How Did Voters Decide in the 2012 and 2016 Presidential Elections in Ghana? The Implications for Future Elections

Gbensuglo Alidu Bukari,[1] Justice Yaw Adua[2], Mohammed Alhassan[3]

[1] Department of Political Science, University for Development Studies, Box TL 1350, Tamale-Ghana, West Africa

[2] Department of Sociology and Social Work, University for Development Studies, Box TL 1350, Tamale-Ghana, West Africa

[3] Department of Sociology and Social Work, University for Development Studies, Box TL 1350, Tamale-Ghana, West Africa

Correspondence: Gbensuglo Alidu Bukari, Department of Political Science, University for Development Studies, Box TL 1350, Tamale-Ghana, West Africa. E-mail: gbukari@uds.edu.gh; ORCID: 0009-0002-8160-6620

Abstract

This paper analysed the determinants and citizens' choice of a presidential candidate in the Ghanaian 2012 and 2016 elections. The analysis utilised survey data obtained from respondents in the study areas. It examined perspectives of the individual voters on various issues matters pertaining to elections as well as their sentiments regarding personal and communal socio-economic outcomes. The findings revealed that voting for a presidential candidate in an election is influenced by individual voter access to income, education level, employment status, and development policy in the 2012 and 2016 presidential elections. The results also revealed that voters are influence by other factors such as the candidate's capacity to enhance and advance the national economy, political party affiliation, candidate orientation and likability. The findings of the analysis suggest that political parties and presidential candidates in an election in Ghana should give careful consideration to the elements and issues identified. Based on the findings, the we recommended that presidential candidates/or political parties should prioritise the issues identified in their campaign strategies and policy agendas.

Keywords: politics, election, presidential, choice, voting, participation, democracy, parties, Ghana

1. Introduction

Ghana, gained her independence from Great Britain on March 6, 1957, and became. Republic on July 1, 1960 (Buah, 1998). The era from February 24, 1966, to January 7, 1993, witnessed a significant level of political instability characterised by a series of both successful and unsuccessful military coups. It was during this period that the Fourth Republican Constitutional System was introduced (Bukari, 2017; Alidu & Bukari, 2020; Anaman & Bukari, 2021; Bukari, 2022; Bukari et al, 2022a&b; Mbowura et al, 2023).

The country however experienced a notable period of political stability during the past thirty-three years, devoid of any military intervention since January 7, 1993. The prevailing state of apprehension in the country can largely be attributed to the presence of local conflicts related to electoral processes, disagreements over chieftaincy, ethnic tensions, and developmental obstacles. At the national level, the political landscape of Ghana's Fourth Republic has transformed into a two-party system that exhibits characteristics of a zero-sum game. This is evident in the intense competition for political dominance between two prominent political parties. The political landscape in question comprises the New Patriotic Party (NPP) and the National Democratic Congress (NDC). The two parties have been successful in securing victories in both presidential and legislative elections since 1992, subsequently assuming governmental control (Bukari, 2017; Anaman & Bukari, 2019a &b; Bukari et al, 2023; Alidu & Bukari, 2020; Anaman & Bukari, 2021; Bukari, 2022; Bukari et al, 2022a&b; Mbowura et al, 2023). Despite seeing consistent economic growth in terms of annual changes in real GDP since 1984, Ghana has witnessed an inconsistent trend in voter turnout throughout presidential elections. The underlying factor leading to this phenomenon remains ambiguous; nevertheless, there was a noticeable decline in voter turnout during these election occurrences, with a decrease from 79.2 percent in 2012 to a margin of 68.6 percent in 2016. Despite a notable increase in economic growth that has lifted a considerable number of individuals out of poverty, as indicated by the decline in the proportion of people living on less than 1.25 dollars per day from 51 percent in 1991–1992 to 24 percent in 2015–2016,

there has been a concomitant rise in income inequality. An illustration of the reduction in income equality within Ghana can be observed through the Gini coefficient. The Gini coefficient for Ghana grew from 41.9 in the years 2005–2006 to 42.3 in the period 2012–2013 (Ghana Statistical Service, 2014).

