

The Structure of Ethnic Inequality and Ethnic Voting

Christian Houle
Michigan State University
houlech1@msu.edu

Paul D. Kenny
Australian National University
paul.kenny@anu.edu.au

Chunho Park
Michigan State University
parkchu7@msu.edu

Abstract

Why do some ethnic groups vote along ethnic lines while others do not? In this paper, we theorize that the level of ethnic voting depends, partially, on how ethnicity interacts with economic cleavages. Specifically, we argue that between-ethnic group inequality (BGI) increases ethnic voting and that its effect strengthens as within-ethnic group inequality (WGI) decreases. We thus posit that the full structure of ethnic inequality matters for ethnic voting, not only between-group differences. After presenting our argument, we conduct the first cross-national test of whether the effect of between group inequality on ethnic voting is conditional on the level of inequality within ethnic groups. Our analysis employs group-level data on 200 ethnic groups from 65 countries. We find strong support for our hypothesis: BGI increases ethnic voting, but its effect is conditional on WGI.

Keywords: ethnic voting, ethnic inequality, economic inequality, ethnic diversity, social cleavages

Supplementary material for this article is available in the appendix in the online edition. Data and materials necessary to reproduce the numerical results in the article are available in the JOP Data Archive on Dataverse (<https://dataverse.harvard.edu/dataverse/jop>).

Across four general elections since the end of South Africa's Apartheid era, the African National Congress (ANC) has won overwhelming majorities, reflecting its dominance of the black vote. While the ANC typically wins around 80 percent of the black vote, the Democratic Alliance (DA) and its predecessors, have won at least the same proportion of the white vote. South Africa's elections have thus been described as a 'racial census' in which the black majority has an unassailable position (Ferree 2006). In such cases, it is easy to imagine that voting according to one's ethnicity reflects the primacy of deeply held racial identities, with relatively stable elections over time suggesting the logic of an 'ethnic head count' (Chandra 2004). Yet, the mere existence of multiple ethnic groups does not always result in high levels of ethnic voting (Posner 2004).

In this paper, we posit that ethnic voting – which we define as the degree to which individuals from different ethnic groups support distinct parties (Huber 2012) – is influenced by how ethnicity interacts with economic cleavages. Specifically, we argue that ethnic voting is particularly elevated when ethnicity and socioeconomic inequality reinforce one another. However, in a departure from prior research, we theorize that the full structure of ethnic inequality matters for ethnic voting. While between-ethnic group inequality (BGI) increases ethnic voting, its effect is conditional on the level of within-ethnic group inequality (WGI): BGI's effect is strongest when WGI is low. When WGI is elevated, however, the effect of BGI is reduced if not eliminated. In other words, we posit that the effect of differences in income across ethnic groups depends on how income is distributed among members of the same groups.

We argue that four mechanisms drive the relationship. First, BGI increases the difference between the preferences over economic policies of members of different ethnic groups. At the same time, a low WGI homogenizes the preferences of members of the same groups. Therefore,

when BGI is high and WGI is low, people from the same ethnic groups are likely to share similar preferences over economic policies and to vote for the same parties. Second, as suggested by research in social psychology and political science on reinforcing and cross-cutting cleavages, an individual's loyalty toward other members of his/her group along one cleavage, such as ethnicity, is stronger when they share membership in the same group along other cleavages, such as class. When BGI is high and WGI is low, people from the same ethnic groups are likely to feel closer to one another and to identify more strongly with co-ethnics, and will thus be more likely to vote along ethnic lines. Third, when BGI is high and WGI low, individuals from different ethnic groups will tend to be members of distinct social networks. Social networks, in turn, influence voting behavior. Fourth, overlapping ethnic and class cleavages facilitate ethnic mobilization by political entrepreneurs.

We use survey data from the Afrobarometer, Latinobarometer, World Value Survey (WVS) and Comparative Study of Electoral Systems (CSES), to develop group-level indicators of ethnic voting as well as BGI and WGI. Our dataset contains over 560 ethnic group-survey year observations and covers 200 ethnic groups from 65 countries between 1995 and 2014. We show that ethnic groups that are either much poorer or much richer than other ethnic groups in their own country are more likely to vote along ethnic lines. However, consistent with our hypothesis, the effect of BGI weakens and eventually loses statistical significance as WGI increases.

This paper improves on existing research in two main ways. First, and most importantly, we argue and empirically demonstrate that ethnic voting is affected by the full structure of ethnic inequality, not only differences between ethnic groups. We provide the first cross-national test of

whether the effect of between group inequality on ethnic voting is conditional on the level of inequality within ethnic groups.¹

Second, our analysis is the first cross-national test of the effect of ethnic inequality on ethnic voting that uses the ethnic group as its main unit-of-analysis.² This is crucial because in many instances different ethnic groups within the same country have very different BGI, WGI, and ethnic voting levels. Using a single aggregate value of BGI (as well as WGI and ethnic voting) for all groups of the same country is thus not appropriate. Our empirical strategy enables us to test whether the BGI and WGI scores of a given group affect the voting behavior of that specific group.

ETHNIC INEQUALITY AND ETHNIC VOTING

Ethnicity is a subset of identity categories in which membership is determined by attributes associated with, or believed to be associated with shared ancestry. This conceptualization of ethnicity encompasses ethnolinguistic, racial, and ethnoreligious groups, but not tribes and clans that conceive of ancestry in strict genealogical terms, nor regions that do not define commonality on the basis of a belief in shared descent (Wimmer, Cederman, and Min 2009).

Ethnic diversity does not necessarily translate into high levels of ethnic voting. We theorize that whether it does or not depends, partially, on how ethnicity interacts with economic cleavages. Where class and ethnic cleavages overlap, we expect ethnic voting to be higher. Specifically, we argue that between-ethnic group inequality (BGI) increases ethnic voting and

¹ Huber and Suryanarayan (2016) and Kolev and Wang (2010) do test the effect of BGI on ethnic voting but do not test whether the effect is contingent on the level of inequality within groups. Moreover, their unit-of-analysis is the country-year, while ours is the ethnic group-year.

² Huber and Suryanarayan (2016) also report a group-level analysis, but it is restricted to India.

that its effect strengthens as within-ethnic group inequality (WGI) decreases. Ethnic groups that are either considerably poorer or richer than other groups in their own country are more likely to vote along ethnic lines, especially when inequality among their members is low. When WGI is high, however, large between group discrepancies may not translate into high levels of ethnic voting. We thus theorize that the full structure of socioeconomic inequality both across and within ethnic groups influences the degree of ethnic voting.

