



THE EFFECT OF ETHNICITY ON DEMOCRATIC CONSOLIDATION: EVIDENCE FROM THE PREFERENCE FOR PROPORTIONAL REPRESENTATION SYSTEM IN SIERRA LEONE

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Abstract:

Ethnicity has been considered a factor that undermines political reforms in Africa, as well as the acceptance or preference for political reforms initiated by a ruling party, despite the need for democratic consolidation, which is a public good, in many cases. The study therefore investigates whether the preference for democratic consolidation implemented through proportional representation, like the reform of 2022 in Sierra Leone, which was the adoption of proportional representation, with implementation in the 2023 election, is driven by ethnic considerations or not. A survey of respondents across all district headquarters towns was conducted, and both Pearson's Chi-squared, with its associated Cramer's V statistic and the Probit model of preference for proportional representation were employed. The results show that the preference for Sierra Leone's proportional representation is strongly linked to ethnicity, suggesting ethnicity undermines democratic consolidation in Sierra Leone. Based on this result, that ethnicity undermines democratic consolidation in Sierra Leone, it is important that the Electoral Commission for Sierra Leone and the civic education institutions jointly strengthen efforts to explain

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in accessible languages how PR and the first-past-the-post translate votes into seats to ensure that the citizens do not evaluate electoral systems through their perceived consequences for their communities. It is also useful for Sierra Leone to employ policies that would encourage political parties to develop national instead of predominant ethnic support bases and strongly promote measures that build district or regional inclusive party platforms.

Keywords: ethnicity, democratic consolidation, proportional representation, Probit Model

1. Introduction

The pursuit of democratic consolidation and the promotion of political inclusion are paramount challenges in several African countries, and this is often undermined by complex interplays of factors. Within the political landscape, the "Winner Takes All" system and ethnic divisions have emerged as influential determinants (Ayamba, 2024).

Sierra Leone, a nation with a history marked by civil conflict and political instability, serves as an exemplary case study to assess the impact of these factors. This West African nation has witnessed a transition towards democracy, following the brutal civil war of the late 20th century. It has, however, established key state institutions, such as the Independent Commission for Peace and National Cohesion (ICPNC), the Office of National Security (ONS), the Electoral Commission for Sierra Leone (ECSL), and the Political Party Regulation Commission (PPRC), all of which play pivotal roles in a democratic process.

The Winner-Takes-All electoral system has been criticized for perpetuating exclusionary politics, stifling multi-party competition, and inhibiting the fair distribution of power. Ethnic divisions have historically engendered tensions and hindered political unity (Bangura, 2005). Consequently, these dynamics contribute to the broader understanding of democratic consolidation and political inclusion in Sierra Leone.

Proportional representation (PR), unlike the Winner-Takes-All system, is an electoral system in which political parties get seats in proportion to the number of votes received in an election. It is more inclusive than the winner-takes-all system. In the latter, a district made up of constituencies may have all seats allocated to one party, driven by the fact that it produces multiple winners in all the constituencies in the district. It is considered more inclusive than the Winner-Takes-All system in terms of its potential to increase the participation of minority groups, especially women and the youth. It is an important aspect of the discussion on PR merit in modern democratic governance.

Ahead of the most recent parliamentary elections in 2023, following the democratic capture of power by the SLPP in 2018, after ten years of democratic capture by the APC (2007 to 2018) from the SLPP (1996 to 2007), the PR system was debated in Parliament in 2022; it was adopted, thus shifting from the Winner-Takes-All framework adopted since the civil war ended in 2002. The key feature is that the party list for the

selection members of parliament is expected to have 33% of women, which is equivalent to including a woman after every two men on the closed party list for nominations for parliamentary seats.

Following the 2023 election, Sierra Leone has over 30% of its members of parliament as women, which compares favourably with about 12% in the then majoritarian system before the PR implementation in 2023. However, it remains unknown whether the PR system is supported by the people, though acceptable at the parliamentary level and which factors drive support for the PR system against The-Winner-Takes -All approach.

Ethnicity is a deeply entrenched aspect of Sierra Leonean politics. The nation is home to various ethnic groups, including the Temne, Mende, and Krio, which historically have been manipulated by political elites to exploit divisions and promote their own interests (Reno, 1998). These ethnic divisions tend to influence voting patterns, party loyalties, and political decision-making, often overshadowing policy considerations and deepening political fragmentation. The challenge posed by ethnicity goes beyond mere identity politics. It is central to understanding the complexities of political inclusion and democratic consolidation in Sierra Leone. Bangura (2015) has characterized Sierra Leone's demographic and political distribution as belonging to a situation where the two main ethnic-regional blocs (North-West and South-East) are roughly balanced in size but geographically polarized.

As the proportional representation system is an important aspect of democratic consolidation, as it brings minority groups, including women, it is expected that it is a system that societies and individuals that support democratic consolidation ought to prefer. However, where ethnicity is a cause of division, preference for a proportional representation system could be undermined by ethnic relations, despite its virtues compared to the traditional winner-takes-all system. Table 1 shows the dominant ethnic groups in Sierra Leone by district, which shows that the South- East region is dominated by ethnic groups that are closely aligned with the SLPP and the North-West with those closely aligned with the APC. Casey (2008) evidence reveals that the expected partisan bias of a district in Sierra Leone can be predicted with great accuracy from its ethnic composition, such that high concentrations of Mende, Kissi, and Sherbro voters are strongly pro-SLPP, while districts with high concentrations of Temne, Limba, Koranko, and Loko voters are strongly pro-APC.

The study therefore investigates whether ethnicity in Sierra Leone, with district of origin used as a proxy, affects the preference for democratic consolidation, for which proportional representation is used as a proxy.

