions for 179 parties in our 23 countries are plotted in Figure 1. There is considerable variation in how close the parties are to the 45-degree line, which marks perfect congruence of the two scales, with a significantly larger number of parties below the 45-degree line below it then above it (indicating parties are typically more left-wing on the redistribution scale than on the left-right scale). And there are a number of parties that are in the wrong quadrant: 3 parties are right-wing on the redistribution scale and left-wing scale on the left-right scale, and 28 parties are left-wing on the redistribution scale and right-wing on the left-right scale. It is clear, then, that if one wishes to understand

[1] We also eliminate the 1999 Russian election survey because of the tenuous nature of democracy in Russia at this time (Polity2=5).

the propensity of voters to support parties that are against taxes, it is better that to measure party positons on the policy-specific scale than than on a general left-right scale.

[Figure 1 about here.]

Figure 2 presents voting patterns by income levels for the 35 surveys we are able to use. The three bars for each country are voting proportions for parties that are right-wing on the redistributive dimension for low-, middle-, and high-income voters. By simply comparing the height of the bars across countries, the figure gives some sense of redistributive center of gravity. There is clear variation in this regard, with countries like Hungary, Romania and Poland having very low levels of right-wing support and countries like Canada, Ireland and Bulgaria having high overall levels of right-wing support. It is important to bear in mind that these are snapshots of only one or two elections in a country, but it is interesting to note that where there exist two election surveys in the country, vote proportions are relatively stable. Spain is the country that experiences the largest change within country in the center of gravity, as Spain went from a right-wing to a left-wing majority across the two elections in the sample.

[Figure 2 about here.]

Figure 2 allows us to assess the voting polarization across income groups, which is represented by the differences in the heights of the bars. In general, we find that high-income voters are more right-wing than low-income voters: in only four of the thirty-five elections (two in Switzerland, one in France, and one in Ireland) is the percent of low-income voters who support right-wing parties greater than the percent of high-income voters who do so. Excluding these four elections, on average the percentage of low-income voters who support the right is 9.5 points higher than the proportion of high-income voters who support the right.[2] We also typically find that middle-income voters are more right-wing than low-income voters, although as one would expect, income-based voting polarization is less in this case than between the low-income and high-income voters. In 9 of the 35 elections, a higher percentage of low-income than of high-income voters supports right-wing parties, and on average across all 35 elections, the percentage of low-income voters who support the right is only 3.8 points higher than the percentage of middle-income voters who support such parties. Finally, the data typically show the income-based polarization between the middle-income and high-income voters that one would expect. In only 8 of the 35 elections do a higher percentage of middle-income voters support right-wing parties than do high-income voters. And across all these elections, the percentage of middle-income voters who support right-wing parties is 3.9 points less than the percentage of high-income voters who support right-wing voters. On average across these

[2]Including these elections, the average difference is 7.6 points.

elections, then, the middle-income voting proportions are more or less exactly between the proportions for low- and high-income voters.

Although the standard relationship between income and voting is present within most countries – in the sense that proportions of voters supporting the right increases as income increases – Figure 2 hardly makes a striking impression regarding the relationship between income and voting. Perhaps the most interesting aspect of the figure is how little difference there is in most countries in the proportion of voters from various income groups supporting right-wing parties. That is, within each country, the bars are roughly the same height. There is cross-national variation in income-based voting polarization, however. The election with the greatest income-based voting polarization between low- and high- income voters is in the US in 1996, where 35 percent of low-income voters support the right-wing Republicans and 59 percent of the high-income voters support this party, for a difference of 24 percent. This is also the election with the greatest middle-low income polarization (14.1 points). We find the highest middle- vs. high-income voting polarization in the 2002 Czech Republic election (12.1 points). And there are often quite large differences across countries in overall levels of support for right-wing parties.

# 4. Testing the arguments

To estimate how the macro, country-specific factors affect voting for right-wing parties, we follow the two-stage estimation techniques described in Huber, Kernell and Leoni (2005). In the first-stage, we estimate a separate probit model in each country, where the dependent variables take the value 1 if the respondent voted for a right-wing party using the Benoit and Laver data as described above. The independent variables in the first stage include indicator variables for each of the three income groups. In addition, we include individual control variables for education, age, gender, religiosity and employment status. The control variables are coded so that when they all equal 0, the constant in the first stage regression gives the probit coefficient for an individual who is high-school educated male, employed full-time, 40 years of age, and not religious.[3] We actually estimate three first level regressions, one where there are indicator variables for middle- and high-income voters (so low-income is the omitted category), one where there are indicator variables for low- and high-income voters (so middle income voters are the omitted category), and one where there are indicator variables for low- and middle-income voters

[3]The CSES education variable is recoded so that it equals 0 if the respondent has completed high school (but no post-secondary school). The CSES age variable is recoded so that it equals zero if the respondent is 40 years old. We include a female indicator variable to control for gender. We include a "religious" indicator variable that takes that value 1 if the respondent reports attending religious services once or more per week. In countries that do not include a service attendance variable but that do include the CSES religiosity variable, the religious indicator takes the value 1 if the respondent reports that they are "very religious." For employment status, we include indicator variables for unemployed retired, student, and "other," so that the omitted category is employed full time.

(so high income voters are the omitted category). While it is obviously possible to estimate the second-stage results from any one of these models, this approach provides and simple and intuitive method for understanding the impact of the macro factors on levels of support by the different income groups, as well as a their impact on income-based voting polarization.

