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Article abstract

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# Ethnic Inequality and Anti-authoritarianism in Sub-Saharan Africa

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Is ethnic inequality associated with aversion to authoritarian regimes and increase support for democracy as a means of influencing redistribution? Using four rounds of Afrobarometer panel data, covering 29 African countries and 353 distinct ethnic groups, and an ordered logistic model, we show that a rise in Between-ethnic inequality (BGI) is associated with an increase support for anti-authoritarianism and that its effects strengthen as Within-ethnic inequality (WGI) decreases. We find that individuals most strongly support democracy when ethnic identity is reinforced by economic inequality. We also show that support for a change of regime is reinforced when some ethnic groups believe they are politically excluded from government.

*Keywords:* Ethnic inequality, Wealth inequality, anti-authoritarianism, democratic support, sub-Saharan Africa.

*JEL Classifications:* I31, I38, O21

## 1 Introduction

This paper investigates whether the distribution of wealth between and within different ethnic groups shapes individual preferences for particular political regimes in sub-Saharan Africa. Literature on consolidation of democracy posit that ethnic inequality breeds political violence (Cederman, Weidmann, and Gleditsch, 2011; Gubler and Selway, 2012; and Østby, 2008), impedes economic development (Alesina, Michalopoulos, and Papaioannou, 2016), reduces the provisions of public goods (Baldwin and Huber, 2010) and destabilizes democracy (Houle, 2015). Acemoglu, Chaves, et al. (2016) argues that inequality between social cleavages harms democracy by stirring redistributive conflicts. Also, ethnic inequalities in a country encourages individuals to vote along ethnic lines (Houle and Bodea, 2017). In electoral political systems, ethnicity serves as a useful tool for mobilizing people and building coalitions that can be de-

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ployed to seize power so that ethnic disparity is intrinsically tied to political competition. Although ethnic inequalities have been identified as a determinant of individuals voting behavior in Africa, the extent to which they affect individuals' preferences on political institutions and rule of law is not well understood.

There is a growing literature trying to explain differences in African citizens' preferences towards democratic and non-democratic political institutions. Diamond et al. (1999), Evans and Whitefield (1995), and Kitschelt (1992) argue that satisfaction with government's effectiveness and economic performance (Individual and national economic situations) are the main determinants of the observed differences. Krieckhaus et al. (2014) propose that the current understanding of support for democratic institutions would benefit from incorporating national economic inequality as a key driver since it can generate disillusion with electoral politics leading to less trust in democratic institutions (Karl, 2000; and McClintock, 1999). Moreover, wealthier citizens often support democratic institutions because they possess the economic and cognitive resources to pursue the "luxury goods" of democratic governance and can benefit from State capture more than the poor (Bratton, Mattes, and Gyimah-Boadi, 2005; and Welzel and Inglehart, 2008).

A strand of theoretical literature suggests that in a country with high ethnic inequality, the population of the lower income quintile will support democracy as a mechanism for redistribution<sup>1</sup>. However, the existing literature does not empirically analyze how ethnic inequalities influence support and consolidation of democratic institutions. This paper improves on existing literature in two ways. First, we empirically show that individuals support for democracy is affected by levels of ethnic inequality. Second, by considering both Between ethnic group inequality (BGI) and Within ethnic group inequality (WGI), we explore how their interaction affects individual preferences for democratic institutions. The rest of the paper is organized as follows. Section 2 provides a literature review on ethnic inequalities in political science. Section 3 provides data description and the empirical framework. Section 4 focuses on the results, while section 5 provides the conclusions drawn from the study.

## **2 Literature Review**

### **2.1 Ethnic Inequality and Political Stability**

Ethnicity is referred to as a subset of identity categories in which members are determined by attributes associated with shared ancestry. This concept follows Wimmer, Cederman, and Min (2009) which states that ethnicity encompasses ethnolinguistic, racial, and ethnoreligious groups but not tribes that conceive of ancestry in strict genealogical terms and that do not define commonality on the basis of a belief in shared descent. Political economics approaches assume that humans are rational and motivated to maximize their economic situation (Krieckhaus

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<sup>1</sup>Boix et al. (2003) and Acemoglu and Robinson (2006)

et al., 2014, p. 141)<sup>2</sup>. Cantoni et al. (2016) observed that economic preferences, pro-social alignments, and specific risk tolerance are significant indicators of preferences for democratic institutions. The more ethnic groups are stratified economically, the more likely they are to engage in distinctive political behaviors (Houle, Park, and Kenny (2019)). Houle (2015) and Higashijima and Houle (2018) argue that between-ethnic-group-inequality destabilizes democratic regimes. However, its impact is more substantial when within-ethnic inequality is low by increasing ethnicity's political salience and heightening redistribution. Moreover, Higashijima and Houle (2018) shows that "between-ethnic-inequality" accentuates and strengthens ethnic identity.