While there are several cross-country studies on the role of the gender gap in the preference for PR in Africa, country case studies in Africa are few in number, including Longman (2006) for Rwanda, Clayton *et al.* (2017) for Uganda and Bauer and Britton (2006) for Rwanda, South Africa, Uganda, Mozambique and Namibia. For Sierra Leone, since the adoption of the PR system favouring female participation in parliament in 2022 and its adoption in 2023, we are aware of only Ayuja and McClendon (2026), who focused

on randomising the provision of information about the newly adopted framework, with a focus on urban voters and found that the PR system increases women's participation in election voting and reduces preference for the abandoned plurality framework. However, the focus was not on whether ethnicity influences the preference for the PR, which is important for having sustainable reforms for political inclusion and democratic consolidation.

The study is also important because it gauges society's perspective on the practices and policies that can shape Sierra Leone's PR system implementation for improved governance in the interest of inclusive governance, including increased participation of women in legislative governance. In addition, by identifying the impediments to democratic consolidation, the research provides actionable insights for policymakers and international organizations working towards strengthening democratic institutions in post-conflict societies. The rest of the paper is organized as follows. Section two is the literature review, section 3 is the methodology, section 4 is results and interpretations, and section 5 is the conclusion.

Table 1: Districts in Sierra Leone by Dominant Ethnic Groups

	District	Region	Dominant Ethnic Group
1.	Bo	South	Mende
2	Bombali	North	Temne, Limba
3	Bonthe	South	Sherbro, Mende
4	Falaba	North	Kuranko, Yalunka
5	Kailahun	East	Mende, Kissi, Vai
6	Kambia	North-West	Temne, Susu, Limba
7	Karene	North-West	Temne, Limba, Loko
8	Kenema	East	Mende
9	Koinadugu	North	Kuranko, Limba, Yalunka
10	Kono	East	Kono
11	Moyamba	South	Mende, Sherbro
12	Port Loko	North-West	Temne, Loko
13	Pujehun	South	Mende
14	Tonkolili	North	Temne
15	Western Area Rural	West	Highly mixed; significant Krio, Temne, Mende, Sherbro, Fula and others. Krio historically associated with it, but no single majority today.
16	Western Area Urban	West	Highly mixed; significant Krio, Temne, Mende, Sherbro, Fula and others. Krio historically associated with it, but no single majority today.

Source: UNFPA and Statistics Sierra Leone, 2017.

2. Literature Review

The effect of ethnicity on electoral system preference is one of the most contested topics in comparative political science and has been widely studied. According to Lihphart (1977) and Lihjphart (2012), ethnically divided societies prefer PR because it ensures minority representation and prevents a party from being a permanent winner or permanent loser, a common outcome of the winner-take-all system. This is the conventional wisdom, but it has recently been challenged by other studies in the literature. For example, Huber (2012), using a cross-country approach across over 40

countries, found that democratic consolidation is lower in proportional representation systems than in the plurality system. The result of Huber (2012) reveals that PR adoption is not related to ethnic divisions, and a negative correlation was observed between ethnicity and PR adoption. Huber (2012) indicates that this theoretical tension is useful for Sierra Leone, a country where two ethnic groups (Mende and Temne) each comprising about 30-35% of the population, and ethnic consideration tends to align with regional and partisan divisions.

Cho's (2010) analysis of 15 sub-Saharan African countries provides direct evidence on how electoral systems interact with ethnic fractionalization at the district level. It maintains that majoritarian electoral systems exacerbate the negative effects of high levels of ethnic fractionalization on citizens' attitudes towards regime performance, and majoritarian electoral systems offer less opportunity for ethnically marginalized groups to elect representatives from their own ethnic group and to provoke alienation from the political system

Bangura (2015) has characterized Sierra Leone's demographic and political distribution as a lopsided bipolarity. This is a situation where the two main ethnic-regional blocs (North-West and South-East) are roughly balanced in size but are geographically polarized. Based on the 2004 census data for Sierra Leone, the North and Western Area accounted for 54.28% of the population, and the South and East accounted for 45.72%. The North and Western Area proportion increased to 56.2 % in the 2015 census, while that of the South and East dropped to 43.8 %. This bipolarity thesis suggests that, under the winner-takes-all system, the North and the West have a preference for the winner-takes-all system, as historically, the party with North-West bias, the All Peoples Congress (APC), won most of the elections in 1967-1992 and 2007-2018, while under the PR system, the South-East bloc (SLPP-biased region) can consolidate its regional dominance, and thus it can have a preference for the PR. This is so because the elections during 1967-1992 and 2007-2018 were held with the winner-takes-all principle.

Casey (2008), by using the 2008 Decentralization Stakeholder Survey (DSS) exit polls and the 2008 National Public Services (NPS) household survey, measured expected partisan bias by ethnic group and district in Sierra Leone from a survey of 1,117 voters in 59 randomly selected local government jurisdictions and over 6,300 citizens in 634 census enumeration areas. The study found that district-level ethnic composition explains party support with remarkable accuracy. It essentially reveals that the expected partisan bias of a district can be predicted with remarkable accuracy from its ethnic composition, by pointing out that districts with high concentrations of Mende, Kissi, and Sherbro voters are strongly pro-SLPP, while districts with high concentrations of Temne, Limba, Koranko, and Loko voters are strongly pro-APC.

There have been theoretical discussions on how ethnicity affects political decisions of voters, including the preference for proportional representation. Previous election results in Sierra Leone have been used to determine whether the electorate votes based on ethnicity, for which district or region of the voter is a proxy. However, we are not aware of an empirical study in Sierra Leone with respect to how ethnicity affects the

preference for proportional representation, which is a democratic consolidation process, as it increases the participation of the minority in legislative governance.

3. Methodology

3.1 Model Specification

Following Banducci *et al.* (1999) for New Zealand, Gallego *et al.* (2014) and Boyle (2024), we specify a model of proportional representation as a function of demographic and social characteristics of individuals. Thus, the district of location of respondents in Sierra Leone, reflecting ethnicity, the gender of the respondents, age, education and employment status are included as independent variables.

As we are investigating the determinants of preference for proportional representation and the variable takes only two outcomes, which are support or no support, we have a binary choice situation. Thus, the probit model or the logit model is appropriate. But because the probit model can predict the probability of supporting an outcome or having a given characteristic, while the logit model predicts the odds ratio of supporting the outcome or having a given characteristic, we apply the probit model.