In the second stage, we use two types of regressions to estimate the relationship between macro variables and voting behavior by the three income groups. First, we treat the constants from each of the first stage regressions as the dependent variable in the second stage. This allows us to estimate the relationship between the macro variables and levels of support by the different income groups for right-wing parties. Together, these regressions allow us to explore the relationship between the macro factors and the redistributive center of gravity of the voters. Second, we treat he coefficients on the income indicators as our dependent variable in the second stage. This allow us to estimate the relationship between the macro-variables and income-based voting polarization. For example, if we run a first-stage regression where middle-income voters are the omitted category, and then use the coefficient on the low-income indicator as our second stage dependent variable, this will allow us to estimate whether the macro variables drive a wedge between the voting behavior of low and middle-income voters. For all second stage regressions, we estimate standard errors based on the procedure outlined in Borjas and Sueyoshi (1994), which provides a method for estimating second stage models when the first stage is a non-linear probit. Leoni (2005) uses Monte Carlo simulations to demonstrate that this two-stage approach to the analysis of survey data with probit has desirable properties when sample size in the first stage is relatively large (as is the case for our country surveys).

We use the following macro level variables to test the arguments described above about macro factors affecting voting behavior but income groups:. To test the argument about group differences and support for redistribution, *Ethnic fractionalization* measures how likely it is that two individuals are from different ethnic groups, where ethnicity can be either language or race (source: Alesina et al. 2003). To test arguments about development and voting, *GDP/capita (ln)* is the log of GDP per capita in the year of the election (source: World Bank's World Development Indicators ("WDI")). *Gini* is the Gini coefficient for the year nearest the election (source: WDI). *Polarization* is the distance between the left-most right party and the right-most left party on the redistribution dimension, using the Benoit and Laver data. The variable, which measures the "emptiness" of the center, can be used to test the argument that cross-over voting by low- and high-income voters should be weakest when polarization is highest.

Testing the effect of cross-pressures is somewhat complicated by the distribution of party-types within countries. The Benoit and Laver data place parties on a "Social policy" dimension that ranges from 1 (party "favors liberal policies on matters such as abortion, homosexuality and euthanasia") to 20 (party opposes liberal policies

on these issues). We can code each country according to the types of cross pressures that exist, given party locations on economic and individual liberty issues. Conservative cross-pressures exist when there exist no parties that are right-wing on the liberty issues and left-wing on economics (so all left-wing parties on economics are also left-wing on liberty issues). Liberal cross-pressures exist if there are no parties that are right-wing on economics and left-wing on individual liberties (so all right-wing parties on economics are also right-wing on liberties). In some countries, there exist neither type of cross-pressures. In others (e.g., the US), both types of cross-pressures exist. And in some countries, conservative cross-pressures exist and liberal ones do not. Interestingly, there is no country in which the rich are cross-pressured but the poor are not, making it impossible to isolate the effects of liberal cross-pressures. We therefore create two indicator variables. *Conservative x-pressure* equals 1 if conservative cross-pressures exist but the liberal ones do not. *Lib/Cons x-pressure* equals 1 if both types of cross-pressures exist. The omitted category is that neither rich nor poor are cross-pressured.

Finally, voting patterns in a particular election may be due to idiosyncratic factors related to government performance preceding the election. If right-wing parties are in government before the election, then all else equal, they should receive more support than if they perform poorly. Of course, the same goes for left-woing governments. Scholars have addressed this issue in the comparative study of elections by examining the effect of changes in economic conditions on support for incumbents, and research shows that economic voting exists, but its importance depends on the institutional context (e.g., Powell and Whitten 1993 and Duch and Stevenson 2008). To control for the possible effect of economic voting, we use data on unemployment and inflation. We look at changes in these variables in the year preceding the election (e.g., $Unemployment_{t-1} - Unemployment_{t-2}$, and interact them with whether the incumbent government is right-wing (the weighted ideological position on the tax dimension is greater than 10.5) or not.

# 5. Results

We our not specifically interested in the first-level regression results, and it is impractical to report all of the results for the 105 election-specific models that we estimate. We will therefore focus on the second-stage results. Table 2 presents estimates of the macro factors affecting the electoral center of gravity when we control for retrospective voting using unemployment. In the first three columns, we measure electoral institutions using and indicator variables for single-member districts. In the last three columns, we use instead a continuous measure of district magnitude. The heading of each column identifies which income group is being analyzed. The coefficients in these tables describe the relationship between the macro-factors and the first-stage coefficients – they indicate how the probability of our baseline individual (a male, 40 years old, high school education, not religious and full-

time employed) in a particular income group supporting a right-wing party varies with the macro-level variables. Column 1, for instance, is based on a first stage regression where the Low-Income indicator is omitted. The constant from these first-stage regressions is used as the dependent variable in the second stage regressions. These constants describe the probability of right-wing support for a low-income baseline individuals. The coefficients in the Table therefore describe how the macro variables are related to differences across countries in these baseline levels of support. A macro factor affects the center of gravity when the coefficients have the same sign (and are estimated precisely) across income groups. Of course, the coefficients describe how the macro factors affect changes in the first-stage probit coefficients, and thus must be converted to probabilities, a task we take up below.

Consider column 1-3, which provides the second-stage estimates for low-income voters when SMD is the control for electoral law. Three of the variables of theoretical interest have a clear effect on the center of gravity: ELF, Conservative x-pressuers, and GDP. These variables have positive coefficients that are precisely estimated across the income groups. The models therefore indicate that the electoral center of gravity of party support is most anti-redistributive in countries that are ethnically divided, relatively rich, and that lack a party that is left-wing on redistribution and right-wing on individual liberty issues. The positive coefficients on GDP are inconsistent with post-materialist arguments and consistent with an argument that all individuals are less supportive of high taxes when societies are relatively rich.