Theories of ethnic politics have long noted the importance of differential resource endowments between groups in sustaining ethnic conflict (Gurr 1970; Huber and Mayoral 2014) and more recently ethnic voting (Huber and Surayanaran 2016). The more ethnic groups are stratified economically, the more likely they are to engage in distinctive political behavior. However, little explicit attention has been paid to how this relationship might be conditioned by levels of inequality within groups themselves (cf. Hechter 1978; Wimmer 2013: Ch. 7).³ Rather, many theoretical models of ethnic politics implicitly assume that high BGI necessitates low WGI (Gurr 1993; Horowitz 1971; Tilly 1998).

However, WGI varies considerably across BGI levels.⁴ As with BGI, the sources of variation in WGI are complex. Empirical research indicates that elevated WGI results from long-standing processes including the types of land and resource endowments historically held by certain

³ Houle (2015), Houle and Bodea (2017), and Kuhn and Weidmann (2015) do look at the full structure of ethnic inequality – i.e., BGI and its interaction with WGI – but they focus on democratic consolidation, ethnic coups, and civil wars, respectively; not ethnic voting.

⁴ See Section 5, online appendix. Figure A10 shows that there is little relationship between BGI and WGI in our dataset. In particular, groups with high BGI are as likely to have high WGI levels as those with low BGI.

groups (e.g., lands requiring irrigation), groups' traditional dominance in economic sectors that generate high levels of inequality (e.g., pastoralism), and groups' cultural practices (e.g., impartible inheritance) (Smith et al. 2010).

Another possible cause of variation in WGI is variation in geographic endowments within the region(s) or area(s) inhabited by a group, at least for larger groups. As argued by Alesina, Michalopoulos, and Papaioannou (2016), differences in geographic endowments between regions occupied by different ethnic groups explain most of the variation in BGI. This argument could also be applied to WGI: a group's WGI should be particularly elevated when there is a lot of inequality in geographic endowments within the region(s) populated by the group. An agrarian group, for example, should have a higher level of WGI if the quality of land in the region(s) it occupies varies widely. Note that according to this argument there should not be any systematic relationship between BGI and WGI: while BGI is influenced by variations in geographic endowments *across* regions inhabited by different groups, WGI depends on variations *within* region(s) occupied by the same group.

Taking account of the interaction between BGI and WGI helps to explain seemingly anomalous cases in which a high level of BGI does not result in elevated ethnic voting. For example, in our dataset, the average BGI levels of the three main ethnic groups in Mozambique, the Tsonga, Shona, and Makua-Lomwé, are at the upper end of the distribution. If only BGI mattered for ethnic voting, we might expect ethnic voting to be high in Mozambique. However, all three ethnic groups have amongst the lowest ethnic voting scores. Other factors no doubt contribute to the lack of ethnic voting in Mozambique, but we posit that the absence of ethnic voting may be partly a result of its major ethnic groups having high levels of WGI. As we demonstrate below, Mozambique is not an isolated case.

There are at least four mechanisms through which the structure of ethnic inequality affects ethnic voting. In the rest of this section, we develop these mechanisms, and critically, show that any causal pathway through which BGI could affect ethnic voting is conditioned by the level of WGI. The mechanisms could operate independently, or more likely, in some combination.

First, an elevated BGI widens the gap between the preferences over economic policies of different ethnic groups. Poor groups are likely to favor poor-friendly policies, such as public health, public education and the provision of social transfers. Rich groups, for their part, are likely to oppose such policies. BGI should thus increase support for redistribution among poor groups but decrease it among rich groups. However, contrary to previous authors who also discuss this mechanism (Huber and Surayanaran 2016), we argue that this effect is conditioned by the level of WGI. When WGI is low, members of the same ethnic groups have similar preferences over economic policies. Thus, a high BGI combined with a low WGI creates ethnic groups that have drastically different policy preferences from one another, but with homogeneous within-group preferences. In South Africa, for example, race acts as an informational shortcut for voters in terms of the policy programs of competing parties (Ferree 2006). That is, because blacks tend to be relatively poor and whites rich, parties representing different groups have different economic platforms (Bratton and Mattes 2003; Ferree 2011). In contrast, where WGI is high, this rationale for ethnic voting is undermined. Members of an ethnic group with high WGI would not share preferences over economic policy; thus, rather than vote along ethnic lines, they may instead vote with cross-ethnics with whom they share economic interests. Since there is no test of this mechanism currently available, we provide original evidence supporting it below.

Second, BGI, when combined with low WGI, strengthens ethnic identification, which, in turn, increases ethnic voting. While the first mechanism is about the effect of the structure of ethnic inequality on policy-preferences, the second mechanism is about its effect on the degree to which people *identify* with their ethnic group. Building on the social psychological literature on the interactive effects of multiple identities (Crisp and Hewstone 2007; Roccas and Brewer 2002) and the classical political science literature on cross-cutting and reinforcing cleavages (Bates 1974; Lipset 1960; Rae and Taylor 1970), we expect an individual's identification with other members of his/her group along one cleavage (e.g., ethnicity, class, religion, geography) to intensify when he/she is in the same group as them along other cleavages. Previous studies indeed find that ethnic identification is weaker when ethnicity is cross-cut by other cleavages (e.g., Dunning and Harrison 2010; Dunning and Nilekani 2013; Ishiyama 2012).

In particular, members of an ethnic group are likely to feel closer to one another if they share membership in the same social class. Individuals should identify more strongly with their ethnicity when: (1) they live under very different economic conditions than members of other ethnic groups (high BGI); *and* (2) they share the same living conditions as other members of their group (low WGI). Under such conditions, members of the same ethnic groups share similar experiences of grievance or abundance, which increases their sense of belonging to the same group (Logan, Zhang, and Alba 2002; Yancey, Ericksen, and Juliani 1976). Padilla (1985), for instance, shows that ethnic identification among Latinos in Chicago is driven in large part by a shared experience of discrimination and economic disadvantage. Moreover, in socially stratified societies where ethnic and class categories overlap, ethnic salience is likely to be especially high as contact with outgroups is minimized (Massey 2007: 56-58). Crucially, the effect of BGI on ethnic identification is conditional on WGI. Individuals' group identification will be undermined

whenever they do not live under the same conditions as other members of their group or do not share a common group history of deprivation or advantage. Recent work by Higashijima and Houle (forthcoming) supports the idea that BGI increases ethnic identification but only when WGI is low.