In general, the probit model is given as in equation (1).

$$P(PR_i = 1/X_i) = \varphi(\beta_0 + \beta_1 X_1 + \dots + \beta_k X_k) \quad (1)$$

Where:

PR_i is the proportional representation choice; 1 implies preference for PR. When there is no support, then $PR_i = 0$.

φ is the cumulative distribution function of the standard normal distribution.

The X s are the independent variables explaining proportional representation support. Hence, the model estimated is given as in equation (2).

$$P(PR_{Dummy} = 1) = \beta_0 + \beta_1 District + \beta_2 Gender + \beta_3 Age + \beta_4 Education + \beta_5 Employment + u \quad (2)$$

Where $PR_{Dummy} = 1$ is the preference for the adoption of proportional representation in Sierra Leone. When the dummy is zero (0), then the individual does not support proportional representation in Sierra Leone. District is the district of location of the individual respondent, Gender is the gender of the individual, Age is the age (age category) of the individual, Education is the level of education of the respondent, Employment is the employment category of the respondent, and u is the error term.

3.2 Model Estimation Strategy

Here we estimate the proportional representation with for which district is used as a proxy for ethnicity. The dependent variable is a binary choice variable, where it takes a value of 1 if the individual supports PR for Sierra Leone and zero if the individual does

not support PR. The probit model error term is assumed to follow a normal distribution, as in the Ordinary Least Squares (OLS) model, and it can provide the marginal effect from the model-estimated coefficients. It can also provide the predictive probabilities and their p-values for significance tests, which show the probability of selecting an individual with given characteristics and support the PR. For example, it can reveal the probability of an individual supporting the PR given that the individual is from a given district.

3.3 Data Issues

3.3.1 Samples Size

The data for the study are obtained from a national survey of the 16 districts of Sierra Leone, which form five regions. The sample size is selected to have a margin of error of 3 percentage points with a 95% confidence level. The implication is that if 100 independent samples are collected, 95% of them will have the same results as ours, with a margin of ± 3 percentage point. Thus, if 55% support PR from our sample, 95 out of every 100 samples will reveal that the true proportion of the population of Sierra Leone supporting PR is between 52% and 58 %.

The average growth of Sierra Leone's population per year from 2020 to 2025 is 2.1% (World Bank's World Development Indicators, 2025). In the 2022 voter registration for the 2023 election in Sierra Leone, the total registered vote was 3,374, 258. Thus, this number was used with an average growth of 2.1% per annum to obtain the estimate of registered voters at the end of 2025. Hence, the estimated voter population is 3,591,332 at the end of December 2025. This assumes the population growth is the same as the adult population growth rate. Using the size of the registered voters as a proxy for the adult population gives the required sample size to 1067. Thus, the sample size used was 1200, with the margin of error reducing effectively to $\pm 2.83\%$.

In terms of the distribution of questionnaires per district and hence per region, the structure of the registered votes in the 2022 voter registration of Sierra Leone was used. The distribution was done such that attention was paid to fairness in the choice of female and male, as well as the youth and the elderly.

3.3.2 Data Collection Strategy

The data were collected using a structured questionnaire, which was administered in all 16 districts with a focus on the district headquarters. Respondents were selected using a stratified approach to ensure an appropriate balance of gender and age category, as these variables seem more visible than employment category. The survey was done over a period of ten weeks, with two weeks spent in each region, on average, while more days were spent in some districts given the size of the questionnaires they were to cover.

4. Results and Interpretations

4.1 Results from Two-Way Frequency Distribution: Districts and Ethnicity

The result in Table 2, which is the frequency distribution of PR preference by district of respondent, is used for the analysis in this sub-section.

Table 2: Frequency Distribution of PR Preference by District

District	Preference for PR	No Preference for PR	Total
Bo	84 (82.35)	18 (17.65)	102 (100)
Bombali	6 (8.7)	63 (91.3)	69 (100)
Bonthe	26 (86.67)	4 (13.33)	30 (100)
Falaba	12 (52.17)	11 (47.83)	23 (100)
Kailahun	68 (98.55)	1 (1.45)	69 (100)
Kambia	34 (65.38)	18 (34.62)	52 (100)
Karene	6 (17.14)	29 (82.86)	35 (100)
Kenema	103 (91.96)	9	112 (100)
Koinadugu	2 (6.9)	27	29 (100)
Kono	50 (83.33)	10 (16.67)	60 (100)
Moyamba	36 (69.23)	16 (30.77)	52 (100)
Port Loko	4 (4.82)	79 (95.18)	83 (100)
Pujehun	73 (87.95)	10 (12.05)	83 (100)
Tonkolili	28 (39.44)	43 (60.56)	71
Western Area Rural	52 (43.33)	68 (56.67)	1209 (100)
Western Area Urban	124 (59.05)	86 (40.96)	210 (100)
Total	708 (59)	492 (41)	1,200 (100)
Pearson chi2(15) = 428.6456 Pr = 0.000			
Cramér's V = 0.5977			

Note: Values in parentheses are percentages from each district.

4.1.1 Overall National Result

The result shows that, from the national perspective, 59 percent of the total respondents (1,200) prefer proportional representation in Sierra Leone. Table 2 shows the results of the preference for proportional representation.

4.1.2 Districts from the South and East of Sierra Leone

Consider districts in the South-East of Sierra Leone, from the perspective of district-by-district observation from Table 2, 82.35% of the 102 respondents from Bo have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 86.67% of the 30 respondents from Bonthe have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 98.55% of the 69 respondents from Kailahun have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 91.96% of the 112 respondents from Kailahun have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 83.33% of the 60 respondents from Kono have preference for PR based on the expected

increase in the number of women in legislative governance in Sierra Leone; 69.23% of the 52 respondents from Moyamba have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone and 87.95% of the 83 respondents from Pujehun have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone.