Anaman and Agyei-Sasu (2014) and Anaman (2016) provided additional insights into the increasing disparity in income by revealing that between 1993 and 2012, the proportion of GDP allocated to labour remained relatively stable at approximately 45 percent, whereas the portion of GDP allocated to owners of artificial capital, such as machinery and equipment, consistently increased from 15 percent in 2001 to 38 percent in 2012. The Ghana Statistical Service's most recent living standards survey, performed in 2016-2017, also reveals a deterioration in income disparity. Significantly, this survey aligns with a decrease in voter engagement during nationwide presidential elections, decreasing from 79.2 percent in 2012 to a meagre 68.6 percent in 2016 for reasons that remain unexplained. This paper explores the factors that influenced voter choice of presidential candidate in the 2012 and 2016 elections, as well as the potential consequences this has for the next electoral procedures in Ghana. The subsequent sections of the paper are structured in the following manner: The next section is the methodology, followed by the statistical model employed in the analysis, analysis of the findings, concluding and references.

2. Methodology

2.1 Study Design

The study was designed to ensure that respondents have equal chance of being included in the sample. In order to achieve this objective, series of measures were implemented: a) Initially, the ten administrative regions of Ghana were categorised based on voting patterns, with a specific focus on swing and non-swing tendencies. b) Subsequently, a deliberate selection was made to include these regions in the investigation. c) Similarly, the constituencies were classified based on two criteria: (1) their rural-urban characteristics and (2) their swing nature in relation to voting patterns. The study adopted a purposive sampling technique to pick the constituencies, followed by random selection methods, ensuring proportional representation based on the constituency population size. The survey's sample frame includes all individuals who meet the eligibility criteria of being 18 years of age or older and are registered voters in the country. In this study, four constituencies (Agona East; Effutu; Techiman North and Sunyani East) were picked. It is worth noting that, the four constituencies have also accurately determined the winner of Ghana's 2012 and 2016 presidential elections.

2.2 Sample Design

The sample selection was also based on some underlying assumptions as follows:

i.   The study used the assumption of a 95 percent confidence interval, which suggests that the chosen sample size was appropriate within this level of statistical significance;

ii.   A significance level equaling 5 percent inferred that there would be less than a 5 percent likelihood that findings were merely obtained by chance. In simpler terms, this translates into roughly a five-in-one-hundred chance that the null hypothesis would be erroneously rejected when it ought to be accepted;

iii. Due to the limited ability of researchers to exert influence on survey respondents, it was assumed that there would be an expected response rate of 90 percent;

iv.   The aim of determining the sample size was to determine the minimum number of cases required to detect the smallest effect size for any tests undertaken in the study;

v.   We considered a scenario where respondents were presented with a binary choice, having an equal probability of answering a specific question with either a "yes" or "no" response;

vi.   The study's questionnaire was designed to be answered by individuals in Ghana who were 18 years of age or older and had completed the voter registration process.

A "simplified formula to calculate sample sizes" (Yamane, 1967, p.886) was utilised to ascertain the minimal statistically valid sample size, presuming a confidence level of 95 percent and P = 0.05.

$$n = \frac{N}{(1+N(\alpha^2))} \qquad \textbf{Equation 1}$$

Where:

n = Sample Size; N = sample frame (226,359); α = confidence interval; and 1 = constant. By substitution, therefore, n = 399.99 = 400. Thus, 'n' value of four hundred (400) was adopted as the statistically significant for the survey.   But, accounting for account for non-response, added 200 making sample for the study.

2.3 Model Estimation

The process of regression analysis is executed with the aim to pinpoint the determining factors that influence voter participation and decision-making in the election. The multivariate logistic regression equation is represented in the equation below:

$$\text{PARTICIPATION2012}_i = B_0 + B_1 \text{ INCOME} + B_2 \text{ URBAN}_i + B_3 \text{ AGE} + B_4 \text{ SEX}_i + B_5$$
$$\text{MARRIEGE}_i + B_6 \text{YEARSOFEDUCATION}_i + B_7 \text{EMPLOYMENT}_i + B_8 \text{CHRISTIAN}_i + B_9 \text{MUSLIM}_i + B_{10}$$
$$\text{ASANTE}_i + B_{11} \text{EWE}_i + B_{12} \text{AGONA}_i + B_{13} \text{BONO}_i + B_{14} \text{FANTE}_i + B_{15} \text{EFFUTU} + U_i \qquad \textbf{Equation 2}$$

Where:

PARTICIPATION2012$_i$ is the dependent variable;