Meltzer and Richard (1981) argued that when considering redistribution in democracies, the median-voter theorem suggests that relatively unequal democracies should redistribute from the rich toward the poor than democracies that are more equal. Thus, inequality increases the incentive for the rich to overthrow the regime and install an autocracy. Hence, the magnitude of the impact of between-ethnic-group inequality is based on wealth distribution patterns. Similarly, when ethnic cleavages are salient, political entrepreneurs have incentives to appeal to their ethnicity to gain political power, which amplifies the salience of ethnicity even further (Posner, 2004; and Higashijima and Nakai, 2016). Political actors appeal to their co-ethnics by adopting ethnically exclusive policies and by rallying around symbols that allegedly express the history of the ethnic group, thereby 'incriminating' members of other groups. This tactic is often used when ethnicity is reinforced by economic inequalities among groups<sup>3</sup>.

Hodler, Valsecchi, and Vesperoni (2017) explores the relationship between spatial ethnic distribution and the rule of law, suggesting a positive relationship between the rule of law and ethnic-spatial alignment. A country has a better rule of law if people from different ethnic groups live farther apart. Ostensibly, the traditional high alignment of spatial and ethnic distances breeds quality government. However, this is not the case in Africa due to urbanization in most cities where people from different ethnicity live together. Hence, they could observe their individual socioeconomic class because they live in the same location. Similarly, Gubler and Selway (2012) argues that when ethnicity is reinforced by other salient cleavages, such as religion, and geographic region, it is easier for a rebel leader to achieve successful mobilization efforts against repression or inequality<sup>4</sup>. Hence, we hypothesize that the effects of BGI on the support for democratic institutions weakens when WGI increases.

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<sup>2</sup>They consider and evaluate their living condition as compared to others within or between ethnic group.

<sup>3</sup>This occurs because it create clear demarcations between ethnic groups in the country

<sup>4</sup>For example, boko haram in Nigeria where religion and ethnicity is used as tools for enhancing their terror.

## 2.2 Ethnic diversity and the rise of prebendal politics in Africa

Prebendalism is associated with discourses of neo-patrimonialism, patron-clientelism, and the existence of trust networks that enable corruption to find provincial applause with every new public appointment (Sunday and Chinedum, 2014). Interestingly, as most nations continued practicing democracy, constitutional policy reforms could not stop increasing prebendal politics. African politics have become a pontification investment in prebendal socio-linguistic and diverse ethnic with its effects on democratic dividends. This cul-de-sac of prebendalism has increased mutual suspicion and distrust among the diverse ethnic groups. Therefore, creating the incentive for political machinery- agitation for political disunion and dismemberment which makes politics incorrigible championed by political elites who consider governance to enrich themselves and their political ethnic mates. This discourse has invigorated leadership problem in Africa. These setbacks includes nepotism, corruption, unjust and unequal sharing of socio-political and geographical landscape intentionally to retain power and gain political favors from benefactors of the regime.

Ethnicization of politics in Africa and identity consciousness in socio-political terrain has breed nepotism, clientelism and State capture. Joseph (1998) argues that during the wave of democratization of most African countries in 1980s, the political terrain was infertile due to poverty, the middle class were inexistent and were too culturally fragmented. on the same lines, Christensen and Laitin (2019) suggests that the nature of the partitioning of African states by boundaries had no connection to existing political groups. Therefore, as described by Asiwaju (1985), African states partition as “political surgery”<sup>5</sup>, frequently split polities “into two or more colonies and, later, independent African successor states”. This problem have induce prebendal politics and political partiality along ethnic lines<sup>6</sup>.