4.1.3 Districts from the North and North-West of Sierra Leone

Consider districts in the North and North-West of Sierra Leone, from the perspective of district-by-district observation from the table, only 8.7% of the 69 respondents from Bombali have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 52.17% of the 23 respondents from Falaba have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 65.38% of the 52 respondents from Kambia have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 17.14% of the 35 respondents from Karene have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 6.9 % of the 29 respondents from Koinadugu have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone; 4.82% of the 83 respondents from Port Loko have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone and 39.44% of the 71 respondents from Tonkolili have preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone.

4.1.4 Districts from the West of Sierra Leone

Consider the two districts in the Western region of Sierra Leone: 43.33% of the 120 respondents from Western Area Rural have a preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone, and 59.05% of the 210 respondents from Western Area Urban district have a preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone.

4.1.5 The relationship between Preference for PR and District of Respondents

The Pearson chi-square and the Cramer V are used to determine whether there is an association between the district of location of the respondent and the preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone. The results are shown at the bottom of Table 2. The chi-squared value has a p-value (probability of rejecting the null hypothesis wrongly) of 0.000. Hence, we can reject the null hypothesis that there is no association between the district of location of the respondent and the preference for PR based on the expected increase in the number of women in legislative governance in Sierra Leone, without fear of being wrong, as the probability of being wrong is 0. Hence, we conclude that there is a relationship between district of origin and the preference for PR based on the expected increase in the number

of women in legislative governance. A Cramer's V statistic of 0.5977 (more than 0.5) suggests that the relationship is very strong.

The relationship is that districts in the North and West tend to have no preference for the PR, despite the expectation that it increases the participation of women in democratic governance, and the reverse is the case in districts in the South and East.

In the West, the preference for PR is higher in the Urban Area (where the preference percentage is higher than 50% by about 9%) than in the Rural Area (where the preference percentage is lower than 50% by about 7%).

The results suggest that democratic consolidation through adoption of the PR system is not popular among the respondents in the North and North-West region of Sierra Leone, while it is in high preference by respondents in the South and Eastern regions.

4.2 Results from Probit Model: Ethnicity Impact

4.2.1 Model Estimates

Table 3 gives the results of the Probit model for the impact of Ethnicity on PR. The probit model is used in addition to Pearson's Chi-Squared statistic, with its p-value and the Cramer's V statistic from the two-way frequency distribution. These do not indicate causality, but it tells only an association between ethnicity and the preference for PR.

Table 3: Results of the Probit Model Estimates

District	Probit Model Estimate		Probit Marginal Estimates		Probit Predictive Probability	
	Coefficient	P-value	Marginal Value	P-value	Probability	P-value
Bo	0.65	0.001	0.201	0.000	0.802	0.000
Bombali	-1.75	0.000	-0.516	0.000	0.086	0.009
Bonthe	0.60	0.080	0.187	0.045	0.789	0.000
Falaba	-0.18	0.559	-0.066	0.536	0.535	0.000
Kailahun	2.02	0.000	0.379	0.000	0.981	0.000
Kambia	0.17	0.432	0.058	0.424	0.660	0.000
Karene	-1.23	0.000	-0.411	0.000	0.190	0.004
Kenema	1.18	0.000	0.306	0.000	0.908	0.000
Koinadugu	-1.72	0.000	-0.510	0.000	0.091	0.109
Kono	0.83	0.001	0.241	0.000	0.843	0.000
Moyamba	0.33	0.183	0.109	0.164	0.711	0.000
Port Loko	-1.83	0.000	-0.526	0.000	0.075	0.024
Pujehun	1.16	0.000	0.303	0.000	0.905	0.000
Tonkolili	-0.56	0.004	-0.202	0.003	0.399	0.000
Western Area Rural	-0.45	0.006	-0.164	0.006	0.437	0.000
Western Area Urban					0.601	0.000
Male	-0.0003	0.998	-0.00007	0.998	0.592	0.000
Female					0.592	0.000
Age (26-35)	0.159	0.466	0.039	0.469	0.615	0.000
Age (36-45)	0.166	0.444	0.41	0.449	0.617	0.000
Age (46-55)	-0.164	0.475	-0.041	0.473	0.535	0.000
Age (56-60)	-0.00007	1.000	-0.00002	1.000	0.576	0.000
Age (Above 60 years)	0.031	0.910	0.008	0.910	0.584	0.000

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Age (18-25)					0.576	0.000
Education (Advanced Degree)	-0.020	0.917	-0.005	0.918	0.572	0.000
Education (First Degree)	0.030	0.859	0.007	0.858	0.585	0.000
Education (Diploma)	0.378	0.018	0.091	0.017	0.668	0.000
Education (Secondary)	0.057	0.690	0.014	0.690	0.591	0.000
Education (No Formal)	-0.235	0.337	-0.060	0.341	0.517	0.000
Education (Primary)					0.577	0.000
Employment (Gov)	0.105	0.533	0.026	0.534	0.613	0.000
Employment (Private Sector Wage)	-0.59	0.133	-0.067	0.133	0.520	0.000
Employment (Self)	0.198	0.242	0.049	0.243	0.635	0.000
Employment (Retired)	-0.199	0.372	-0.051	0.376	0.535	0.000
Employment (Student)	0.475	0.065	0.113	0.054	0.700	0.000
Employment (Not Employed)					0.587	0.000
Plan to be MP	-0.229	0.061	-0.056	0.058	0.571	0.000
No Plan to be MP					0.628	0.000
Development	0.623	0.001	0.159	0.001	0.615	0.000
Not for Development					0.456	0.000
Political Stability	0.077	0.695	0.019	0.697	0.594	0.000
Not for Political Stability					0.575	0.000
Vote Matter	0.158	0.260	0.039	0.265	0.602	0.000
Not for Vote Matter					0.562	0.000
Participation of Women	0.546	0.001	0.139	0.001	0.607	0.000
Not for Women's Participation					0.468	0.000
Participation of Youth	-0.235	0.111	-0.056	0.102	0.583	0.000
Not for Youth Participation					0.639	0.000
Accountability Weakness	-0.031	0.794	-0.008	0.795	0.587	0.000
Not for Accountability					0.595	0.000
Pseudo R-Squared = 0.359						