INCOME$_i$ is the personal income of the respondent i;

URBAN$_i$ is a dummy variable with a value of (1) if the respondent lived in urban, and zero (0) if lived in rural;

AGE$_i$ is the age of the respondent i in years;

SEX$_i$ is the sex of the respondent i with (1) if male and (0) if female

MARRIAGE is the marital status of the respondent i with (1) if married and (0) if unmarried;

YEARSOFEDUCATION is the defined as the years of education of respondent i;

EMPLOYMENT is the employment status of a respondent i with (1) if employed and (0) if unemployed;

CHRISTIAN$_i$ is defined respondent i (1) if Christian and (0) if not a Christian;

MUSLIM$_i$ defined (1) if Muslim and (0) if not a Muslim;

ASANTE$_i$ defined respondent as (1) if Asante and (0) if not Asante;

EWE$_i$ defined respondent as (1) if Ewe and (0) if not Ewe;

AGONA$_i$ defined respondent as (1) if Agona and (0) if not Agona;

BONO$_i$; defined respondent as (1) if Bono and (0) if not Bono;

FANTE$_i$ defined respondent as (1) if Fante and (0) if not Fante**;**

EFFUTU$_i$ defined respondent as (1) if Effutu and (0) if not Effutu;

U$_i$ is a random term with zero mean and constant variance.

The second model is also a logistic regression employed to ascertain likelihood of a respondent choosing a particular presidential candidate is as follows:

$$\text{CHOICENDC2012}_i = B_0 + B_1 \text{ PINCOME}_i + B_2 \text{ URBAN}_i + B_3 \text{ AGE} + B_4 \text{ SEX}_i + B_5 \text{ MARRIEGE}_i + B_6$$
$$\text{YEARSOFEDUCATION}_i + B_7 \text{EMPLOYMENT}_i + B_8 \text{ CHRISTIAN}_i + B_9 \text{MUSLIM}_i + B_{10} \text{ ASANTE}_i +$$
$$B_{11} \text{EWE}_i + B_{12} \text{ AGONA}_i + B_{13} \text{BONO}_i + B_{14} \text{ FANTE}_i + B_{15} \text{ EFFUTU} + U_i \qquad \textbf{Equation 3}$$

Where:

CHOICENDC2012$_i$ defined a (10 if the respondent i voted NDC and (0) if not;

INCOME$_i$ is the personal income of the respondent i;

URBAN$_i$ is defined as a value of (1) if the respondent lived in urban, and zero (0) if lived in rural;

AGE$_i$ defined age of respondent i in years;

SEX$_i$ is the sex of the respondent i with (1) if male and (0) if female

MARRIAGE is the marital status of the respondent i with (1) if married and (0) if unmarried;

YEARSOFEDUCATION is the defined as the years of education of respondent i;

EMPLOYMENT is the employment status of a respondent i with (1) if employed and (0) if unemployed;

CHRISTIAN$_i$ is defined respondent i (1) if Christian and (0) if not a Christian;

MUSLIM$_i$ defined (1) if Muslim and (0) if not a Muslim;

ASANTE$_i$ defined respondent as (1) if Asante and (0) if not Asante;

EWE$_i$ defined respondent as (1) if Ewe and (0) if not Ewe;

AGONA$_i$ defined respondent as (1) if Agona and (0) if not Agona;

BONO$_i$; defined respondent as (1) if Bono and (0) if not Bono;

FANTE$_i$ defined respondent as (1) if Fante and (0) if not Fante**;**

EFFUTU$_i$ defined respondent as (1) if Effutu and (0) if not Effutu;

U$_i$ is a random term with zero mean and constant variance.

The third model regression model is as follows:

$$\text{CHOICENPP2016}_i = B_0 + B_1 \text{ PINCOME}_i + B_2 \text{ URBAN}_i + B_3 \text{ AGEASAT2012} + B_4 \text{ SEX}_i + B_5$$
$$\text{MARITALSTATUSIN2012}_i + B_6 \text{ YEARSOFEDUCATIONASAT2012}_i + B_7 \text{EMPLOYMENTSTATUSIN2012}_i +$$
$$B_8 \text{ CHRISTIAN}_i + B_9 \text{MUSLIM}_i + B_{10} \text{ ASANTE}_i + B_{11} \text{EWE}_{i\,+} B_{12} \text{ AGONA}_i + B_{13} \text{ BONO}_i + B_{14} \text{ FANTE}_i + B_{15}$$
$$\text{EFFUTU} + U_i \qquad\qquad\qquad \textbf{Equation 4}$$