The table shows no relationship between inequality and voting behavior for any of the groups, polarization is associated with more left-wing voting by low-income groups, and SMD is associated with more left-wing voting by both low- and middle-income groups. Finally, the Right incumbent indicator is positive and significant, Unemployment (change) is positive but measured with significant error, but the interaction of Right-wing government with unemployment is positive and significant. We tested the significance of the interaction, and when incumbent governments are right-wing, we find that increases in unemployment leads to more right-wing voting by the poor. Previous research has found that voters punish left-wing parties for unemployment (e.g., Powell and Whitten 1995), it is unexpected to find that that incumbent right-wing governments are more likely to receive support from low-income voters if unemployment has gone up. We will return to a discussion of all of these results after considering some additional models

Columns 4-6 are the same as columns 1-3 except now the measure of the electoral law is District Magnitude. The results are identical for all the variables. With respect to electoral law, we again find that multi-member districts with PR are associated with more right-wing voting among the low- and middle-income voters.

[Table 2 about here.]

Table 3 estimates the same models as in Table 2 except that the models in Table 3 use changes in inflation to

control for economic voting. In general, the overall fit of these models is substantially worse than in Table 2, and all of the variables included to control for economic voting are now estimated with considerable error. The results for the three variables that had clear effects on the center of gravity in Table 2 are substantially when we use inflation to control for economic voting. The main difference is that the coefficients on GDP have slightly larger standard errors than before. By contrast, all other variables are not significant. Given that the inflation variables are not precisely estimated and the weak overall fit of the model, however, if one were forced to choose between the two tables, one would most certainly choose the results in Table 2.

[Table 3 about here.]

Next consider the relationship between the macro variables and income-based voting polarization. Table 4 examines how the macro factors affect the difference in support by middle and low-income voters for right-wing parties. The dependent variable is the coefficient on the low-income indicator variable from the first stage regressions where the omitted income category is the middle income voters. Since on average, the expected support for right-wing parties by middle-income voters is greater than for low incomes (which we depict graphically below), a positive coefficient on a macro variable in Table 4 implies that voting tendencies of low-income and middle-income voters become more similar (and right-wing) as the macro variable becomes larger. By contrast, a negative coefficient implies that as the macro variable increases, the low-income voters become relatively left-wing, creating greater differences between low and middle income voters. In columns 13 and 14, inflation is used to control for retrospective voting, and in columns 15 and 16, unemployment is used. Columns 13 and 15 use SMD as he measure of the electoral lass and columns 14 and 16 use District Magnitude.

We find that two variables have a consistent and robust effect on income-based voting polarization across the four specifications. The ELF variable has a positive and significant coefficient. Since we also find that right-wing voting is highest when ELF is highest for all income groups (in Tables 2 and 3, this means that the increase in right-wing voting associated with ann increase in ELF is significantly higher for low-income than for middle-income voters. Put differently, voting differences between low-and middle-income voters will be greatest in countries that are ethnically homogenous.

In addition, Polarization is negative and significant. The negative coefficient implies high levels of polarization are associated with greater differences between low- and middle-income support for right-wing parties, with low-income voters more likely to support left-wing parties when polarization is high. We also find that although the spatial locations of parties affects voting polarization, the electoral law does not. The Iversen and Soskice model, which argues that the middle-income voters should move away from low-income ones in SMD, predicts a negative coefficient on SMD and a positive coefficient on district magnitude. We find the signs to be correct, but

the coefficients are essentially zero since their standard errors are so large.

[Table 4 about here.]

Finally consider voting polarization between the middle-income and high-income voters. Table 5 presents the results, and we find that none of the variables has a robust relationship with voting polarization. Across all the models, there is only only variable, District Magnitude, which is measured with precision. And this variable has the opposite sign predicted by Iversen and Soskice. Their model suggests that the middle-class should ally with the high-incomve voters in majoritarian systems, but the positive coefficient on District Magnitude suggest exactly the opposite, with the middle-income voters converging toward the high-income voters as district magnitude increases.

[Table 5 about here.]

How big are the effects? In the tables above, the second-stage regression results describe how increases in the macro variables are related to the size of the probit coefficients from the first-stage models. Given the non-linear probit model, the effect of any change in a given macro variable depends on the values of other macro variables, and on the values of the first-level coefficients . We therefore cannot discuss the substantive effect of any macro variable on voting polarization without identifying a "baseline individual," and without making assumptions about the values of other macro variables. But as with any non-linear model, if we make such assumptions, we can graphically depict the expected probabilities of supporting right-wing parties for voters across different values of the macro variables. The graphs we present are based on the specifications in models 4-6 in the tables above. Recall that the first-level variables are coded so that the baseline individual is a high-school educated male, employed full-time, 40 years of age, and not religious. For our analysis of each macro variable, we assume that the other macro variables take their median values.

Figure 3 depicts for each of the three income groups how the probability of right-wing voting by the baseline individual changes with changes in the macro variables. The slope of the lines helps us to understand how the macro variables affect the electoral center of gravity, and the distance between the lines helps us to understand the level of income-based voting polarization, as well as how this polarization changes with changes in the macro variables. Ethnic Fractionalization and GDP are the two variables that have the largest effect on the electoral center of gravity. For both of these variables, as we move from the minimum value to the maximum value, the probability that individuals from each income group votes right rises by roughly 30-40 percent, with the largest effect being for Ethnic Fractionaliztion. Conservative cross-pressures and polarization also have a substantial impact on the center of gravity, with a change in voting probabilities of roughly 20 percent as we move from the

low to high value of these variables. District magnitude has a relatively modest effect on the center of gravity, with the right-wing voting probabilities increasing roughly 10 percent as we move from single-member districts to one national district.