4.2.2 Western Area Urban District

We use Western Area Urban District as the reference or base for the district probability investigation because, with 16 districts, there are 16 dummy variables, and one must be left out to obtain estimates; otherwise, we fall into the dummy variable trap, where no estimate is obtained. The choice of Western Area Urban District is on the basis that the parliament sits in this district and the governance of the country from the executive, legislative and judiciary is headquartered in this district. However, changing the base category does not change the implications of probit model estimates. As predicted by the model, the probabilities show that for this reference district, the probability that a resident selected at random supports the PR system is 60.1%, compared to 59.1%, which is the actual sample probability. While this base probability is overpredicted, the margin of 1 percentage point is acceptable, as it is narrow. This suggests that we can safely rely on model estimates to generalise to the population.

4.2.3 Bo District

The coefficient for Bo shows that residents from Bo have a positive and statistically significant effect on preference for proportional representation in Sierra Leone, while the marginal effect reveals that, compared to the reference district, Western Area Urban District, residents from Bo are 20.1 percentage points more likely to support the PR system of democratic governance in Sierra Leone than residents of Western Area Urban District. The predicted probabilities reveal that Western Area Urban District residents have a 60.1% probability of supporting the PR system, while those in Bo have an 80.2% probability of supporting PR.

4.2.4 Bombali District

The probit model coefficient for Bombali shows that residents from Bombali have a negative and statistically significant effect on preference for proportional representation in Sierra Leone, while the marginal effect reveals that, compared to the reference district, Western Area Urban District, residents from Bombali are 51.6 percentage points less likely to support the PR system of democratic governance in Sierra Leone than residents of Western Area Urban District. The predicted probabilities reveal that Western Area Urban District residents have a 60.1% probability of supporting the PR system, while those in Bombali have an 80.2% probability of supporting PR.

4.2.5 Bonthe District

The probit model coefficient for Bonthe shows that residents from Bonthe have a positive effect, though statistically significant only at the 10% level, on preference for proportional representation in Sierra Leone, and the marginal effect reveals that, compared to the reference district, Western Area Urban District, residents from Bombali are 18.78 percentage points more likely to support the PR system of democratic governance in Sierra Leone than Western Area Urban District. The predicted probabilities reveal that while Western Area Urban District residents have a 60.1% probability of supporting the PR system, that for Bonthe is 78.9%.

4.2.6 Falaba District

The probit model coefficient for Falaba shows that residents from Falaba have a negative but statistically insignificant effect on preference for proportional representation in Sierra Leone, while the marginal effect reveals that, compared to the reference district, Western Area Urban District, residents from Falaba are 6.64 percentage points less likely to support the PR system of democratic governance in Sierra Leone than Western Area Urban District does. The predicted probabilities, which reveal that Western Area Urban District residents have a 60.1% probability of supporting the PR system, indicate that Falaba District residents have a 53.5% probability of supporting PR.

4.2.7 Kailahun District

The probit model coefficient for Kailahun District shows that residents from Kailahun District have a positive and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that, compared to the reference district, which is Western Area Urban District, residents from Kailahun District are 37.93 percentage points more likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities, which reveal that Western Area Urban District residents have a 60.1% probability of supporting the PR system, indicate that Kailahun District residents have a 98.1% probability of supporting PR.

4.2.8 Kambia District

The probit model coefficient for Kambia District shows that residents from Kambia District have a positive but statistically insignificant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that compared to the reference district, which is Western Area Urban District, residents from Kambia District are 5.82 percentage points more likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities, which reveal that Western Area Urban District residents have a 60.1% probability of supporting the PR system, indicate that Kambia District residents have a 65.82% probability of supporting PR.

4.2.9 Karene District

The probit model coefficient for Karene District shows that residents from Karene District have a negative and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that compared to the reference district, which is Western Area Urban District, residents from Karene District are 41.1 percentage points less likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities, which reveal that Western Area Urban District residents have a 60.1% probability of supporting the PR system, indicate that Kambia District residents have a 19.0% probability of supporting PR.

4.2.10 Kenema District

The probit model coefficient for Kenema District shows that residents from Kenema District have a positive and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that, compared to the reference district, which is Western Area Urban District, residents from Kenema District are 30.6 percentage points more likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities reveal that Kenema District residents have a 90.80% probability

of supporting PR compared to the reference district, Western Area Urban District residents, which has a 60.1% probability of supporting the PR system in Sierra Leone.

4.2.11 Koinadugu District

The probit model coefficient for Koinadugu District shows that residents from Koinadugu District have a negative and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that compared to the reference district (Western Area Urban District), residents from Koinadugu District are 51.0 percentage points less likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities reveal that Koinadugu District residents have a 9.10% probability of supporting PR compared to the reference district (Western Area Urban District) residents, which has 60.1% probability of supporting the PR system in Sierra Leone.

4.2.12 Kono District

The probit model coefficient for Kono District shows that residents from Kono District have a positive and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that, compared to the reference district (Western Area Urban District), residents from Kono District are 24.1 percentage points more likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities reveal that Kono District residents have an 84.3% probability of supporting PR, compared to the reference district (Western Area Urban District) residents, which has 60.1% probability of supporting the PR system in Sierra Leone.

4.2.13 Moyamba District

The probit model coefficient for Moyamba District shows that residents from Moyamba District have a positive but statistically insignificant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that, compared to the reference district (Western Area Urban District), residents from Moyamba District are 10.9 percentage points more likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities reveal that Moyamba District residents have a 71.1% probability of supporting PR, compared to the reference district (Western Area Urban District) residents, which has 60.1% probability of supporting the PR system in Sierra Leone.