Where:

CHOICENPP2016$_i$ defined as (1) if the respondent voted NPP and (00 if not;

INCOME$_i$ is the personal income of the respondent i;

URBAN$_i$ defined as a value of (1) if the respondent lived in urban, and zero (0) if lived in rural;

AGE$_i$ is the age of the respondent i in years;

SEX$_i$ is the sex of the respondent i with (1) if male and (0) if female

MARRIAGE is the marital status of the respondent i with (1) if married and (0) if unmarried;

YEARSOFEDUCATION is the defined as the years of education of respondent i;

EMPLOYMENT is the employment status of a respondent i with (1) if employed and (0) if unemployed;

CHRISTIAN$_i$ is defined respondent i (1) if Christian and (0) if not a Christian;

MUSLIM$_i$ defined (1) if Muslim and (0) if not a Muslim;

ASANTE$_{i\ \text{defined}}$ respondent as (1) if Asante and (0) if not Asante;

EWE$_i$ defined respondent as (1) if Ewe and (0) if not Ewe;

AGONA$_i$ defined respondent as (1) if Agona and (0) if not Agona;

BONO$_i$; defined respondent as (1) if Bono and (0) if not Bono;

FANTE$_i$ defined respondent as (1) if Fante and (0) if not Fante**;**

EFFUTU$_i$ defined respondent as (1) if Effutu and (0) if not Effutu;

U$_i$ is a random term with zero mean and constant variance.

2.4 Methodological Limitations

The study encountered several methodological limitations, key amongst them was how to determine which factors or variables influences voter choice of presidential candidate most. To deal with this limitation, a regression was conducted to determine their significance in influencing choice of presidential candidate in the 2012 and 2016 Ghanaian elections as presented in the tables below.

3. Results and Discussion

3.1 2012 National Presidential Election

The results of the logistic regression analysis are presented in Table 1. The model had a high level of resilience, as seen by its remarkable predictive capabilities. It achieved an impressive accuracy rate of 91.2 percent in correctly classifying data. Only three independent factors, namely AGE, YEARSOFEDUCATION, and EMPLOYMENT, demonstrated statistical significance in influencing the likelihood of a respondent participating in the 2012 presidential election. It is worth noting that none of the six ethnic factors demonstrated statistical significance in their impact on the dependent variable, which is the level of participation. The results demonstrated a substantial association between seven out of 15 variables and participation in the 2012 presidential election when analysed using aggregated data. Upon a closer examination using regression analysis, it was shown that just three variables exhibited a statistically significant impact on voting participation. Several factors were shown to contribute to a higher probability of voter engagement that election. These factors included the older age of respondents, higher levels of educational attainment, and employment status during the election year. This research suggests an association between increased age and eligibility for voting in Ghana. The age-related findings presented here align with the conclusions derived from studies undertaken in other nations (Wolfinger & Rosenstone, 1980; Franklin, 1996; Blais, 2000; Blais et al., 2004). According to prevailing

theories, elder adults are hypothesised to demonstrate a higher inclination towards participating in election processes in a democratic society.

There exists a positive correlation between the acquisition of higher educational qualifications and an enhanced understanding of civic responsibilities as well as a deeper appreciation of Ghana's democratic mechanisms. Individuals with these credentials demonstrate a higher propensity to engage in electoral activities. This argument is consistent with the assertion made by Milligan et al. (2004) that education produces beneficial external effects through its impact on political behaviour. Specifically, education increases citizens' participation in the electoral process, raises the likelihood of voting, and improves the quality of their engagement (Downs, 1957). Within this particular environment, the heightened level of educational achievement empowers individuals to acquire crucial knowledge pertaining to candidates and political factions actively participating in democratic electoral processes. The employment situation of individuals during an election year may influence their level of satisfaction with the democratic system, potentially leading to a higher likelihood of voting among those who are employed compared to those who are unemployed (Downs, 1957). The latter group may experience increased discouragement, which could deter their participation in the political process.