The figures also indicate that the models predict the generally-assumed relationship between income and the vote: the high-income voters have the highest probability of supporting a right-wing party, and the low-income voters the lowest probability. It is interesting to note that for most values of the macro variables, middle-income voting probabilities are closer to those of low-income voters than of high-income voters, which is what the standard tax-and-transfer models would predict given the skew that exists in national income distributions. But consistent with the voting patterns depicted in Figure 2, the level of income-based voting polarization is generally quite modest: typically about a 10 percent difference between low and high income voters. Recall that ELF and polarization are the two macro variables that had a statistically significant impact on voting polarization in Table 4. We can see in Figure 3a, the probability that low-income voters will support right-wing parties is roughly 5 percent less than that of middle-income voters when ELF is at its minimal value, and it is roughly 5 points higher at the maximum value of ELF. Thus, the effect of ELF on polarization is through the low-income voters, whose voting probabilities are more sensitive to ELF than are middle-income voters. In Figure 3d, we see that the slope of middle income voters is much less senstive to changes in Polarization than are low-income voters. The expected probability of right-wing voting is roughly the same at the lowest level of polarization. At the highest level, the difference in voting probabilities is roughly 10 percent.

[Figure 3 about here.]

# 6. Discussion

Is there a strong empirical foundation for the standard assumption in tax and transfer models that voter income influences electoral behavior so as to ensure redistribution from high-income individuals to low- and middle-income individuals? In one respect, the answer seems to be "yes." We find that across most countries, the assumed relationship between income and the vote exists, with high-income individuals supporting right-wing parties (on the tax dimension) in highest numbers and low-income voters supporting such parties in the lowest numbers. We also find, however, that f this relationship between income and the vote is generally weak. Although more voters support the "right" party (in the tax-and-transfer sense) than the "wrong party, we find that large proportions of voters do support the "wrong" party. That is, large proportions of low-income and middle-income voters support parties that favor lower taxes and redistribution, even though they doubtfully benefit from the economic policies

of such parties. And we find large proportions of high-income voters who favor parties that advocate higher taxes. As a consequence, the average difference in the proportion of low-income voters who vote for right parties and the proportion of high-income voters who do so is quite modest – around 10 points in most countries. In addition, we find that the variable that is most central in arguments emerging from tax and transfer models – inequality – has absolutely no effect on voting patterns of any income groups. On balance, then, we would argue that the empirical support from voting data for the tax-and-transfer models is not particularly strong.

We also find substantial variation across countries in the relationship between income in voting. In a handful of countries, low-income voters are even more right-wing than high-income ones, whereas in others, there is substantial income-based voting polarization. Although observers of US politics often contend that low-income American voters are all too willing to support the Republicans, it is interesting to note that the US has the election with the highest level of voting polarization between low- and middle-income voters (or high-income voters). What is less often remarked upon is support among high-income earners for left-wing parties. In fact, across our 35 elections, the average proportion of high-income voters who support left-wing parties is slightly greater than 50 percent (as is the median level of support for left-wing parties). A central finding from the simple voting patterns, then, is that left-wing support by the high-income voters is a crucial component of electoral coalitions in favor of redistribution.

The analysis also shows that the redistributive center of gravity of electoral coalition is strongly affected by macro-level variables. Support for right-wing parties is highest across income groups in countries with

- high levels of ethno-linguistic group differences;
- high levels of economic development;
- no party that is left-wing on redistribution and right-wing on individual liberty issues;
- low levels of party-system polarization on the tax and redistribution issue;
- high district magnitude in the electoral system.

For a number of these variables, the magnitude of the estimated coefficients is quite large. Moving from the least ethnically fractionalized country to the most ethnically factionalized country, for example, is associated with an increase in the probability of right-wing voting of roughly 50 percent.

We have found it more difficult to identify macro-level variables that influence income-based voting polarization. None of the variables that we have considered has a statistically significant relationship with the level of voting polarization between middle- and high-income individuals. Two of the variables have a statistically significant relationship with the level of voting polarization between low- and middle-income voters. Such polarization is largest in societies that are most ethnically homogenous and countries that have the highest level of

voting polarization. It is worth bearing in mind, however, that the magnitude of the effect of the macro variables on voting polarization is much less than the magnitude of their effect on the redistributive center of gravity.

The results of our efforts to estimate how macro variables influence voting by various income groups are inconsistent with two of the arguments we have discussed. First, it is almost impossible to square with postmaterialist theories the finding that right-wing voting by all income groups is highest in countries that are richest. It seems that societal wealth does not cause voters from any income groups to worry less about taxes and redistribution and more about other issues. Second, we find no evidence for the mechanism described in Iversen and Soskice's argument about why PR systems redistribute more. The middle-income voters in our data are more likely to support right-wing parties in PR systems than in majoritarian systems, which is the opposite of what Iversen and Soskice's model predicts. In fact, all income groups become more right-wing in their voting as district magnitude increases, according to the results of out model.

On the other hand, our results our supportive of several arguments that have been made in the literature but have not been subjected to testing. Scholars argue that redistribution should be lower in ethnically divided societies, and we provide evidence for the electoral mechanism underlying this argument. Scholars also argue that issues other than economic outcomes can cause citizens to vote against their economic interests. We find evidence in support of this argument for low-income voters, who are more likely to support right-wing parties when there exists no party that is conservative on individual liberty issues and left-wing on taxes and transfers. And we find that as party system polarization increases, so too does voting polarization between the middle- and low-income voters.