## 3 Data and Empirical framework

This section provides a description of the data we used and discusses the formulation and operationalization of dependent, independent, and control variables used in the regression analysis. We use data from rounds 3, 4, 5 and 6 from the Afrobarometer surveys. Afrobarometer is a pan-African, non-partisan research network that conducts public attitudes surveys on democracy, governance, economic, political, and social matters across more than 30 countries in Africa. The dataset covers 29 sub-Saharan African countries<sup>7</sup> (which are presented in Table

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<sup>5</sup>Territorial divisions without ethnic considerations

<sup>6</sup>Emerging leaders only identify with their ethnic group even if they are from different political structures

<sup>7</sup>Our data includes the following countries: Algeria, Benin, Botswana, Burundi, Burkina Faso, Cabo Verde, Cameroon, Egypt, Gabon, Ghana, Guinea, Kenya, Liberia, Madagascar, Mali, Mozambique, Mauritius, Malawi, Namibia, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Tanzania, Swaziland, Togo, Tunisia, Uganda.

3 in the appendix) and 353 distinct ethnic groups.<sup>8</sup> We also used data from three additional survey sources: the Ethnic Power Relations (EPR) database containing politically relevant ethnic groups; the World Development Indicators (WDI) database in which we obtained country's GDP and GDP growth; and the Freedom house database containing information on civil liberty, political rights and polity score variables. Our dependent variables are ordinal variables capturing individual preferences regarding democratic and non-democratic political regimes. Therefore, following existing empirical literature (Houle (2015), Houle and Bodea (2017), and Houle (2018)), we used an ordered logistic model for our regression analysis. One limitation of our data sets (Afrobarometer) is that, although we used countries surveyed in all considered rounds, some ethnic groups do not appear in all rounds<sup>9</sup>. Using the Ethnic Power Relations (EPR) datasets to identify ethnic groups that are politically relevant, we omit some countries after merging the four rounds of the Afrobarometer surveys because they are coded as ethnically homogenous in the EPR (e.g Lesotho).

### 3.1 Dependent variables

Our dependent variables capture preferences regarding rejection of one-man rule, military rule, and dictatorship rule. These are categorical variables ranging from 1 to 5 and coded from the following answers: strongly disapprove (1), Disapprove (2), Neither approve nor disapprove (3), Approve (4) and strongly approve (5). As shown in Figure 1, half of the sample strongly disapproves authoritarian regimes while less than 8% of the sample strongly approves these regimes.

### 3.2 Independent and control variables

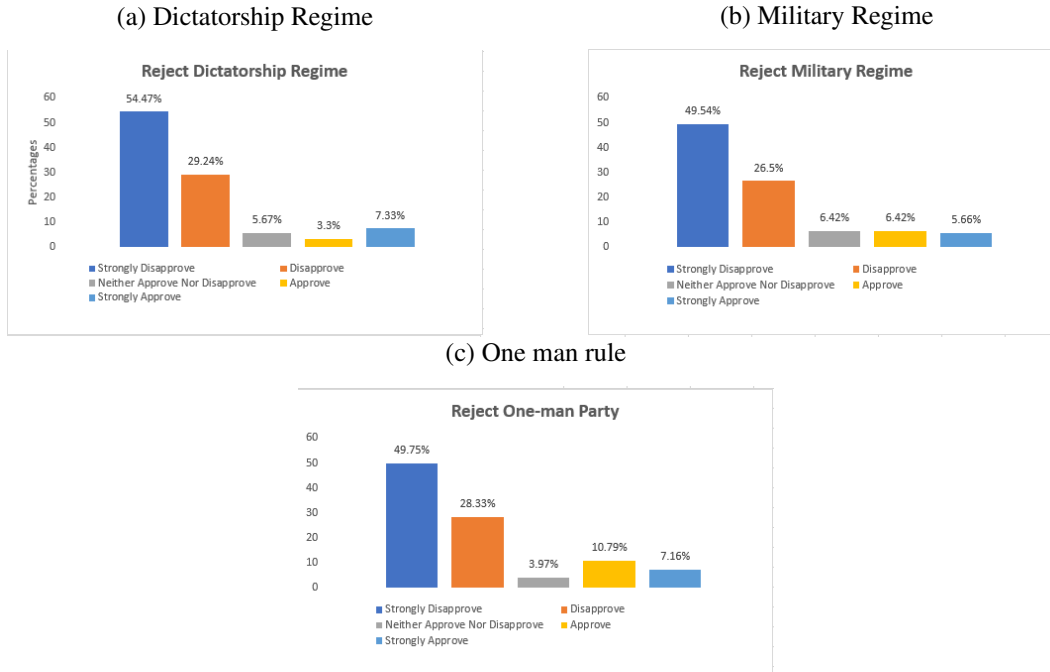
To construct measures of BGI and WGI, we used survey data from Afrobarometer following similar methodology as in Houle (2015), Houle and Bodea (2017), and Houle (2018). Using individual assets ownership data from the Afrobarometer surveys, we construct an asset based-wealth (ABW) indicator (Dionne, Inman, and Montinola, 2014). Inequality is measured using the ABW indicator due to the lack of reliable micro-level income datasets in sub-Saharan Africa. The Afrobarometer surveys ask whether the respondent owns a radio, a television and a vehicle. We use the answers to these questions to construct an indicator that takes the value 0 if the respondent has none of these goods and 3 if he/she owns all three goods (we then normalize the index such that it ranges from 0 to 1)<sup>10</sup>. One problem with the ABW approach is that, it