Table 1. Results of the Logistic Regression Analysis of Participation in the 2012 National Presidential Results

Explanatory Variable	Parameter Estimate	Standard Error	Probability level of Significance
INTERCEPT (CONSTANT)	-0.917	1.036	0.376
INCOME	0.000	0.000	0.214
URBAN	-0.377	0.371	0.310
AGE	0.043	0.020	0.031**
SEX	0.330	0.315	0.295
MARRIAGE	0.546	0.393	0.165
YEARSOFEDUCATION	0.080	0.033	0.016**
EMPLOYMENT	0.873	0.379	0.021**
CHRISTIAN	0.716	0.696	0.304
MUSLIM	0.391	0.688	0.569
ASANTE	0.314	1.095	0.774
EWE	-0.733	1.135	0.518
AGONA	0.580	0.672	0.388
BONO	0.513	0.485	0.290
FANTE	0.256	0.781	0.743
EFFUTU	0.368	1.088	0.735

Source: Survey Data, 2016.

Notes: ** Significant at the 5% level. Valid Sample used is 599 (with 53 not participating and 546 participating)

3.2 Choice of NDC Candidate in the 2012 Presidential Election

The results of the logistic regression analysis are presented in Table 2. The effectiveness of the model was considered moderate, as it correctly classified just 62.0 percent. In this study, it was found that all independent variables, with the exception of INCOME, did not demonstrate statistical significance at the 0.05 level. This finding suggests that an increase in individual wealth is associated with an increased likelihood of a participant voting for the 2012 NDC presidential candidate. The 14 remaining independent variables did not demonstrate statistical significance. The derived statistical indicators for the ASANTE and EWE variables provide valuable insights into the contrasting voting patterns exhibited by the Akan-Asantes and Ewes in the electoral processes of Ghana (Bukari, 2017; Anaman & Bukari, 2019a). Despite the alignment of the signals with the expected orientations, the parameters exhibit a lack of significance, possibly attributed to an inadequate representation of Akan-Asantes and Ewes within the sample. The sample size consists of respondents from four districts, as indicated in the table provided.

Table 2. Results of the Logistic Regression Analysis of the Choice of the NDC Presidential Candidate in the 2012 Presidential Election

Explanatory Variable	Parameter Estimate	Standard Error	Probability level of Significance
INTERCEPT (CONSTANT)	-0.099	0.646	0.026**
INCOME	0.000	0.000	0.026**
URBAN	-0.195	0.222	0.379
AGE	-0.008	0.009	0.384
SEX	0.249	0.190	0.191
MARRIAGE	0.230	0.230	0.318
YEARSOFEDUCATION	-0.027	0.020	0.187
EMPLOYMENT	0.281	0.197	0.155
CHRISTIAN	0.544	0.497	0.274
MUSLIM	0.261	0.504	0.605

ASANTE	-0.848	0.739	0.251
EWE	1.512	1.102	0.170
AGONA	0.338	0.305	0.268
BONO	0.005	0.285	0.985
FANTE	-0.215	0.351	0.540
EFFUTU	-0.953	0.544	0.080

Source: Survey Data, 2016. **Notes:** ** Significant at the 5% level. Valid sample used for the analysis is 596.

3.3 Choice of the NPP Candidate in the 2016 Presidential Election

The present study concludes with the development of a logistic regression model, which aims to ascertain the variables associated with the likelihood of an individual choosing the successful presidential candidate from the New Patriotic Party (NPP) in the national elections held on December 7, 2016. At the time the survey was commissioned, the election had not taken place yet. Therefore, the primary purpose of the analysis was to anticipate and assess the potential outcome of the election within the four districts. The outcomes of the logistic regression analysis are presented in Table 3, as shown below. The model demonstrated a moderate level of prediction accuracy, achieving a correct classification rate of 65.0 percent. None of the 15 independent variables in the model had statistically significant impacts on the dependent variable at the predetermined significance threshold of 5 percent, as stipulated for this study. Nevertheless, it is worth noting that two factors, namely sex and marital status in 2016, demonstrated a statistically significant impact on the dependent variable, which is the selection of the NPP presidential candidate in the election held on December 7, 2016. However, it is important to acknowledge that this significance was observed only at a significance level of 10 percent. The observed outcome suggested that there may be a correlation between respondents' marital status or gender and their decreased inclination to support the presidential candidate of the New Patriotic Party (NPP) in the December 2016 election. The 13 remaining independent variables did not achieve statistical significance, even when considering a threshold of 10 percent. Furthermore, a deeper understanding of interpersonal connections may be obtained by examining the indicators of ASANTE and EWE variables, which pertain to the inferences derived from contrasting voting behaviours exhibited by Akan-Asantes and Ewes in the context of presidential elections in Ghana (Bukari, 2017; Bukari, 2022). While the indications of the parameters align with the expected directions, their lack of significance may be attributed to the minimal representation of Akan-Asante and Ewe individuals within the sample of the sample respondents.