4.2.14 Port Loko

The probit model coefficient for Port Loko District shows that residents from Port Loko District have a negative and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that, compared to the reference district (Western Area Urban District), residents from Port Loko District are

52.6 percentage points less likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do. The predicted probabilities reveal that Port Loko District residents have a 7.5% probability of supporting PR, compared to the reference district (Western Area Urban District) residents, which has 60.1% probability of supporting the PR system in Sierra Leone.

4.2.15 Pujehun

The probit model coefficient for Pujehun District shows that residents from Pujehun District have a positive and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that compared to the reference district (Western Area Urban District) residents from Pujehun District are 30.3 percentage points more likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do, with the predictive probability of supporting PR system being 90.4%, while that for the reference district (Western Area Urban District) is 60.1%.

4.2.16 Tonkolili

The probit model coefficient for Tonkolili District shows that residents from Tonkolili District have a negative and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that compared to the reference district (Western Area Urban District) residents from Tonkolili District are 20.2 percentage points less likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do, with the predictive probability of supporting PR system being 39.9%, while that for the reference district (Western Area Urban District) is 60.1%.

4.2.17 Western Area Rural District

The probit model coefficient for Western Area Rural District shows that residents from the District have a negative and statistically significant effect on preference for proportional representation in Sierra Leone, and the marginal effect reveals that compared to the reference district (Western Area Urban District), residents from this District are 16.4 percentage points less likely to support the PR system of democratic governance in Sierra Leone than the Western Area Urban District residents do, with a predictive probability of 43.7% for supporting the PR system, while that for the reference district (Western Area Urban District) is 60.1%.

4.3 Conclusion from the District Level PR Determinant Analysis

The table shows the measured p-values of the marginal probabilities. Bo, Bonthe, Kailahun, Kambia, Kenema, Kono, Moyamba and Pujehun have higher probabilities of supporting PR than Western Area Urban, which is the reference category, and Bombali, Falaba, Karene, Koinadugu, Port Loko and Western Area Rural District have lower probabilities of supporting PR than Western Area Urban. However, marginal

probabilities for Falaba, Kambia and Moyamba are not significant, suggesting their probability preferences are not different from Western Area Urban PR support probabilities. Also, while Koinadugu and Port Loko are on the very low side in terms of the estimated predictive probability of supporting the PR system, that for Koinadugu is insignificant, as measured by the P-value for the predictive probability, which is 10.9 %. The chi-squared test of joint significance shows that the district dummies are jointly significant at the 1% level. Thus, the preference for the PR system in Sierra Leone depends on the district of location of respondents.

4.4 Other Characteristics and Preference for a More Inclusive Political System

4.4.1 Gender

The coefficient of the male dummy shows that gender is not significant in determining preference for the PR system in Sierra Leone. Thus, though male probability of preference for PR is less than that for females, as shown by the negative sign of the male dummy, its p-value of 0.998 implies that gender is not significant.

4.4.2 Age

The result also shows that age does not determine the preference for PR in Sierra Leone, as all the age dummy variables are significant. That is, though ages 25 to 35 and 36 to 45 have a higher probability of supporting PR than the reference age and 45-55 and 56-60 have a lower probability than the reference age, as measured by the marginal value, age does not matter in the preference for the PR system in Sierra Leone.

4.4.3 Education

The result for the education dummy shows that people with advanced level degrees and those with no formal education are less likely to support PR than the reference category for education, which is primary education, while secondary, first degree and diploma education holders are more likely to support the PR system in Sierra Leone than the reference education category of primary education. However, it is only the dummy for diploma education that is significant, with a p-value of 0.018 (significant at the 5 percent level of significance). Also, based on Table 4 the joint test of significance for education shows that education is not significant as a factor that determines preference for the PR system, with a p-value of 0.164.

4.4.4 Employment

The model result shows that government employees, self-employed workers and students are more likely to support the PR system than the not employed, which is the reference category, while the private sector wage workers and the retirees are less likely to support the PR system than the not employed category. The joint test of significance, shown in Table 4, shows that the employment dummy variables are jointly significant.

The result for private sector employees and the retirees could be attributed to the following reason. Private sector worker relies on stable markets and predictable

government policies, and they may therefore prefer a consistent policy path, which makes them prefer the PR system more than the not employed that are searching for jobs and may want a change in order to give them more chances for jobs. Also, the retirees, with long-standing experience, may consider that a change may impact their social life and may consider that the system they know is better.

The results for government employees, the self-employed and students could be attributed to the idea that government workers see their incomes as stable and are not worried about income instability and are therefore more open to systems that are more inclusive. Also, for the self-employed, which is dominated by small and medium enterprises in Sierra Leone, they consider themselves underrepresented in a majoritarian system and stand a higher chance of being represented in parliament. For the students, they tend to be more exposed to principles of democracy and consider the PR system as an improved way to represent their people once they enter the labour market.

4.4.5 Plan to Be a Member of Parliament

The result shows that the dummy for those who plan to be a member of parliament in Sierra Leone in future are less likely to support PR than those who do not plan to be a member of parliament. However, this variable is not significant at the conventional levels of significance of 1% and 5%. The gap in the likelihood is 5.6%, as shown by the marginal value of the dummy capturing the plan to be a member of parliament.

4.4.6 Proportional Representation and Development Outcome

The result shows that improved development outcome in Sierra Leone is a more likely reason to support PR than otherwise, given a positive coefficient in the probit model, and the reason is significant at the 1% level given a p-value of 0.001. In addition, based on the marginal effects, PR is 15.9% more likely to attract support based on the expected development outcome associated with it than otherwise.

4.4.7 Participation of Women

The model result shows that preference for PR in Sierra Leone is driven by the expected increase in female participation in governance, as judged by the positive coefficient of the women participation dummy in the estimated probit model and the significance of this coefficient at the 1% level of significance, with a p-value of 0.001. Moreover, the expected increase in female participation in governance as a reason is 13.9% more likely to be why PR is supported than no impact on female participation. Specifically, the probability of someone giving women's participation as a reason for supporting PR is 60.7%, while it is 46.8% for some who support PR but not due to increased women's participation.