Taken together, these findings provide a new argument for why PR systems may redistribute more than SMD systems. Since cross-pressures move all voters, but particularly low-income ones, towards support for right-wing parties, the electoral system's effects on voting outcomes might work in part through its effects on the presence of cross-pressures. Not surprisingly, the presence of cross-pressures in the party system go up as district magnitude goes down. In the 23 countries in our sample, we estimated the following probit model, where the dependent variable takes that value 1 if conservative cross-pressures exist (with standard errors in parentheses):

$$Cross\text{–}pressures = \underset{(.64)}{.99} - \underset{(.89)}{2.1} * District\ Magnitude$$

The effect of district magnitude is obviously quite large, with high magnitude countries having a much lower probability of having party systems that cross-pressure low income voters. In addition, district magnitude affects the level of polarization in the party system. Contrary to the Downsian incentives for convergence, our data show little convergence by the parties. A simple OLS regression of Polarization on District magnitude yields the following results in our 23 countries:

$$Polarization = \underset{(.89)}{5.29} - \underset{(1.25)}{3.27} * District\ Magnitude$$

While the low polarization levels in high magnitude systems leads to modestly more right-wing voting, this voting is for right-wing parties that are relatively left-wing. Thus, the electoral dynamics associated with PR may result in relatively more left-wing redistributive outcomes by avoiding the second-issue cross-over incentives that often exist in majoritarian systems, and by ensuring that "right-wing" voting in PR systems is relatively left-wing.

Finally, it is worth noting how the results of our cross-national analysis compare with recent studies of income and the vote that occur in American politics. Gelman (2008) finds what we call voting polarization (the effect of income on the vote) is strongest in the poorest states in the US. In the international data, we find no impact of national wealth on voting polarization. In addition, Gelman find that states with the highest ethnic fractionalization (i.e., the most blacks) are the states where there is the strongest relationship between income and the vote. We find the opposite, with voting polarization being the highest in countries that are most homogenous. Finally, Gelman, as well as Bartels (2008) argue strongly that the popular press gets in wrong when they argue that recent Republican majorities can be explained by low-income voters supporting Republicans due to so-called "values" issues. In the US, they find no evidence to suppport this popular "wisdom." In light of this finding in the US, it may be less surprising that we show that the election with the strongest income-based voting polarization is from the US. But perhaps more important, we find strong indirect evidence for the 'second dimension' type of argument that underlies the claims about values issues in the US. That is, in systems where low-income voters are cross-pressured on such issues, we find right-wing voting on redistribution increases. Thus, to understand the high-level of voting polarization that can exist in the US, the most important variables seem to be the polarization of the party system (which has been emphasized by McCarty, Poole and Rosenthall 200?)

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Figure 1: Party positions on the 'left-right' and 'redistribution' scales