<sup>8</sup>Only countries with respondents that were surveyed in all four rounds of Afrobarometer and or the most recent round (round 6).

<sup>9</sup>Some ethnic groups has been surveyed only a few times over our sample years (sometimes only once) and if a respondent from a country appears in any of the rounds, the ethnic group is included in our sample.

<sup>10</sup>We assume that each of these items have equal weights.

Figure 1: Preferences for non-democratic regimes



underestimates inequality because it does not differentiate between respondents that have all 3 assets and and that are well-off without being rich, and those that own the three assets and that are rich (Huber, Mayoral, et al., 2014). However, we do not believe this to be a major problem for our analysis as only 11.12% of the respondents in our sample have all three goods. Our indicators of BGI and WGI are ethnic group-level indicators that take for each of 353 ethnic groups in our sample, measure the level of inequality between an average member of the group and an average citizen of a country, and the level of inequality among members of the same ethnic group respectively.

Between-group inequality (BGI) of ethnic group  $l$  of country  $v$  is measured as follow:

$$BGI_{l,v} = \left[ \log\left(\frac{\bar{g}_{l,v}}{\bar{G}_v}\right) \right]^2 \quad (1)$$

where  $\bar{g}_{l,v}$  refers to the average ABW score of members of group  $l$  of country  $v$ , and  $\bar{G}_v$  to the average ABW score of country  $v$ . BGI captures the difference in asset-based wealth between an average member of a given group and an average citizen of the country. For the Within-ethnic group inequality (WGI), we group all members of each ethnic group together, and then calculate a different Gini coefficient for each ethnic group. It measures inequality among members of the

ethnic group. The Gini coefficient is calculated as follow:

$$WGI_{l,v} = \frac{\sum_{i=1}^n \sum_{j=1}^n |g_{i,l,v} - g_{j,l,v}|}{2n^2 \bar{g}_{l,v}} \quad (2)$$

where  $g_{i,l,v}$  is the ABW score of member  $i$  of group  $l$  of country  $v$ ,  $\bar{g}_{l,v}$  is the average ABW score of group  $l$  of country  $v$ . BGI and WGI are ethnic group-level variables as in Houle and Bodea (2017). These indicators allows us to access whether economic situation of a given ethnic group affects its members' preferences for non-democratic regimes democracy in comparison to members of other groups in the same country. Our regression analysis uses fixed-effects which controls for country-specific factors.

Our analysis controls for a number of individua levels (age, education, gender, employment status, poverty status, living conditions, residence), ethnic levels (size of the ethnic group, political exclusion, average ABW) and country level variables (GDP growth, logged GDP per capita, political regime, political rights and Civil liberty of countries in our study<sup>11</sup>). Table 4 in the appendix provides summary statistics of all the variables used in the regression analysis.