In turn, the stronger the sense of in-group identification, the more likely group membership is to affect political behavior in general, and voting behavior in particular (Conover 1988). In the United States, for example, the more intensively that individual Latinos identify with the broad Latino group, the higher their level of political participation and the greater the likelihood of their mobilizing for Latino-specific causes (Barreto and Pedraza 2009; Masuoka 2008).

Third, and relatedly, when BGI is high and WGI low, individuals will tend to be in the same social networks as their co-ethnics but in different networks to members of other groups. For example, high BGI and low WGI make it more likely that groups will live in distinct ethnically homogenous neighborhoods,⁵ work in different occupational niches, attend different schools, have different hobbies, etc. (Burgess, Wilson, and Lupton 2005; Hechter 1978; Iceland and Wilkes 2006). In turn, individuals should be more likely to vote along ethnic lines when they are in the same social networks as their co-ethnics. Political preferences are not formed in isolation;

⁵ Although we argue that the structure of ethnic inequality affects whether different groups occupy distinct neighborhoods or localities, we do not claim that it affects the distribution of groups across territories such as states or provinces, which is more likely to be determined by long term historical factors. For example, ethnic inequality does not explain why, in Canada, French-speakers are concentrated in the province of Québec, but it is one of the factors that help explain why French- and English-speakers tend to live in different neighborhoods within the same provinces (the latter tend to live in richer areas).

rather, they are in part a product of the political preferences and affiliations of all of the members in an individual's social network (Beck et al. 2004; McKenzie 2004; Pietryka and DeBats 2017). People prefer to avoid conflict with those in their close social networks, and tend to adapt to prevailing political preferences in order to fit in (Mann and Sinclair 2013). Dense social networks that cluster along socioeconomic and ethnic lines thus make it more likely that co-ethnics will vote for the same parties because of social pressure (Sokhey and McClurg 2012). Where WGI is high, however, the effect of peer influence is mitigated. When group members inhabit social worlds increasingly stratified by class, the networks linking members of an ethnic group weaken and the likelihood of individuals belonging to multi-ethnic social networks increases.

Fourth, when WGI is low, BGI facilitates ethnic mobilization by political entrepreneurs. Under such conditions, the cost of mobilizing voters along ethnic lines is reduced while the cost of mobilizing across ethnic lines is increased. For one thing, reinforcing class and ethnic cleavages make it easier for politicians to mobilize voters by distributing patronage along ethnic lines. For example, residential segregation and occupational concentration enable politicians to precisely target members of a group by constructing a new road or a school in that group's neighborhood, or by giving government contracts to firms which are dominated by a particular ethnic group. Critically, moreover, ethnic concentration in distinct electoral wards facilitates the monitoring of voter behavior by party brokers (Schneider 2015).

Overlapping ethnic and class cleavages also facilitate mobilization even when political entrepreneurs employ tactics that do not involve patronage. For example, activities such as face-to-face mobilization are geographically exclusive; a canvasser deployed in one neighborhood cannot be deployed in another. Similarly, political parties can collectively

mobilize voters through allied labor unions or other workplace agents (e.g., Buffa 1984). Therefore, if members of different ethnic groups work in different sectors of the economy, they will be more likely to vote for different parties.

Our emphasis on how WGI mitigates the effect of BGI on ethnic voting is a critical departure from other research on this subject (e.g., Huber and Surayanaran 2016; Kolev and Wang 2010). While the previous literature has focused on how differences across groups affect ethnic voting, this paper shows that the *internal characteristics* of groups also matter. We theorize that the effect of between group differences in income is *conditional* on how income is distributed among members of the group. While other authors include WGI as a control variable, they do not examine whether the effect of inequality between groups depends on how income is distributed within groups. Yet, the four mechanisms suggest that BGI's effect is contingent on WGI.

DATA

This section discusses the conceptualization and operationalization of our dependent and independent variables along with other features of our dataset. The unit-of-analysis is the ethnic group survey-year. The sample covers 563 observations on 200 ethnic groups from 65 countries between 1995 and 2014. To capture our dependent variable (ethnic voting) and our independent variables (BGI and WGI) we employ data from the World Value Surveys (WVS), Afrobarometer, Latinobarometer, and Comparative Study of Electoral Systems (CSES). These surveys contain information on the ethnicity of respondents as well as their preferences over political parties and some indicators of their wealth or income (see below). For each observation, we use the *same* survey to capture both ethnic voting and ethnic inequality. We discuss issues relating to the representativeness of the surveys below.

Ethnic groups are identified using the Ethnic Power Relations (EPR) dataset (Wimmer et al. 2009). The EPR only includes politically relevant groups (see Section 2 of the online appendix for further details). Many of the countries that are missing in our dataset are excluded because the EPR codes them as ethnically homogeneous (e.g., Lesotho). Table A1 (online appendix) provides summary statistics for all variables used in the analysis. Table A2 lists the country covered.

Dependent Variable

We define ethnic voting as the extent to which people of a given ethnic group vote for different parties than other groups from the same country. According to this definition, a group has a low level of ethnic voting if its members vote the same way as members of other groups in the same country, and a high level if they vote differently from them. The concern is thus with how groups distribute their votes rather than with the characteristics of parties or candidates themselves. For example, according to our conceptualization, the ethnic voting of African Americans in the United States is high because they vote overwhelmingly for the Democratic Party and hardly at all for the Republican Party. This is the case despite the facts that the Democratic Party is not a self-described ethnic party and that most Democratic Party candidates are not African Americans. Section 3 of the online appendix provides further information on this conceptualization/operationalization and on the reasons why we did not use an alternative definition/measure.

To measure ethnic voting, we use the answers given by the respondents to estimate the proportion of the members of each group that supports each party. The questions on party preferences differ somewhat across surveys. For example, the WVS, the Latinobarometer and rounds 3-5 of the Afrobarometer ask for which party the respondent would like to vote if there

were an election in the near future. The CSES asks for what party the respondents voted in the last elections. Finally, rounds 1 and 2 of the Afrobarometer ask to which party respondents feel the closest. Table A7 (online appendix) lists the exact questions we employ for each survey/round.

Our group-level indicator of ethnic voting (EV) measures the degree to which members from a given ethnic group vote differently from other groups of the same country. It is based on the measure developed by Huber and Suryanarayan (2016)⁶ and is given by the following equation:

$$EV_i = \sqrt{\frac{1}{2} \sum_{j=1}^p (v_{j,i} - v_{j,-i})^2}$$

where i is a given ethnic group, j is a given political party, p the total number of political parties, $v_{j,i}$ the proportion of members of ethnic group i that votes (supports) political party j , and $v_{j,-i}$ the proportion of members of ethnic groups *other* than group i that votes (supports) political party j .