4.4.8 Other Model Variables

The model result shows that political stability, the idea that the people consider their votes to matter more, increased youth participation, and the impact on accountability of

the members of parliament are not significant factors for the preference for the PR system in Sierra Leone.

4.5 Joint Test of Significance of Variables

Table 4, which is the joint test, shows that location matters for the decision on whether PR is preferred or not, as the joint dummies for districts are jointly significant.

Table 4: Joint Test for Significance of Multiple Dummy Variables

Variables Jointly Tested	Chi-Squared	P-Value	Conclusion	Implication
District Dummy Variables	303.45	0.000	Dummy Variables are significant	Location matters for preference for PR
Education Dummy Variables	7.86	0.164	Dummy Variables are insignificant	Education does not matter for preference for PR
Age Dummy Variables	6.68	0.246	Dummy Variables are insignificant	Age does not matter for choice of PR
Employment Dummy Variables	16.48	0.006	Dummy Variables are significant	Employment matters for preference for PR
Overall Model Significance Test				
Variables Jointly Tested	LR Stat.	P-value	Conclusion	Implication
All model variables	566.37	0.000	Model variables are jointly significant	The Probit model explains PR support in Sierra Leone well

4.5.1 Model Validity Tests

4.5.1.1 Overall Significance

To determine whether the estimated model of PR is statistically reliable and correctly specified, thus making it useful for inferences or prediction, diagnostics tests were carried out. The overall model significance (the joint test), as indicated by the likelihood ratio (LR), reveals that the model variables are jointly significant, as the p-value for the LR test is 0.000, implying they are jointly significant at the 1% level. This result is shown at the bottom of Table 4.

4.5.1.2 Goodness of Fit

Judged by the Pseudo R-Squared, as the probit model is a non-linear model, the goodness of fit of the model is strong, as it is more than 0.20. We also consider the predictive accuracy or classification of the model. This result is shown at the bottom of Table 4.

4.5.1.3 Classification Analysis

Table 5 shows the results of the classification tests. The classification rates indicate that the model is a good predictor of PR support probability, as indicated by the overall prediction accuracy measure, the sensitivity measure, the specificity measure, the positive predicted value measure and the negative predicted value measure. In addition, all the false rates are small, with the highest being only about 30%.

4.5.1.4 Correctly Classified Observations (Overall Prediction Accuracy)

We also check the classification of the model, which deals with how well the model predicts the support or no preference for PR. The result shows that the probit model correctly predicts 80.82% of the observations. Hence, it has good predictive power.

4.5.1.5 Sensitivity (True Positive Rate)

The sensitivity assessment shows how well the model predicts preference for PR. Thus, the result shows that 88.73% of the preferences for PR are predicted by the model.

4.5.1.6 Specificity (True Negative Rate)

The specificity shows how well the model predicts no preference for PR. Thus, the result shows that 69.33% of the individuals who do not support PR are predicted correctly.

4.5.1.7 Positive Predicted Values (PPV)

The result shows that out of the individuals who are predicted as having a preference for PR, 80.79 % actually support PR.

4.5.1.8 Negative Predicted Values (NPV)

The result shows that out of the individuals that are predicted as having no preference for PR, 80.88 % do not support PR.

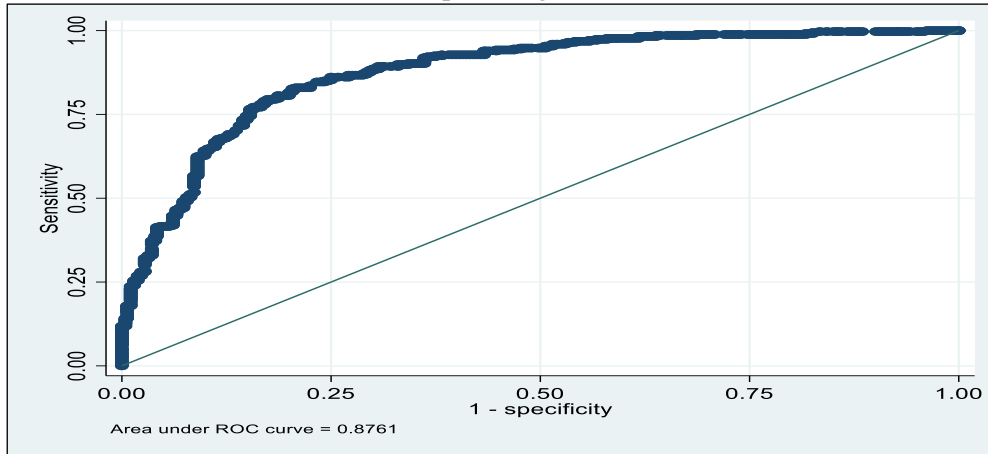
Table 5: The Accuracy Classification Table

	True		
Classified	D	~D	Total
+	614	146	760
-	78	330	408
Total	692	476	1168
Classified + if predicted $\Pr(D) \geq 0.5$ True D is defined as Pr is not equal to zero.			
Sensitivity	$\Pr(+/D)$		88.73%
Specificity	$\Pr(-/-D)$		769.33%
Positive predictive value	$\Pr(D/+)$		80.79%
Negative predictive value	$\Pr(\sim D/-)$		80.88%
False + rate for true ~D	$\Pr(+/-D)$		30.67%
False - rate for true D	$\Pr(-/D)$		11.27%
False + rate for classified +	$\Pr(\sim D/+)$		19.21%
False - rate for classified -	$\Pr(D/-)$		19.12%
Correctly classified			80.82%

Figure 1 shows the model-based OCR curve, which is closer to the upper-left corner than the 45-degree diagonal line, implying that the model has good predictive performance. Also, the area under the curve being close to 1, at 0.8761, implies that the predictive performance of the model is excellent. Thus, it implies that the model has an 87.61%

probability of correctly ranking or classifying a randomly chosen supporter of PR higher than a randomly chosen non-supporter of PR.