#### 4 Discussions

We first run the ordered logit regression with our three dependent variables and without control variables. regression analysis without control variables (models 1,2 and 3 in Table 1). BGI is positively associated with a rejection of non-democratic regimes in all cases (one man rule, military rule and dictatorship). The same pattern is observed for WGI only for military rule and dictatorship. Moreover the interaction term of BGI and WGI is overall negative and statistically significant for military rule and dictatorship. Figure 2 shows the marginal effects of BGI on predicted probability that an ethnic group will reject non-democratic regimes at low (5th percentile) and High (95th percentile) WGI levels. When WGI is low, increasing BGI from the 25th to the 75th percentile increases the likelihood of rejecting non-democratic regimes by more than 30 percent per year. When WGI is high, however, the same change in BGI would actually reduce the likelihood of rejecting non-democratic regimes<sup>12</sup>. We provide the following explanation to the observed sign of the interaction term. For a particular ethnic group, low WGI reinforces ethnic identity and sense of belonging so that when BGI is high, members of this ethnic group feel excluded from government policies and see democratic regimes or institutions as a better political system for wealth redistribution. Adding individual, ethnic and country level variables (models 4, 5, 6) does not modify the sign and the magnitude of the patterns described above. On average, female respondents, respondents living in urban areas, respondents from countries with high political rights, and respondents from an excluded ethnic group strongly reject non-democratic regimes. On the other hand, respondents with good economic circumstances (living

<sup>11</sup>The variables "Political rights" and "Civil liberty" is categorized "Not free", "Partially free" and "free"

<sup>12</sup>Figure 2 focuses on Military rule, but the same patterns are observed for One man rule and Dictatorship.



conditions) and living in a relatively wealthy country (as measure by GDP) seems to be more accommodating to non-democratic regimes as long as they are personally well off.

We check whether our results are not driven by sample composition in two ways. First using average ABW within a country, we split countries in our sample in two groups. Countries with average ABW below 0.466 are classified as poor while those with average ABW above are classified as rich. Similarly, combining the variables Political rights and Civil rights, we classified the countries in two groups, democracy and autocracy. We then run our regression analysis for each subsample corresponding to one of the four groups created above. Results<sup>13</sup> are shown in Table 2 and are consistent with findings presented in Table 1. Second, we run our regression analysis leaving out one round of surveys for each of the four rounds. These results are shown in appendix (Tables 5, 6, 7, 8) and overall, are similar to the patterns observed in Table 1. On the whole, this empirical procedure suggests that the identified effect of ethnic inequality on individuals preferences for non-democratic regimes is robust to sample composition.

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<sup>13</sup>We present result using preferences over Military rule as the dependent variables but results using other non-democratic regimes are similar.

Table 1: Effect of Ethnic Inequality on regimes' preferences

VARIABLES	(1) One man	(2) Military	(3) Dictator	(4) One man	(5) Military	(6) Dictator
BGI	0.535*** (0.0942)	0.753*** (0.108)	0.611*** (0.103)	0.390*** (0.102)	0.735*** (0.114)	0.525*** (0.112)
WGI	0.306 (0.315)	0.707** (0.316)	0.677** (0.328)	0.219 (0.346)	1.478*** (0.353)	0.989*** (0.361)
BGI*WGI	-1.288 (0.814)	-3.246*** (0.865)	-2.600*** (0.844)	-1.096 (0.876)	-3.626*** (0.920)	-2.536*** (0.936)
ABW				-0.222*** (0.0264)	-0.150*** (0.0267)	-0.201*** (0.0273)
Education				-0.125*** (0.00428)	-0.0724*** (0.00422)	-0.101*** (0.00443)
Age				-0.00291*** (0.000551)	-0.00462*** (0.000543)	-0.00260*** (0.000564)
Excluded group				-0.0288* (0.0159)	0.0496*** (0.0156)	0.0698*** (0.0163)
Political rights				0.341*** (0.0389)	0.246*** (0.0386)	0.252*** (0.0397)
Living condition				0.0138 (0.0151)	-0.00480 (0.0152)	-0.0546*** (0.0157)
Civil liberty				-0.0749* (0.0401)	-0.779*** (0.0401)	-0.427*** (0.0436)
Female				0.273*** (0.0146)	0.101*** (0.0146)	0.181*** (0.0151)
Employed				-0.0590*** (0.0159)	-0.0625*** (0.0157)	-0.0777*** (0.0164)
Urban				0.149*** (0.0161)	0.116*** (0.0160)	0.113*** (0.0166)
Polity				-0.0570*** (0.00650)	0.0187*** (0.00656)	0.00423 (0.00663)
Polity square				-0.000647*** (7.89e-05)	0.000229*** (7.92e-05)	0.000150* (8.04e-05)
GDP growth				-0.0468*** (0.00281)	-0.0196*** (0.00275)	-0.0243*** (0.00283)
Logged GDP				-0.162*** (0.0319)	0.175*** (0.0312)	0.0352 (0.0318)
Poor				0.158 (0.266)	0.384 (0.309)	0.783** (0.311)
group size				-0.157*** (0.0508)	-0.0744 (0.0529)	-0.0486 (0.0528)
Country FEs	Yes	Yes	Yes	Yes	Yes	Yes
Group FEs	Yes	Yes	Yes	No	No	No
Survey round FEs	Yes	Yes	Yes	Yes	Yes	Yes