EV could range between 0 and 1, where 0 indicates that members of group i vote in exactly the same way as other groups from the same country. In the dataset, EV ranges between 0.01 (Uzbeks, Kyrgyzstan) and 0.777 (Afrikaners, South Africa). The measure captures the degree to which voting preferences differ between groups. Table A8 (online appendix) presents several scenarios that illustrate how the ethnic voting scores have been calculated.

Since we construct our ethnic voting measure using survey data rather than actual voting records, our main sample includes a number of countries typically coded as non-democracies.

⁶ Our measure differs somewhat from theirs in that while they calculate the difference in ethnic voting between pairs of groups, we compare a group to all other groups from the same country.

However, only the CSES asks the respondents to identify the party they actually voted for. The other surveys instead ask them to identify the party they feel closer to or the one they would like to vote for. Unlike voting records in non-democracies, which may be constrained by formal and informal restrictions, we do not expect that party preferences expressed in the surveys we use to be systematically biased. Our results are unchanged if the sample is restricted to partial and full democracies (models 3-4, Table 1), or to full democracies only (Table A25, online appendix).

Independent Variables

In addition to asking the ethnicity of the respondents and their preferences over political parties, the Afrobarometer, Latinobarometer, CSES and WVS ask a number of questions that can be employed to construct indicators of the income/wealth of the respondents. Once again, the questions differ somewhat across surveys. The CSES asks the income quintile in which the respondent finds him/herself. The WVS and the Latinobarometer ask respondents to place themselves on a scale from 1 to 10, where 10 is the richest.

However, the Afrobarometer has no question on income. Most countries it covers are poor and a large fraction of their citizens do not have access to monetized income (Bratton 2008). The Afrobarometer, however, has questions about the ownership of a number of assets: a radio, television and motor vehicle. We follow previous authors and construct an asset-based wealth (ABW) indicator of economic well-being (e.g., Dionne, Inman, and Montinola 2014; Houle 2015). It ranges from 0 (the respondent owns none of the assets) to 3 (he/she owns all of the assets).

We use information on the ethnicity of the respondents to construct measures of BGI and WGI for each ethnic group of each country. We measure BGI as follow:

$$BGI_i = \left[\log \left(\frac{g_i}{G_{-i}} \right) \right]^2$$

where g_i refers to the average income (or ABW score) of members of ethnic group i , and G_{-i} to the average income (or ABW score) of members of *other* ethnic groups. We thus calculate BGI in a very similar manner as Cederman, Weidmann, and Gleditsch (2011) and Houle (2015). The only difference between our formula and theirs is that in our case G_{-i} gives the average wealth of individuals from the same country but from different groups, while they use the average wealth of *all* individuals from that country (including the group for which they are calculating BGI).

This point is important because EV_i compares the voting behavior of group i with that of *other* groups of the same country (as captured by $v_{j,-i}$), not the voting behavior of all citizens of the country. Therefore, our measures of ethnic voting and BGI are consistent. Moreover, including the income of all groups in the denominator tends to underestimate the BGI value of large groups because such measures include many of the same individuals in the numerator and denominator. Section 6 of the online appendix shows that, contrary to measures that include all groups in the denominator, our approach does not systematically underestimate the BGI level of large groups.

The within-ethnic group inequality (WGI) of a given ethnic group is calculated as the Gini coefficient among its members. For all countries, we calculate a Gini coefficient for each group separately. The Gini coefficient is computed using the command ‘ineqdec0’ in STATA. BGI_i thus measures inequality between a typical member of ethnic group i and a typical member of another group from the same country, and WGI_i the level of inequality among members of group i . Section 4 of the online appendix provides more information on the indicators of BGI and WGI.

It also discusses some of the alternative measures available. Table A13 shows that the results are unchanged if we use the measures of Houle (2015) or Kuhn and Weidmann (2015).

The correlation between *BGI* and *WGI* is only 0.047. Section 5 of the online appendix provides more information about the relationship between *BGI* and *WGI*. Scatter plots show that there is little relationship between *BGI* and *WGI*. Therefore, it makes sense to look at the effect of *BGI* at different levels of *WGI*.

One potential limitation with our approach is that there may be systematic differences between the indicators calculated from the diverse surveys used in the analysis. In particular, the wealth scales on which the *BGI* and *WGI* values are based differ across surveys. In the main analysis, we employ survey fixed-effects to account for this issue. This follows the common practice in the literature (e.g., Huber 2012). It must be noted, however, that the indicators of Houle (2015), which we use in Table A13, have been standardized across surveys. Furthermore, our results are robust when we standardize the observations by taking advantage of the fact that there is some (albeit limited) overlap across surveys (Table A14, online appendix).

Survey Representativeness

There are three potential problems associated with the use of survey data to create measures of *BGI*, *WGI* and ethnic voting, all of which are related to the representativeness of the surveys at the group-level. The first problem is that surveys have few respondents on some ethnic groups. In order to minimize this issue, we retained only ethnic group-survey observations with at least 30 respondents (findings are unchanged if the threshold is increased to 40, Table A36).⁷ Figure

⁷ For the ethnic voting indicators, we also exclude parties with fewer than 20 respondents. Results are unchanged if we only include parties that have at least 30 or 40 voters (Tables A37-A38).

A1 (online appendix) shows a histogram of the survey samples of all observations included in the analysis. To make sure that the results are not driven by observations with few respondents, we show that they are robust when we exclude observations with less than 50, 75 or 100 respondents (models 1, 2 and 3 Table A3, respectively), or when we omit small ethnic groups (Table A4).

The second problem is that the survey samples may not be representative of the ethnic composition of the countries. For example, some groups may be less likely to be captured by the surveys. Table A5 lists all the politically relevant groups that are included and missing for each country in our analysis, along with their size and political status (taken from the EPR). Groups that are missing are usually small, because these groups tend to have fewer respondents (see Section 2 of the online appendix). Very few large groups are missing. Only 18 out of 195 ethnic groups that comprise at least five percent of the population of their country are missing in all surveys.