Table 3. Results of the Logistic Regression Analysis of the Likely Choice of the NPP (winning) Presidential Candidate in the 2016 Presidential Election

Explanatory Variable	Parameter Estimate	Standard Error	Probability level of Significance
INTERCEPT (CONSTANT)	0.395	0.650	0.543
INCOME	0.000	0.000	0.720
URBAN	0.273	0.212	0.198
AGE	-0.006	0.008	0.508
SEX	-0.327	0.183	0.074*
MARRIAGE	-0.356	0.208	0.087*
YEARSOFEDUCATION	-0.019	0.020	0.350
EMPLOYMENT	-0.126	0.258	0.626
CHRISTIAN	-0.314	0.452	0.487
MUSLIM	-0.449	0.458	0.327
ASANTE	0.667	0.588	0.257
EWE	-0.596	0.842	0.479
AGONA	-0.337	0.305	0.270
BONO	0.114	0.265	0.667
FANTE	0.350	0.344	0.309
EFFUTU	0.687	0.496	0.167

Source: Survey Data, 2016.

Notes: * Significant at the 10% level. The valid sample size used for the analysis is 596.

4. Conclusion and Policy Implications for Future Elections

4.1 Conclusion

This paper analysed and discuss the factors that motivate individuals to engage in electoral participation and their reasoning behind choosing a certain presidential It focuses on the presidential elections of Ghana in 2012 and 2016. The examination and associated discussions are based on a cross-sectional study that involved a random sample of respondents from four constituencies in the Central and Brong-Ahafo regions.

The acknowledged socio-economic factors influencing voter engagement encompassed income, the level of traditional educational attainment, and the occupational status of the individuals involved. The primary factor identified as crucial

in motivating individuals to endorse a presidential candidate was found to be the candidate's clear articulation of concerns centred around progress and growth. The selection of presidential candidates by voters is influenced by various factors, including their view of the candidate's ability to promote and improve the economy, their political party affiliation, and the candidate's personal temperament and appeal. A logistic regression analysis provided evidence that an individual's personal income significantly influenced their likelihood of selecting the NDC presidential candidate in the national elections held on December 7, 2012 and 2016.

4.2 Policy Implications for Future Elections in Ghana

The primary policy recommendation derived from the analytical findings in this paper is that political parties, candidates and individuals seeking success in a presidential campaign in the country should prioritised promoting equitable income access, actively engage with individuals with higher educational attainment, provide avenues for employment, and, most importantly, demonstrate a commitment to transparent approaches towards communal progress particularly in the swing electoral aeras in the Ghanaian political landscape. Also, it is crucial to take into account other factors when assessing voter preference for a presidential candidate. These factors include the candidate's capacity to foster and improve the national economy, their political party affiliation, as well as their orientation and appeal to the electorate.

Authors contributions

Gbensuglo Alidu Bukari was responsible for the study design, revising and data collection. Justice Yaw Adua and Mohammed Alhassan drafted the manuscript and revised it. All authors read and approved the final manuscript, and have therefore contributed equally to the paper.

Competing interests

The authors of this work declared that they have no known competing financial interests or personal relationships that could have appeared to influence outcome of the study reported in this paper.

Informed consent

Obtained.

Ethics approval

The Publication Ethics Committee of the Redfame Publishing.

The journal's policies adhere to the Core Practices established by the Committee on Publication Ethics (COPE).

Provenance and peer review

Not commissioned; externally double-blind peer reviewed.

Data availability statement

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

Data sharing statement

No additional data are available.