**Notes:** Robust standard errors in parentheses. Our results are consistent with other interactions

Figure 2: Marginal effect of BGI on the probability that a respondent reject Military rule within only/mostly with ethnicity across WGI values. Based on Model 2 of Table 1. Shaded areas represent 95 percent confidence intervals

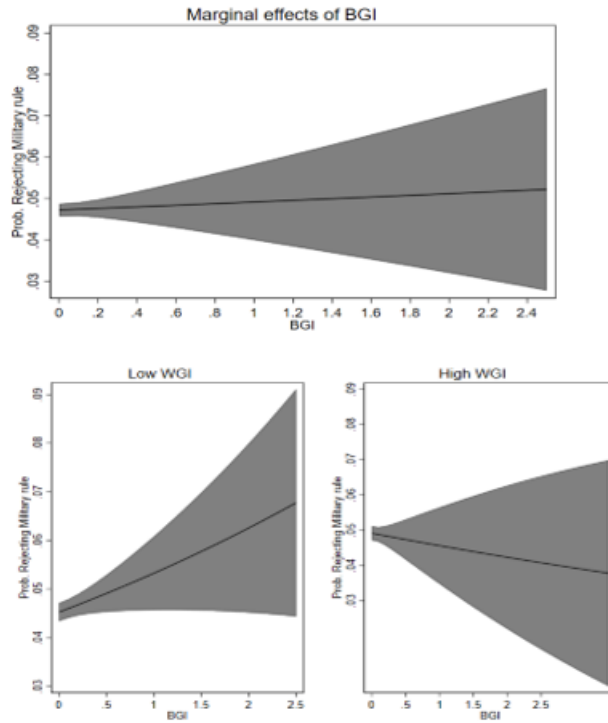


Table 2: Effect of Ethnic Inequality on regimes' preferences

VARIABLES	(1) Poor Countries	(2) Rich Countries	(3) Autocracy	(4) Democracy
BGI	0.432*** (0.116)	0.0683 (1.890)	0.786*** (0.117)	0.634*** (0.208)
WGI	-0.223 (0.402)	6.155*** (0.773)	1.183*** (0.398)	1.198*** (0.388)
BGI*WGI	0.0496 (1.090)	-2.750 (9.926)	-4.758*** (1.038)	-2.802** (1.252)
ABW	-0.217*** (0.0302)	0.0215 (0.0560)	-0.144*** (0.0329)	-0.139*** (0.0275)
Education	-0.0792*** (0.00488)	-0.0423*** (0.00853)	-0.0659*** (0.00513)	-0.0701*** (0.00440)
Age	-0.00413*** (0.000602)	-0.00582*** (0.00119)	-0.00541*** (0.000678)	-0.00427*** (0.000563)
Excluded	0.0689*** (0.0174)	-0.0427 (0.0336)	0.0705*** (0.0193)	0.0591*** (0.0164)
Female	0.603*** (0.0760)	0.301** (0.136)	0.895*** (0.326)	0.353*** (0.0738)
Employed	-0.0385** (0.0180)	-0.0907*** (0.0316)	-0.0502*** (0.0190)	-0.0696*** (0.0163)
Urban	0.0950*** (0.0184)	0.141*** (0.0317)	0.0836*** (0.0198)	0.127*** (0.0165)
Poor	0.798** (0.371)	-0.193 (0.522)	0.317 (0.390)	0.285 (0.312)
Polity	0.00689*** (0.00221)	-0.00527* (0.00292)	0.00906*** (0.00239)	0.00139 (0.00148)
Country size	-1.66e-05** (7.72e-06)	0.000165** (6.69e-05)	-1.65e-05** (8.00e-06)	2.70e-05*** (8.31e-06)
GDP growth	-0.0102*** (0.00299)	-0.00432 (0.0142)	-0.0175*** (0.00286)	-0.0200*** (0.00267)
Polity*female	0.112*** (0.0313)	0.0896 (0.164)	0.0722* (0.0422)	0.307*** (0.0481)
Civil*female	-0.332*** (0.0426)	-0.176 (0.180)	-0.463*** (0.168)	-0.430*** (0.0474)
Country FEs	Yes	Yes	Yes	Yes
Group FEs	No	No	No	No
Survey round FEs	Yes	Yes	Yes	Yes