Relatedly, it is possible that, among groups that are included in the analysis, some are overrepresented in the samples, while others are underrepresented. We address this issue by constructing a histogram for each country/survey/year that compares the number of respondents on each ethnic group in the sample (top panel) to the group size of each ethnic group in the full population (bottom panel) according to the EPR (Figure A22). On average, the samples from the surveys are fairly representative of the overall population. Importantly, there is little evidence that ethnic minorities tend to be underrepresented. Moreover, there are few large groups for which our indicators rely on a low number of respondents. For example, there are only three groups that represent at least 20 percent of the population of their country on which we have less

than 80 observations in at least one survey. Our results are not driven by these cases since our findings are unchanged when we exclude observations based on less than 100 respondents.

The third problem is that although the surveys are constructed to be representative along several key demographics at the national-level, they may not be representative at the group-level. For example, a survey could overrepresent the poor members of a given ethnic group, which would create substantial measurement error in BGI and WGI. This problem is potentially more severe for groups with few respondents, so the fact that the results are robust when groups with few respondents are omitted mitigates (but does not eliminate) these concerns.

Unfortunately, we do not have the information necessary to be certain that the samples are representative at the group-level. If we had detailed knowledge of the proportion of members of every group that is poor, for example, we would not need to use these surveys to calculate BGI and WGI in the first place. However, we ran three additional sets of analyses in order to assess the potential unrepresentativeness of the surveys at the group-level. These analyses focus on dimensions other than income. The first looks at whether the survey samples are representative in terms of the gender composition of the groups. In most groups (and countries), the gender composition should be roughly 50:50. We find that only 24 out of 563 ethnic group-survey observations (4.26 percent) have unrepresentative gender ratios – defined as gender ratios outside the 40:60 bounds. At the same time, 4 out of 196 country-surveys (2.04 percent) have unrepresentative gender ratios. We run a test to assess whether the difference between the two proportions is statistically significant, and we find that it is not (p -value=0.1557).

The second set of analyses compares the samples from the surveys with ethnic group-level and national-level data from national censuses along several dimensions: average age, age composition (e.g., proportion of individuals 20-25 years old), educational attainment (e.g.,

proportion of individuals with a college degree), and the proportion of individuals living in urban areas. Ethnic group-level censuses are not available for all countries, so the analyses on age, education and urban/rural distribution are based on 12, 7 and 16 countries, respectively. First, we show that the ethnic group-level data from the surveys are highly correlated with those from the censuses (see Table A6). The correlation levels between the group-level surveys and census data range between 0.6815 and 0.8845 and are always significant at the 0.01 percent level.⁸ Second, we also calculated the correlations between the surveys and the censuses at the national-level. For 3 out of 4 variables, the surveys are actually more representative (i.e., the correlation is higher) at the group- than at the country-level. The only exception is for ‘age composition,’ and even in that case the difference between the group- and country-level correlations is marginal and not statistically significant (p -value=0.1556). Therefore, the sample surveys are fairly representative in terms of the gender ratio, age, education and urban/rural distribution at the group-level, and there is little evidence that they are more representative at the national- than at the group-level along these dimensions.

In the third set of analyses, we have recalculated BGI, WGI and ethnic voting using weights to account for the potential lack of representativeness of the ethnic group-level samples. We chose to focus on the proportion of individuals living in urban areas since this is the dimension for which census data is the most widely available. Moreover, misrepresentation along this dimension may create particularly serious measurement error because individuals living in rural

⁸ These correlations are very high given that the censuses and surveys are often not conducted in the same years and that categories are not always defined the same way. For example, a survey could define urban areas as those with at least 6,000 inhabitants and the corresponding census as those with at least 5,000 inhabitants.

areas are often poorer. Among groups for which urban individuals are overrepresented, urban respondents have a weight lower than one and rural respondents a weight higher than one, while we do the opposite when urban individuals are underrepresented. The correlation levels between the BGI, WGI and ethnic voting values used in the main analysis and those that have been weighted are very high: 0.9627, 0.9959 and 0.9882, respectively.

To be clear, these analyses do not completely solve the issue. For example, the group-level samples could be representative in terms of gender, age, education and urban/rural distribution but not income. Moreover, the additional analyses (with the exception of the one on gender) cover a relatively small number of countries, that may not be representative. Thus, we redo our main analysis with indicators of BGI and WGI that are not constructed from survey data. We use the measures of Kuhn and Weidmann (2015), who use Geographic Information Systems (GIS) data on light emissions along with maps on ethnic group settlement. To our knowledge, these are the only authors that provide *ethnic group-level* measures of BGI and WGI based on GIS. Results are unchanged (model 1, Table A13). However, measures based on GIS also have some limitations. In particular, they have difficulty distinguishing between members of different groups when they live in the same urban areas (Huber and Mayoral 2014). Ultimately, the consistency of our results across measures mitigates concerns over measurement.

Control Variables

Since it is difficult to control for all possible country-level determinants of ethnic voting, our main models include country fixed-effects (although we also run the analysis without country fixed-effects). The analysis also uses a number of group- and country-level control variables. We control for the size of the ethnic group (EPR), which may be related to the salience of ethnicity (Posner 2004), as well as a dummy variable for politically excluded groups (EPR).

Moreover, it is possible that ethnic inequality has a stronger effect on ethnic voting among poor groups. Previous research has shown that subordinate (poor) groups are more sensitive to relative group status than dominant (rich) groups (Miller et al. 1981). We include a dummy variable (*Poor*) that takes the value one if the ethnic group's income (or ABW) is lower than that of the other ethnic groups of the same country included in the analysis. Among the time-variant country-level controls, we include GDP per capita (logged) (World Bank). It is also possible that ethnic voting will be more important in weak democracies since programmatic political parties are less likely to be established. We control for the Polity score.

The regressions that do not include country fixed-effects control for additional time-invariant country-level variables. As shown by Huber (2012), democracies with proportional representation (PR) are likely to have less ethnic voting. We include a dummy variable that takes the value one if a country has PR (Bormann and Golder [2013] and Johnson and Wallack [2012]). We also control for ethnic fractionalization (EPR). Decentralization could influence ethnic voting. Therefore, we include a dummy variable for federalism (Treisman 2008). Parliamentarism tends to strengthen political parties and so we include dummy variables for presidential and semi-presidential systems based on the Database of Political Institutions (Cruz, Keefer, and Scartascini 2016). We add dummy variables for each survey (the CSES is the excluded dummy).

EMPIRICAL STRATEGY

All models use ordinary least squares. We test our hypothesis by including an interaction between *BGI* and *WGI*. Our hypothesis would be supported if the coefficient on *BGI* is positive and that on the interaction term is negative.