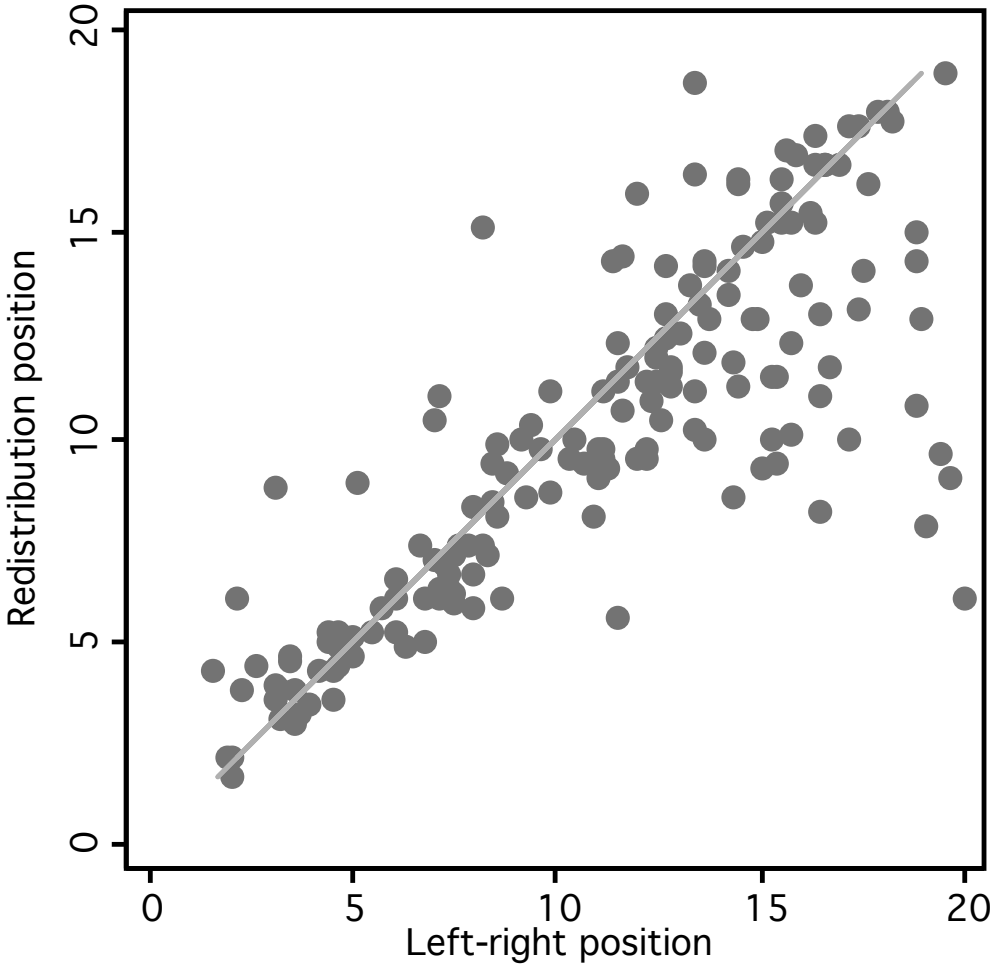

Figure 2: Percent supporting right-wing parties by income groups

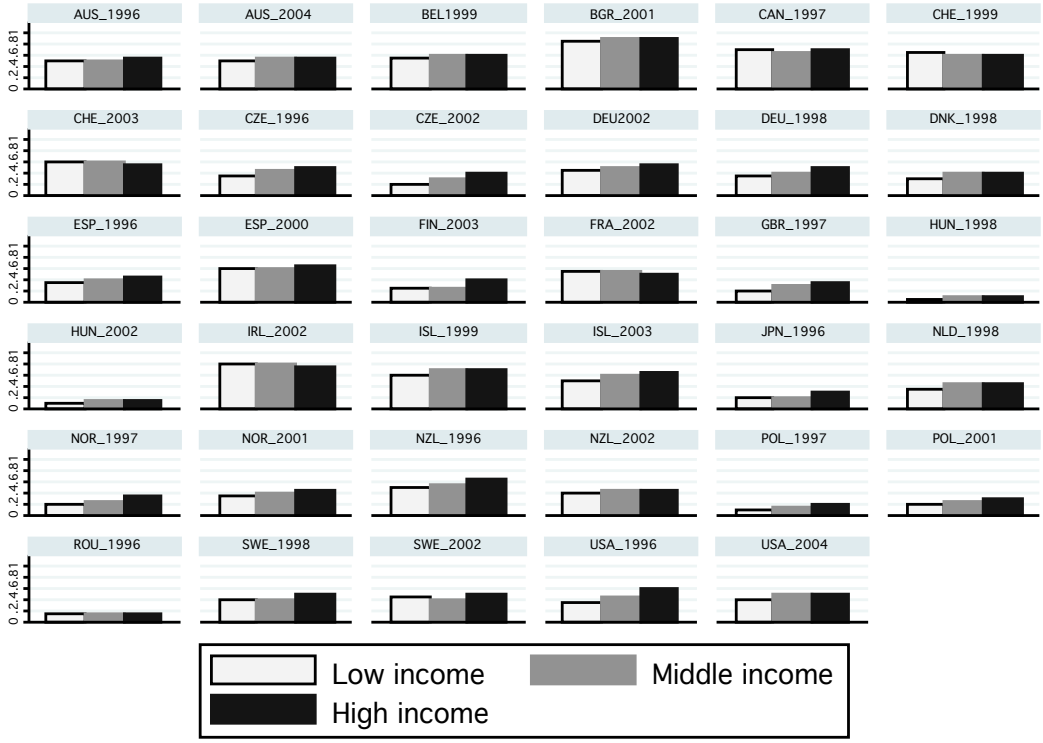

Figure 3: Macro variables and right-wing voting

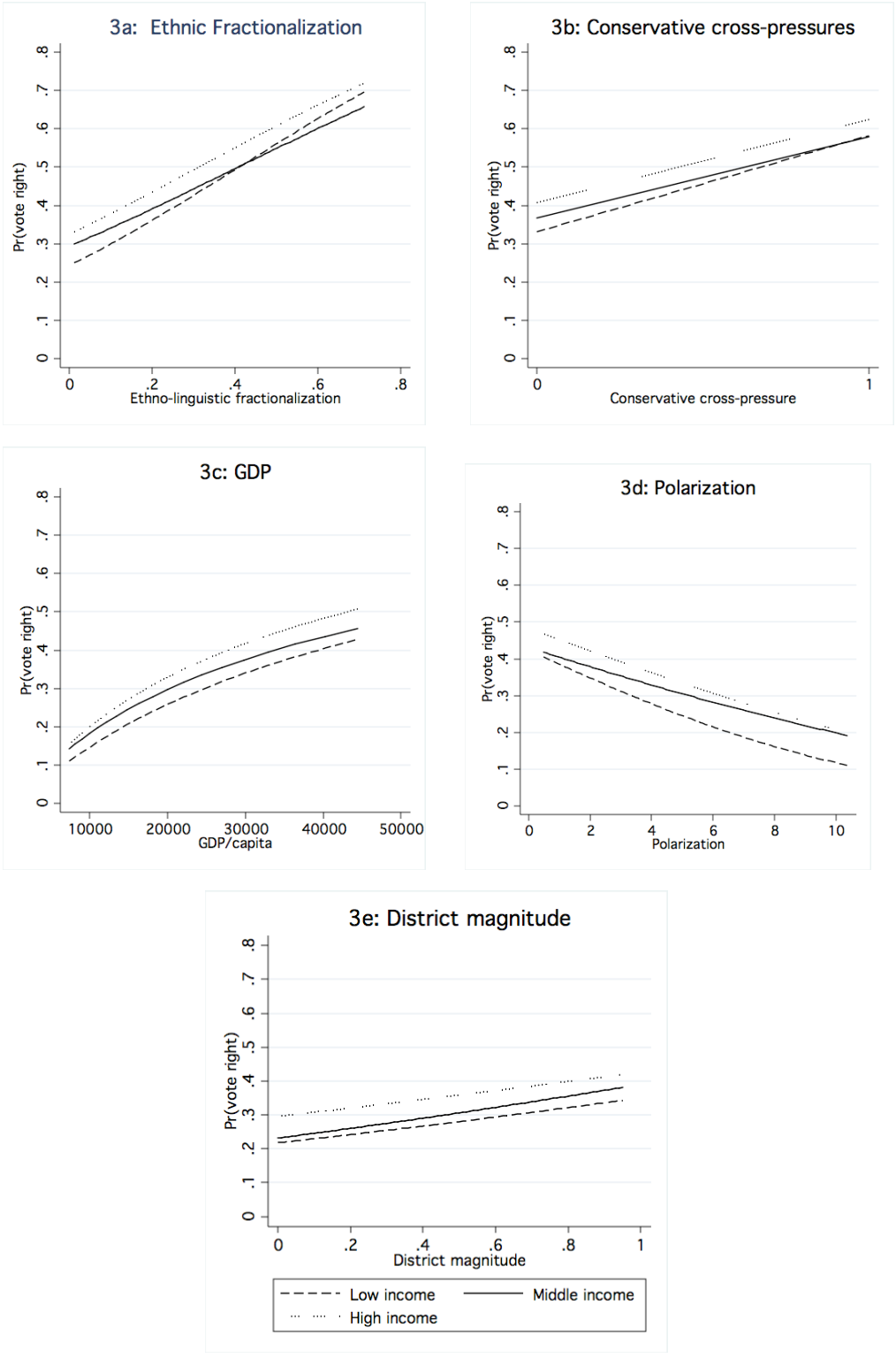

Table 1: Macro factors, income and the vote

| ***Conceptual variable*** | ***Predicted effect on partisan center of gravity*** | ***Predicted effect on income-based voting polarization*** |
|---|---|---|
| Ethnic or linguistic conflict | Right-ward effect | Decreases polarization across all groups |
| Cross-pressures | Right-ward effect | Decreases polarization across all groups |
| Economic development | Postmaterialist perspective: Left-ward effect<br><br>Materialist perspective: Right-ward effect | Postmaterialist perspective: Decrease polarization across all groups<br><br>Materialist perspective: Decrease polarization across all groups |
| Inequality | Left-ward effect | Increase middle-high and low-high polarization |
| Majoritarian electoral law | None | Increase middle-low polarization<br><br>Decrease middle-high polarization |
| Party system polarization | None | Increase polarization between high-income and other income groups |

Table 2: Redistributive center of gravity controlling for unemployment

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| | Low Inc. | Middle Inc. | High Inc. | Low Inc. | Middle Inc. | High Inc. |
| ELF | 1.420*** | 1.077*** | 1.157*** | 1.383*** | 1.043*** | 1.131*** |
| | (0.333) | (0.367) | (0.353) | (0.334) | (0.362) | (0.349) |