**Notes:** Robust standard errors in parentheses. All models are estimated by ordered-logistic regression, with country, group and survey rounds fixed effects.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

## 5 Conclusion

In this paper, we show that in sub-Saharan Africa, the level of ethnic inequality affects individuals' preferences for non-democratic regimes. We find that the effect of Between ethnic group inequality (BGI) on rejection of non-democratic regimes depends on the level of Within ethnic group inequality (WGI). A rise in BGI increases the probability to support democratic institutions for wealth redistribution, but the magnitude of its effect decreases as WGI increases. We provide the following explanation for this finding. An individual in an ethnic group with low within-group wealth inequality has a strong ethnic identity so when between-group ethnic inequality is high, he will support more democratic institutions as a mechanism of wealth redistribution. To the best of our knowledge, this is the first paper to analyze how the interaction of between and within ethnic group inequalities influences citizens preferences over political regimes. The paper then contributes to the literature of ethnicity and democracy consolidation and can be extended in several ways. First, one of the drawback of our analysis is the lack of consistent microlevel income databases across African countries. The availability of well structured income data could inform us on how ethnic income inequality affects preferences for political regimes. Second, More research need to be carried out on how ethnicity interacts with other structural factors such as secession when an ethnic group perceived to be excluded form governance and have a higher inequality between ethnic groups. This will explain why certain marginalized ethnic groups in Africa would seek secession while others won't.

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## Appendix

Table 3: Country and Survey rounds(Afrobarometer)

Country	Rounds
Algeria	2016
Benin	2005, 2008, 2015, 2016
Botswana	2005, 2008, 2015, 2016
Burkina Faso	2008, 2015, 2016
Burundi	2015, 2016
Cameroon	2015, 2016
Cape Verde	2005, 2008, 2016
Egypt	2016
Gabon	2016
Ghana	2005, 2008, 2015, 2016
Guinea	2015, 2016
Kenya	2015
Liberia	2008, 2015, 2016
Madagascar	2005, 2008, 2015, 2016
Mali	2005, 2008, 2015, 2016
Malawi	2005, 2008, 2015, 2016
Mauritius	2015, 2016
Mozambique	2005, 2008, 2015, 2016
Namibia	2005, 2008, 2015, 2016
Niger	2015, 2016
Nigeria	2005, 2008, 2015, 2016
Senegal	2005, 2008, 2015, 2016
Sierra Leone	2015, 2016
Sudan	2016
Swaziland	2016
Tanzania	2005, 2008, 2016
Togo	2015, 2016
Tunisia	2016
Uganda	2005, 2008, 2015, 2016



Table 4: Descriptive statistics

	mean	sd	min	max
BGI	.0291	.131	0	3.502
WGI	.197	.032	0	.264
Reject dictatorship	1.758	1.064	1	5
Reject military	1.976	1.242	1	5
Reject one man	1.973	1.269	1	5
Polity	4.430	10.358	-88	10
Polity squared	126.9	776.3	0	7744
Political rights	2.183	.648	1	3
Civil liberty	2.258	.507	1	3
GDP growth	3.693	3.562	-20.598	10.828
Logged GDP	14.558	2.428	6.891	18.501
Age	36.528	14.262	18	94
Education	3.071	2.148	0	9
Excluded group	.451	.497	0	1
Living condition	.670	.470	0	1
Urban	.582	.403	0	1
Female	.500	.500	0	1
Employed	.370	.483	0	1
Groupsize	.241	.241	.0001	1
ABW	.428	.314	0	1
Poor	.0008	.029	-.6	1
<i>N</i>	88816			

Table 5: Robustness Test: Leave out one round (Reject military rule)

VARIABLES	(1) Leave out round1	(2) Leave out round2	(3) Leave out round3	(4) Leave out round4
BGI	0.837*** (0.0966)	0.723*** (0.0971)	0.707*** (0.106)	0.513** (0.214)
WGI	1.088*** (0.347)	1.009*** (0.350)	0.328 (0.390)	0.808* (0.423)
BGI*WGI	-3.958*** (0.818)	-1.870** (0.863)	-2.415** (0.989)	-3.727*** (1.346)
Observations	70,545	69,809	60,550	56,127