Two caveats are in order. First, we do not examine whether changes in the BGI and WGI scores of a given ethnic group over time lead to changes in its level of ethnic voting (i.e., we do not include ethnic group fixed-effects). Our dataset simply does not exhibit enough variation in *BGI* and *WGI* within ethnic groups over time to test such a relationship. In fact, many previous studies have assumed that BGI, WGI or cross-cuttingness are constant over extended periods of time (e.g., Cederman et al. 2011; Selway 2011). Moreover, it is well-known that once parties have been formed and support bases established, party identification has a substantial degree of inertia (Converse 1976; Green and Palmquist 1994). That is, voters come to identify with parties *per se*, even if the policies pursued by those parties no longer best reflect their material interests. Thus, even if there is some change in the relative levels of BGI and WGI over time, political realignments are likely to lag such economic changes, perhaps by as much as a generation (Bates 1974). In the United States for example, African American voters continue to vote overwhelmingly for the Democratic Party, even as WGI has increased in recent decades with the growth of an African American middle class (Dawson 1994).

Second, it is possible that ethnic voting might cause, or contribute to, ethnic inequality. If an ethnic group votes along ethnic lines, its representatives could adopt policies that favor that particular group, which would increase its income/wealth. If the group is rich (i.e., if its average income is higher than the average income of members of other groups in the country), that would increase its BGI level; potentially creating reverse causation. Limitations with our dataset prevent us from adopting strategies to address endogeneity fully in our analysis.

Although it is an important limitation, we do not believe that reverse causation drives our results. First, ethnic voting is only likely to increase the BGI level of rich groups. Policies that increase the income/wealth of poor groups would *decrease* their BGI level; meaning that, among

poor groups, reverse causation is likely to reduce the estimated effect of BGI. In Table A27 of the online appendix, we redo our analysis with interaction terms between *BGI*, *WGI*, *BGI*WGI* and *Poor*. Results show that the effect of ethnic inequality is the same in poor and rich groups (i.e., none of the interactions are significant).

Second, evidence suggests that ethnic inequality significantly predates the formation of contemporary state institutions, and therefore, ethnic voting. For example, Alesina et al. (2016: 1) study “the roots of ethnic inequality and establish that differences in geographic endowments across ethnic homelands explain a sizable fraction of the observed variation in economic disparities across groups.” They estimate that about 55 percent of the variation in ethnic inequality across countries is explained by variation in geographic endowments across groups. Thus, variation in the geographical distribution of endowments across ethnic homelands rather than ethnic voting seem to be the main determinant of ethnic inequality. In fact, BGI is remarkably slow moving within ethnic groups over time.

Third, in Section 9 of the online appendix, we perform an instrumental variable analysis. We instrument for BGI using the data on the geographical distribution of endowments across ethnic groups of Alesina et al. (2016). Unfortunately, we are only able to do the analysis at the country-level, since the data on geographic endowments is not available at the group-level. On balance, results are robust. Like most instruments, this one has important limitations, notably because it may not be completely exogenous. Geographic endowments could directly affect the capacity of groups to establish parties by providing resources that can be employed to develop the party and build patronage networks. This test should thus be interpreted with caution.

EMPIRICAL ANALYSIS

In Table 1, we estimate the effect of the structure of ethnic inequality on ethnic voting. Model 1 includes all countries, regardless of their regime, as well as country fixed-effects. The coefficients on both *BGI* and *BGI*WGI* are of the expected signs (positive and negative, respectively) and are statistically significant at the 1 percent level. *BGI* increases ethnic voting when *WGI* is low but its effect diminishes as *WGI* increases.

[Table 1 about here]

[Figure 1 about here]

Panel A of Figure 1 shows the marginal effect of *BGI* at different levels of *WGI* along with 95 percent confidence intervals. *BGI* increases ethnic voting until *WGI* attains a value of about 0.37, which represents approximately 76 percent of the sample. Above this threshold, however, the effect of *BGI* is no longer significant. Panel B of Figure 1 plots the effect of *BGI* on the predicted ethnic voting value for ethnic groups with low (10th percentile of the *WGI* distribution) and high (90th percentile) *WGI* levels. While increasing *BGI* increases ethnic voting sharply for groups with low *WGI*, it has no discernible effect for those with high *WGI*.

Model 2 redoes model 1 without country fixed-effects. Models 3 and 4 redo models 1 and 2 with only partial and full democracies, measured as countries with a Polity score of at least one. In Table A25 of the online appendix, we also redo the analysis with only countries that are full democracies (Polity score of at least six). Results are robust. Figures A18-A20 of the online appendix plot the marginal effect of *BGI* based on models 2-4 of Table 1.

Our findings on the control variables are consistent with those of the previous literature (in particular Huber [2012]). We find that PR and federalism decrease ethnic voting and that richer countries have more ethnic voting. Moreover, larger groups are less likely to vote along ethnic

lines. We also have novel findings. For example, we find that presidential systems have less ethnic voting, presumably because they tend to have weaker parties.

Preferences for Redistribution

This section provides original empirical evidence in favor of our first mechanism, according to which BGI should increase the gap between the preferences over redistribution of rich and poor groups, especially when WGI is low. We do not directly test the second mechanism because there is already an article that provides such a test using BGI and WGI measures similar to ours (Higashijima and Houle, forthcoming). Using the Afrobarometer, they show that BGI increases the likelihood that a respondent identifies more strongly with his/her ethnicity than his/her nationality, and that BGI's effect weakens as WGI increases. No such evidence is currently available for the first mechanism. Mechanisms three and four are not directly tested either, but they draw extensively on the literatures on social networks and mobilization.

The tests are presented and discussed in detail in Section 10 of the online appendix. Using multiple questions from the surveys, we develop an indicator of the degree to which members of each ethnic group support redistribution (questions are listed in Table A23). Table A24 tests the effect of the structure of ethnic inequality on support for redistribution among poor and rich groups. To do so, we include *BGI*, *WGI*, *BGI*WGI* and their interactions with *Poor*. Among rich groups, BGI decreases support for redistribution and its effect weakens as WGI increases. Moreover, the two interaction terms between *BGI/BGI*WGI* and *Poor* are of the expected signs (positive and negative, respectively) and significant at the 1 percent level. This indicates that BGI indeed increases the gap in preferences over redistribution between rich and poor groups when WGI is low. This is the first test to show that the structure of ethnic inequality has different effects on support for redistribution among rich and poor groups.