| Lib/Con x-pressure | 0.511* | 0.419 | 0.432 | 0.485* | 0.416 | 0.432 |
| | (0.269) | (0.292) | (0.282) | (0.267) | (0.286) | (0.277) |
| Conserv. x-pressure | 0.624*** | 0.525** | 0.511** | 0.570*** | 0.470** | 0.471** |
| | (0.178) | (0.196) | (0.188) | (0.177) | (0.192) | (0.185) |
| GDP(ln) | 0.553*** | 0.513*** | 0.551*** | 0.558*** | 0.519*** | 0.555*** |
| | (0.154) | (0.169) | (0.161) | (0.155) | (0.167) | (0.160) |
| Gini | 0.000 | 0.002 | 0.000 | -0.007 | -0.006 | -0.005 |
| | (0.016) | (0.018) | (0.017) | (0.016) | (0.017) | (0.017) |
| SMD | -0.439* | -0.444* | -0.328 | | | |
| | (0.234) | (0.255) | (0.246) | | | |
| District magnitude | | | | 0.368* | 0.426* | 0.320 |
| | | | | (0.209) | (0.225) | (0.217) |
| Polarization | -0.075* | -0.045 | -0.055 | -0.082** | -0.052 | -0.060 |
| | (0.038) | (0.042) | (0.040) | (0.037) | (0.040) | (0.039) |
| Right incumb. | 0.351** | 0.456*** | 0.387** | 0.361** | 0.468*** | 0.397*** |
| | (0.133) | (0.147) | (0.140) | (0.134) | (0.145) | (0.139) |
| Right*unemp(cg) | 0.292** | 0.290* | 0.312** | 0.274** | 0.266* | 0.294** |
| | (0.131) | (0.144) | (0.137) | (0.133) | (0.143) | (0.137) |
| Unemp(change) | 0.094 | 0.098 | 0.056 | 0.112 | 0.120 | 0.073 |
| | (0.092) | (0.102) | (0.097) | (0.094) | (0.102) | (0.098) |
| Constant | -6.180*** | -5.734*** | -5.964*** | -6.267*** | -5.880*** | -6.072*** |
| | (1.573) | (1.724) | (1.646) | (1.594) | (1.714) | (1.641) |
| Adj. R-squared | 0.672 | 0.610 | 0.608 | 0.667 | 0.618 | 0.614 |
| N | 35 | 35 | 35 | 35 | 35 | 35 |
| * p<.10, ** p<.05, *** p<.01 | | | | | | |