References

Alidu, S. M., & Bukari, G. A. (2020). Ethnic undercurrent and macro-level determinants of voter participation in Ghana's 2012 election: Implications for the 2020 national elections. *Legon Journal of the Humanities, 31*(1), 145-177. https://doi.org/10.4314/ljh.v31i1.6

Anaman, K. A. (2016). Impact of Democratic Political Transition on the Economy of Ghana, in Ninsin, Kwame A. (Ed.), *Issues in Ghana's Electoral Politics*, Council for the Development of Social Science Research in Africa, Dakar, Senegal, pp. 135-152. https://doi.org/10.2307/j.ctvh8r21x.12

Anaman, K. A., & Agyei-Sasu, F. (2014). The economic value of the environmental capital inputs used to produce gross domestic product in Ghana, 1993 to 2012. *Research in World Economy*, *5*(2), 74-92. https://doi.org/10.5430/rwe.v5n2p74

Anaman, K. A., & Bukari, G. A. (2019a). Political economy analysis of the macroeconomic impact of national elections in Ghana during the fourth republican era, 1992 to 2016. *Applied Economics and Finance*, *7*, May issue (in press). https://doi.org/10.11114/aef.v6i3.4202

Anaman, K. A., & Bukari, G. A. (2019b). Political economy analysis of the voter turnout and choices in national elections during the Ghana's fourth republican era, 1992 to 2016. *Research in World Economy, 6,* 28-44. https://doi.org/10.11114/aef.v6i3.4202

Anaman, K. A., & Bukari, G. A. (2021). Voter turnouts in presidential elections in Ghana: A Political economy analysis using district-level data. *Journal of Applied Economics and Finance*, *8*(1), 13-31. https://doi.org/10.11114/aef.v8i1.5083

Blais, A. (2000). *To Vote or Not to Vote: The Merits and Limits of Rational Choice Theory*. Pittsburgh: University of Pittsburgh Press. https://doi.org/10.2307/j.ctt5hjrrf

Blais, A., Gidengil, E., Nevitte, N., & Nadeau, R. (2004). Where does turnout decline come from? *European Journal of Political Research, 43*(2), 221-236. https://doi.org/10.1111/j.1475-6765.2004.00152.x

Buah, F. K. (1998). *A History of Ghana*. London: MacMillan Education Limited.

Bukari, G. A. (2017). *Political Economy Analysis of Elections in Ghana's Fourth Republic (1992 to 2016)*. Doctor of Philosophy Thesis, Accra, Ghana: University of Ghana.

Bukari, G. A. (2022). Political economy of elections and voting behaviour in Ghana's fourth republic, 1992-2020. *Africa Journal of Public Sector Development and Governance, 5*(1), 86-108. https://doi.org/10.55390/ajpsdg.2022.5.1.4

Bukari, G. A., Mbowura, C. K., & Arah, M. L. (2022a). Sweet electoral victory and painful defeat: analysis of the victory and defeat of the national democratic congress and John Dramani Mahama in the 2012, 2016 and 2020 presidential elections in Ghana. *Baltic Journal of Law and Politics, 15*(2), 1580-1599.

Bukari, G. A., Mbowura, C. K., & Arah, M. L. (2022b). Candidate selection and nomination methods: a historical review and analysis of presidential primaries in Ghana's Fourth Republic, 1992-2020. *Journal of Res Militaris, 12*(4), 1399-1412.

Downs, A. (1957). *An Economic Theory of Democracy*. New York: Harper and Row.

Franklin, M. N. (1996). Electoral Participation. In L. LeDuc, R.G. Niemi and P. Norris (Eds.), *Comparing Democracies: Elections and Voting in Global Perspective*, London: Thousand Oaks: Sage.

Ghana Statistical Service (2014). *Ghana Living Standards Survey Round 6 (GLSS) 6 Main Report*. Accra: GSS.

Mbowura, C. K., Bukari, G. A., & Arah, M. L. (2023). Historical analysis of the formation and structural organization of political parties in Ghana: a diagnosis of the national democratic congress. *Russian Law Journal*, *XI*(3), 2943-2955.

Milligan, K. S., Moretti, E., & Oreopoulos, P. (2004). Does Education Improve Citizenship? Evidence from the U.S. and the U.K. *Journal of Public Economics, 88*(9-10), 1667-1695. https://doi.org/10.1016/j.jpubeco.2003.10.005

Wolfinger, R. E., & Rosenstone, S. J. (1980). *Who Votes?* New Haven: Yale University Press.