Robustness Tests

The online appendix shows that the results are robust to additional tests. First, in the main text our unit-of-analysis is the ethnic group. In Section 8 of the online appendix, we present a country-level analysis using country-level indicators of ethnic voting that are similar to those of Huber (2012). On balance, we find that countries with high BGI have more ethnic voting. Again, the effect of BGI weakens as WGI increases. This analysis improves upon the most extensive country-level tests available. For example, while Huber and Suryanarayan's (2016) cross-national test focuses on 13 countries, ours covers more than 60 countries. Kolev and Wang (2010) cover 81 countries, but only examine the effect of BGI on ethnic voting, not its interaction with WGI.⁹

Huber and Suryanarayan (2016) make the argument that BGI should be more relevant to countries with majoritarian as opposed to PR electoral systems. According to these authors, BGI is not relevant in PR systems because party entry is easy, and so parties representing the same ethnicity compete with one another. WGI, however, encourages internal splits in PR systems. In contrast, although we agree that PR should reduce ethnic voting, we argue that the structure of ethnic inequality is relevant regardless of the electoral system in place. Under a majoritarian system with two dominant parties, members of the same group should become more likely to support the same party as BGI increases, especially when WGI is low. Even under PR, however,

⁹ Moreover, Section 7 follows the approach of Huber and Suryanarayan (2016) and uses the ethnic group-pair as its unit-of-analysis. There are two main problems with using the ethnic group-pair: (1) it does not enable us to test whether the effect of BGI is contingent on WGI, which is our central argument; and (2) it assumes that all ethnic group-pairs are potentially equally relevant.

BGI increases the incentives of individuals from the same ethnic groups to support the same parties, and its effect should decrease as WGI increases because of the emergence of internal splits. In Table A26, we add interaction terms between *BGI*, *WGI*, *BGI*WGI* and *PR*. Table A20 redoes the test at the country-level. We find no evidence that the effect depends on the electoral system.

One could argue that the effect of ethnic inequality may be different for poor and rich ethnic groups. For example, poor groups may be more likely to resent inequality. In Table A27, we redo the analysis with interaction terms between *BGI*, *WGI*, *BGI*WGI* and *Poor*. Our findings suggest that the effect of BGI is similar in poor and rich groups. This finding contradicts the expectations of a number of previous authors who argue that the effect should be strongest among poor groups (e.g., Hechter 1978; Miller et al. 1981). These results suggest that ethnic inequality does not influence political behavior only by generating grievances.

Moreover, it could be countered that as WGI increases, wealthier political entrepreneurs have more resources to mobilize their poorer co-ethnics, which would facilitate mobilization (Tilly 1978). We argue against this view for a number of reasons. First, while private resources can be used to mobilize voters, political entrepreneurs can also employ public resources, which weakens the link between politicians' wealth and their capacity to mobilize voters. Second, as noted above, low WGI reduces the cost of ethnic mobilization, meaning that politicians need fewer resources to mobilize the group. Third, groups do not need to be mobilized by co-ethnics, African Americans mobilized by white politicians being a case in point (Katznelson 1973). Fourth, low WGI would be no barrier to mobilization in rich groups as potential group leaders should have ample resources. As shown above, results do not depend on whether the group is rich or poor.

However, one could argue that this is an empirical question. Although our results show that BGI's effect does not strengthen as WGI increases, it could be strongest at middle levels of WGI: under such conditions, the group would be relatively homogeneous and its elites would have enough resources to mobilize its members. In the online appendix, we show that the effect of BGI is not strongest among groups with intermediate WGI levels (Table A33, Figure A21).

Tables A9-A11 show that the results are not driven by outliers on BGI, WGI and ethnic voting. For each variable, we exclude, in turn, observations that have values below the 1st percentile, below the 5th percentile, above the 95th percentile, and above the 99th percentile of the distribution. We also calculate the Cook's distance of each observation, and drop observations with a Cook's distance above $4/n$ (Table A12).

Results are robust to additional control variables. First, the geographical dispersion of groups could affect both ethnic inequality and the capacity of groups to mobilize, which could create a spurious relationship between the two. For example, groups that are concentrated within one region may find it easier to organize around the same party. At the same time, groups that live in different regions may have very different income levels than other groups from the same country. Thus, we redo the analysis with variables from the Geo-EPR that distinguish between geographically dispersed and concentrated groups (Table A35; variable descriptions in the note below the table).

Second, to deal with the possibility that ethnic voting and ethnic inequality may be due to the type of party-voter linkage system, Table A30 includes a measure (*Material Exchange*) from the Database on Political Linkages (DALP) that captures the degree to which party linkages rely on patronage (Kitschelt 2013). Third, Eifert, Miguel, and Posner (2010) argue that ethnic voting is more prevalent in countries in which elections are competitive. We control for

competitiveness, calculated as the vote share differential between the two candidates (or parties) with the first and second most votes in the previous election from the Database of Political Institutions (Table A29). Fourth, some countries have imposed bans on ethnic parties. Unfortunately, data on ethnic party bans are only available for sub-Saharan Africa. Table A31 includes a control for whether a country has an ethnic party ban (Moroff 2010). We also show that the effect does not depend on whether there is a ban or not. Fifth, Tables A28 and A32 redo the analysis with district magnitude (logged) and variables for open and closed list PR (Database of Political Institutions) rather than the *PR* dummy variable.

Finally, we make sure results are not affected by multicollinearity, especially between *BGI* and *WGI*. We calculate the variance inflation factor (VIF) of all variables based on model 2 of Table 1 (excluding the interaction term). None of the variables has a VIF above 10, which is the threshold usually used to detect multicollinearity. *BGI* and *WGI* have a VIF of 1.18 and 2.42, respectively.

CONCLUSION

This paper argues and empirically demonstrates that ethnic voting depends on the full structure of ethnic inequality. More specifically, the effect of *BGI* on ethnic voting is contingent on *WGI*: *BGI* increases ethnic voting, but the magnitude of its effect decreases as *WGI* increases. This is the first cross-national empirical test of whether the effect inequality between ethnic groups on ethnic voting is conditional on the level of inequality within ethnic groups.

Our results have important implications for the study of ethnicity and voting. Crucially, they point to the importance of looking at the full structure of social cleavages rather than each cleavage in isolation (Lipset 1960). The existence of different ethnic groups by itself does not cause ethnic voting. Other factors seem to be needed to explain why in some instances people

vote along ethnic lines while in others they do not. In this paper, we have shown that how ethnicity interacts with economic cleavages is one of these factors. Our findings suggest that ethnicity has more influence on voting behavior when it is reinforced by inequality. Moreover, while much previous research has assumed that a high level of inequality between groups necessarily implies a low level of inequality within them, we show that this is not the case. Rather, our findings indicate the need to take account of the conditioning effect of within group differences when considering the effect of between group cleavages on political behavior.