Table 3: Redistributive center of gravity controlling for inflation

| | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|
| | Low Inc. | Middle Inc. | High Inc. | Low Inc. | Middle Inc. | High Inc. |
| ELF | 1.555*** | 1.224** | 1.355*** | 1.525*** | 1.202** | 1.339*** |
| | (0.479) | (0.504) | (0.474) | (0.479) | (0.499) | (0.468) |
| Lib/Con x-pressure | 0.139 | 0.035 | 0.074 | 0.109 | 0.027 | 0.074 |
| | (0.345) | (0.360) | (0.338) | (0.340) | (0.352) | (0.331) |
| Conserv. x-pressure | 0.636** | 0.536** | 0.542** | 0.582** | 0.481* | 0.497** |
| | (0.244) | (0.256) | (0.240) | (0.242) | (0.253) | (0.236) |
| GDP(ln) | 0.403* | 0.371 | 0.430* | 0.417* | 0.391* | 0.448** |
| | (0.217) | (0.227) | (0.213) | (0.219) | (0.228) | (0.213) |
| Gini | 0.028 | 0.029 | 0.028 | 0.021 | 0.023 | 0.023 |
| | (0.021) | (0.022) | (0.020) | (0.020) | (0.021) | (0.019) |
| SMD | -0.419 | -0.420 | -0.340 | | | |
| | (0.325) | (0.340) | (0.320) | | | |
| District magnitude | | | | 0.353 | 0.403 | 0.343 |
| | | | | (0.292) | (0.303) | (0.284) |
| Polarization | -0.067 | -0.038 | -0.048 | -0.075 | -0.045 | -0.053 |
| | (0.052) | (0.054) | (0.051) | (0.051) | (0.053) | (0.050) |
| Right incumb. | 0.239 | 0.349 | 0.250 | 0.251 | 0.360* | 0.260 |
| | (0.195) | (0.205) | (0.192) | (0.195) | (0.203) | (0.190) |
| Right*inflat(cg) | -0.053 | -0.042 | -0.063 | -0.057 | -0.050 | -0.071 |
| | (0.093) | (0.098) | (0.091) | (0.095) | (0.098) | (0.092) |
| Inflation(change) | 0.017 | 0.007 | 0.009 | 0.016 | 0.005 | 0.007 |
| | (0.045) | (0.047) | (0.044) | (0.045) | (0.047) | (0.044) |
| Constant | -5.488** | -5.137** | -5.597** | -5.683** | -5.434** | -5.872** |
| | (2.312) | (2.426) | (2.276) | (2.364) | (2.457) | (2.302) |
| Adj. R-squared | 0.403 | 0.348 | 0.369 | 0.398 | 0.354 | 0.377 |
| N | 35 | 35 | 35 | 35 | 35 | 35 |
| * p<.10, ** p<.05, *** p<.01 | | | | | | |

Table 4: Second-level regression estimates for low-middle income voting polarization

| | 13 | 14 | 15 | 16 |
|---|---|---|---|---|
| ELF | 0.357** | 0.347** | 0.357** | 0.353** |
| | (0.155) | (0.153) | (0.152) | (0.150) |
| Lib/Con x-pressure | 0.098 | 0.067 | 0.110 | 0.078 |
| | (0.127) | (0.124) | (0.133) | (0.131) |
| Conserv. x-pressure | 0.098 | 0.100 | 0.098 | 0.101 |
| | (0.086) | (0.084) | (0.086) | (0.084) |
| GDP(ln) | 0.042 | 0.039 | 0.046 | 0.044 |
| | (0.092) | (0.092) | (0.085) | (0.084) |
| Gini | 0.001 | 0.000 | -0.000 | -0.000 |
| | (0.008) | (0.007) | (0.008) | (0.008) |
| SMD | -0.007 | | -0.004 | |
| | (0.121) | | (0.118) | |
| District magnitude | | -0.066 | | -0.060 |
| | | (0.104) | | (0.102) |
| Polarization | -0.032* | -0.033* | -0.031* | -0.032* |
| | (0.018) | (0.018) | (0.018) | (0.018) |
| Right incumb. | -0.072 | -0.073 | -0.072 | -0.076 |
| | (0.064) | (0.063) | (0.063) | (0.063) |
| Right*inflat(cg) | -0.008 | -0.002 | | |
| | (0.037) | (0.037) | | |
| Inflation(change) | 0.003 | 0.002 | | |
| | (0.024) | (0.024) | | |
| Right*unemp(cg) | | | -0.013 | -0.010 |
| | | | (0.069) | (0.068) |
| Unemp(change) | | | 0.019 | 0.014 |
| | | | (0.048) | (0.048) |
| Constant | -0.561 | -0.460 | -0.574 | -0.509 |
| | (0.951) | (0.946) | (0.848) | (0.842) |
| Adj. R-squared | -0.073 | -0.054 | -0.071 | -0.054 |
| N | 35 | 35 | 35 | 35 |
| * p<.10, ** p<.05, *** p<.01 | | | | |

Table 5: Second-level regression estimates for middle-high income voting polarization

| | 17 | 18 | 19 | 20 |
|---|---|---|---|---|
| ELF | -0.077 | -0.073 | -0.039 | -0.039 |
| | (0.136) | (0.132) | (0.132) | (0.126) |
| Lib/Con x-pressure | -0.056 | -0.045 | -0.014 | 0.009 |
| | (0.113) | (0.108) | (0.119) | (0.112) |
| Conserv. x-pressure | 0.033 | 0.016 | 0.043 | 0.020 |
| | (0.074) | (0.072) | (0.074) | (0.070) |
| GDP(ln) | -0.033 | -0.032 | 0.007 | 0.004 |
| | (0.086) | (0.084) | (0.076) | (0.073) |
| Gini | 0.006 | 0.004 | 0.005 | 0.002 |
| | (0.007) | (0.006) | (0.007) | (0.006) |
| SMD | -0.105 | | -0.142 | |
| | (0.107) | | (0.104) | |
| District magnitude | | 0.133 | | 0.181** |
| | | (0.091) | | (0.087) |
| Polarization | 0.002 | 0.001 | 0.004 | 0.004 |
| | (0.015) | (0.015) | (0.015) | (0.014) |
| Right incumb. | 0.041 | 0.048 | 0.021 | 0.033 |
| | (0.055) | (0.054) | (0.055) | (0.053) |
| Right*inflat(cg) | 0.026 | 0.021 | | |
| | (0.033) | (0.032) | | |
| Inflation(change) | 0.001 | 0.001 | | |
| | (0.022) | (0.022) | | |
| Right*unemp(cg) | | | -0.004 | -0.013 |
| | | | (0.062) | (0.059) |
| Unemp(change) | | | 0.035 | 0.047 |
| | | | (0.043) | (0.042) |
| Constant | 0.084 | 0.026 | -0.308 | -0.332 |
| | (0.874) | (0.855) | (0.752) | (0.717) |
| Adj. R-squared | -0.151 | -0.100 | -0.151 | -0.050 |
| N | 35 | 35 | 35 | 35 |
| * p<.10, ** p<.05, *** p<.01 | | | | |