**Notes:** Robust standard errors in parentheses. All models are estimated by ordered-logistic regression, with country, group and survey rounds fixed effects.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 6: Robustness Test: Leave out one round (Reject Dictatorship rule)

VARIABLES	(1) Leave out round1	(2) Leave out round2	(3) Leave out round3	(4) Leave out round4
BGI	0.603*** (0.0999)	0.612*** (0.101)	0.657*** (0.109)	0.370 (0.229)
WGI	0.765** (0.358)	0.898** (0.363)	0.912** (0.404)	1.062** (0.436)
Bgi*WGI	-2.317*** (0.842)	-1.455 (0.891)	-2.850*** (0.993)	-3.513** (1.424)
Observations	69,913	69,129	59,978	55,650

**Notes:** Robust standard errors in parentheses. All models are estimated by ordered-logistic regression, with country, group and survey rounds fixed effects.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1

Table 7: Robustness Test: Leave out one round (Reject one party rule)

VARIABLES	(1) Leave out round1	(2) Leave out round2	(3) Leave out round3	(4) Leave out round4
BGI	0.557*** (0.0933)	0.487*** (0.0941)	0.510*** (0.102)	0.393* (0.213)
WGI	-0.445 (0.343)	0.481 (0.346)	0.776** (0.387)	1.078*** (0.416)
BGI*WGI	-0.997 (0.802)	-0.477 (0.857)	-0.415 (0.956)	-2.190* (1.322)
Observations	71,081	70,314	61,034	56,669

**Notes:** Robust standard errors in parentheses. All models are estimated by ordered-logistic regression, with country, group and survey rounds fixed effects.\*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$

Table 8: Robustness Test: Leave out one round (Reject military rule with control variables)

VARIABLES	(1) Leave out round1	(2) Leave out round2	(3) Leave out round3	(4) Leave out round4
BGI	0.768*** (0.101)	0.644*** (0.101)	0.643*** (0.111)	0.261 (0.221)
WGI	1.387*** (0.383)	1.117*** (0.387)	0.266 (0.413)	0.341 (0.447)
BGI*WGI	-4.081*** (0.853)	-1.870** (0.900)	-2.544** (1.035)	-2.764** (1.391)
ABW	-0.194*** (0.0293)	-0.151*** (0.0292)	-0.0711** (0.0309)	-0.165*** (0.0316)
Education	-0.0711*** (0.00467)	-0.0713*** (0.00470)	-0.0787*** (0.00505)	-0.0770*** (0.00515)
Age	-0.00405*** (0.000595)	-0.00488*** (0.000594)	-0.00536*** (0.000646)	-0.00467*** (0.000651)
Excluded group	0.0474*** (0.0172)	0.0407** (0.0170)	0.0391** (0.0185)	0.0768*** (0.0186)
Female	0.418*** (0.0760)	0.552*** (0.0723)	0.538*** (0.0785)	0.368*** (0.0797)
Employed	-0.0547*** (0.0177)	-0.0409** (0.0174)	-0.0319* (0.0187)	-0.0879*** (0.0190)
Urban	0.113*** (0.0180)	0.110*** (0.0180)	0.105*** (0.0191)	0.128*** (0.0193)
polity	-0.00171 (0.00207)	0.00796*** (0.00209)	0.00104 (0.00168)	0.00299 (0.00281)
GDP growth	-0.0239*** (0.00291)	-0.00908*** (0.00280)	-0.0108*** (0.00402)	-0.0287*** (0.00544)
Logged GDP (lagged)	-0.0526** (0.0216)	-0.159*** (0.0145)	-0.0326** (0.0149)	-0.272*** (0.0183)
Pol*female	0.0786** (0.0355)	0.161*** (0.0346)	0.236*** (0.0382)	0.144*** (0.0365)
Civ*female	-0.214*** (0.0489)	-0.358*** (0.0457)	-0.421*** (0.0464)	-0.270*** (0.0462)
Observations	61,376	60,239	51,389	51,369

**Notes:** Robust standard errors in parentheses. All models are estimated by ordered-logistic regression, with country, group and survey rounds fixed effects.\*\*\* p<0.01, \*\* p<0.05, \* p<0.1