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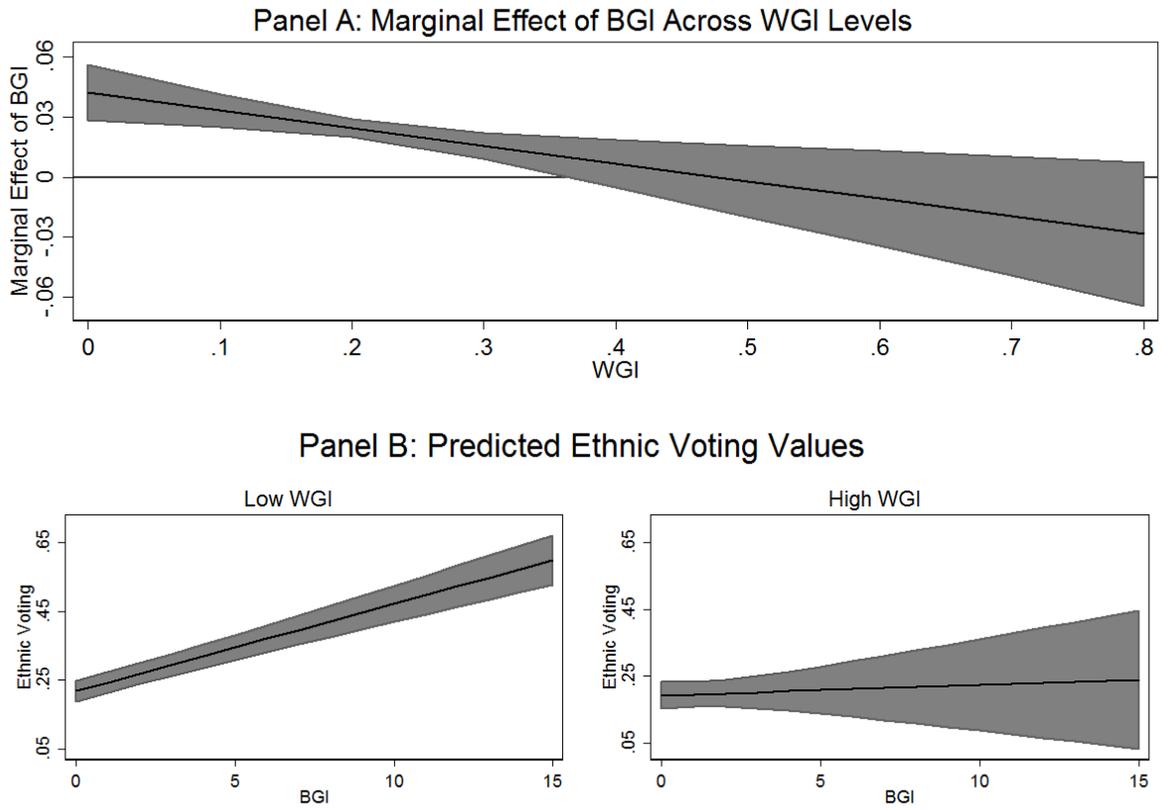
Christian Houle (houlech1@msu.edu) is an assistant professor of political science at Michigan State University, East Lansing, MI 48824. Paul D. Kenny (paul.kenny@anu.edu.au) is a fellow of Political and Social Change at Australian National University, Canberra, ACT 2601, Australia. Chunho Park (parkchu7@msu.edu) is a fixed-term assistant professor of political science at Michigan State University, East Lansing, MI 48824.

Table 1. Effect of the Structure of Ethnic Inequality on Ethnic Voting

	All Regimes		Partial and Full Democracies	
	(1)	(2)	(3)	(4)
BGI	0.0422*** (0.00691)	0.0436*** (0.0107)	0.0430*** (0.00724)	0.0395*** (0.0114)
WGI	-0.0982 (0.137)	-0.0958 (0.132)	-0.111 (0.153)	-0.166 (0.153)
BGI*WGI	-0.0882*** (0.0305)	-0.103** (0.0398)	-0.0929*** (0.0299)	-0.0873** (0.0435)
Group size	-0.0579** (0.0268)	-0.0736** (0.0357)	-0.0670** (0.0301)	-0.0854** (0.0401)
Poor	-0.0115 (0.0111)	-0.00951 (0.0139)	-0.00662 (0.0117)	-0.00465 (0.0151)
Excluded	-0.0162 (0.0215)	-0.0399 (0.0278)	-0.0322 (0.0239)	-0.0482 (0.0318)
GDP pc (logged)	0.0255** (0.0126)	0.0178* (0.00974)	0.0275** (0.0129)	0.0308*** (0.00981)
Polity score	-0.000170 (0.00773)	0.00602** (0.00233)	-0.0198* (0.0109)	-0.00809 (0.00825)
Ethnic fractionalization		0.00461 (0.0798)		0.0374 (0.0852)
Federalism		-0.0639** (0.0287)		-0.101*** (0.0285)
PR		-0.0739** (0.0295)		-0.0871*** (0.0310)
Presidential		-0.0639** (0.0320)		-0.0557* (0.0309)
Semi-Presidential		0.0354 (0.0675)		0.0441 (0.0680)
Latinobarometer	0.0152 (0.0191)	-0.111** (0.0432)	0.00698 (0.0200)	-0.132*** (0.0464)
WVS	0.0182 (0.0187)	-0.0271 (0.0348)	0.0167 (0.0204)	-0.0377 (0.0356)
Afrobarometer	0.00634 (0.0242)	-0.0372 (0.0445)	0.00215 (0.0265)	-0.0748 (0.0503)
Country FEs	Y	N	Y	N
# Countries	65	65	58	58
# Ethnic groups	200	200	175	175
N	563	563	507	507
R2	0.666	0.328	0.672	0.350

Note: OLS estimates. Robust standard errors, clustered by country, in parentheses. BGI refers to between-group inequality; WGI refers to within-group inequality. *** p<0.01, ** p<0.05, * p<0.1.

Figure 1. Marginal Effects and Predicted Values



Note: Based on Model 1 of Table 1. Shaded areas represent 95 percent confidence intervals. Panel A gives the marginal effect of BGI across WGI values. Panel B gives the effect of BGI on the predicted ethnic voting value when WGI is low (left) and when WGI is high (right). BGI refers to between-group inequality; WGI refers to within-group inequality.