Figure 1: Model Received Operating Characteristics (ROC) Curve



5. Conclusion

As democratic consolidation is critical in enhancing social cohesion and reducing the likelihood of violence, which has in many instances led to loss of lives and assets on the part of not only governments but also the private sector, and it is not conducive to a stable macroeconomic environment that can bring increased foreign direct investment inflows to complement domestic investment finance, many countries on the globe have always been on the part of improving democratic governance. However, in some jurisdictions in Africa, this has not been a consistent policy effort, which is marred by various factors. In Africa, there are various ethnic groups in several countries, including Sierra Leone. For Sierra Leone, this is characterized by having some ethnic groups clustered in particular regions, and some regions associated with a given set of ethnic groups tend to be the political strongholds of one of the two traditional parties that have been in democratic governance since independence- the Sierra Leone Peoples' Party (SLPP), the ruling party (2018-) and the All People's Congress (APC, whose most recent ruling era was 2007 to 2018). This feature could lead to a situation where important political reforms that can consolidate democracy are not preferred from an objective social welfare function, but rather the preference may draw from a subjective, sub-optimal individual objective function.

The study therefore investigated whether the preference for democratic consolidation implemented through proportional representation, like the reform of 2022, implemented in the 2023 election in Sierra Leone, is driven by ethnic consideration or has no link to ethnic consideration. A survey of 1,200 adults who are at least 18 years old was conducted across the 16 districts in Sierra Leone, from the 16 districts, focusing on the headquarters. Pearson's Chi-Square test of independence between district and PR preference from a contingency table (two-way frequency distribution) and the associated Cramer's V statistics were employed. This was complemented with the probit binary

choice model of preference or no preference for proportional representation, which reveals marginal and predictive probabilities by district and shows causation, unlike the former, which provides only an association.

The results show that the preference for Sierra Leone's proportional representation by the respondents is strongly linked to ethnicity, for which district of location is used as a proxy, implying that ethnicity undermines Sierra Leone's democratic consolidation process.

Based on this result, since ethnicity undermines democratic consolidation in Sierra Leone, it is important that the Electoral Commission for Sierra Leone and the civic education institutions jointly strengthen efforts to explain in accessible languages how the PR and the first-past-the-post translate votes into seats to ensure that the citizens do not evaluate electoral systems through their perceived consequences for their communities. It is also useful for Sierra Leone to employ policies that would encourage political parties to develop national instead of predominant ethnic support bases and promote measures that build district or regional inclusive party platforms.

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Conflict of Interest Statement

The views expressed in this paper are those of the authors but not their institutions of affiliation.

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References

- Ayamba, I. A. *et al.* (2024). Conflict, elections and the politics of the winner-takes-all in Africa. *International Journal of Geopolitics and Governance*, 3(1), 133-145. <https://doi.org/10.37284/ijgg.3.1.2541>
- Banducci, S. A., *et al.* (1999). Proportional Representation and attitudes about politics: Results from New Zealand. *Electoral Studies*, 18(4), 533-555. Elsevier. [https://doi.org/10.1016/S0261-3794\(99\)00019-0](https://doi.org/10.1016/S0261-3794(99)00019-0)
- Bangura, Y. (2015). *Development, democracy and cohesion: Critical essays with insights on Sierra Leone and wider Africa contexts*. Osman Sankoh (Mallam O.). Retrieved from <https://www.wider.unu.edu/publication/development-democracy-and-cohesion>
- Bangura, Y. (2005). *Racism and public policy*. Palgrave Macmillan. Retrieved from https://books.google.ro/books/about/Racism_and_Public_Policy.html?id=oRe5A AAAIAAJ&redir_esc=y
- Boyle, J. (2024). *The line. AI and the future of personhood*. MIT Press. Retrieved from <https://direct.mit.edu/books/book/5859/The-LineAI-and-the-Future-of-Personhood>
- Bratton, M., & van de Walle, N. (1997). *Democratic Experiments in Africa: Regime transitions in comparative perspective*. Cambridge University Press. Retrieved from https://books.google.ro/books/about/Democratic_Experiments_in_Africa.html?id=h-2nF6ls7B0C&redir_esc=y
- Casey, T. (2008). *The social content of economic change in Britain: Between Policy and performance*. Manchester University Press. Retrieved from https://books.google.ro/books/about/The_Social_Context_of_Economic_Change_in.html?id=duHv6Aw9gAUC&redir_esc=y
- Cho, W. (2010). Citizens' perceptions of government responsiveness in Africa. Do electoral systems and ethnic diversity matter? *Comparative Political Studies*, 43(12). <https://doi.org/10.1177/00104010374019>
- Clayton G. L., *et al.* (2017). The INVEST project: Investigating the use of evidence synthesis in the design and analysis of clinical trials. *Trials*, 18, Article 219. <https://doi.org/10.1186/s13063-017-1955-y>

- Gallego, A. *et al.* (2014). Places and preferences: A longitudinal analysis of self-selection and contextual effects. *British Journal of Political Science*, 46(3), 529-550. <https://doi.org/10.1017/S0007123414000337>
- Huber, J. D. (2012). Measuring ethnic voting: Do proportional electoral laws politicize ethnicity? *American Journal of Political Science*, 56(4), 986-1001. <https://doi.org/10.1111/j.1540-5907.2012.00601.x>
- Lijphart, A. (1977). *Democracy in plural societies: A comparative exploration*. Yale University Press. Retrieved from <https://www.jstor.org/stable/j.ctt1dszvhq>
- Lijphart, A. (2012). *Patterns of democracy: Government forms and performance in thirty-six countries* (2nd ed.). Yale University Press. Retrieved from <https://www.jstor.org/stable/j.ctt32bg23>
- McClendon, T. K. (2026). Why intelligence measurement fails and what it would take to get it right. SSRN. <https://doi.org/10.2139/ssrn.6572518>
- Reno, W. (1998). *Warlord politics and African States*. Lynne Rienner Publishers. Retrieved from https://books.google.ro/books/about/Warlord_Politics_and_African_States.html?id=rUpCIqrw-fgC&redir_esc=y