

UNIVERSITY OF ADELAIDE

MASTER THESIS

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**POLITICAL PARTICIPATION IN DEVELOPING  
AFRICA**

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THE UNIVERSITY  
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## Declaration of Authorship

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# List of Abbreviations

<b>AU</b>	<b>African Union</b>
<b>CA</b>	<b>Correspondence Analysis</b>
<b>CDF</b>	<b>Cumulative Density Function</b>
<b>CLT</b>	<b>Central Limit Theorem</b>
<b>CPI</b>	<b>Consumer Price Index</b>
<b>CSES</b>	<b>Comparative Study of Electoral Systems</b>
<b>EIU</b>	<b>Economist Intelligence Unit</b>
<b>GDP</b>	<b>Gross Domestic Product</b>
<b>IMR</b>	<b>Inverse Mills Ratio</b>
<b>JCA</b>	<b>Joint Correspondence Analysis</b>
<b>MCA</b>	<b>Multiple Correspondence Analysis</b>
<b>OLS</b>	<b>Ordinary Least Squares</b>
<b>PDF</b>	<b>Probability Density Function</b>
<b>PoII</b>	<b>Political Participation Index</b>
<b>SES</b>	<b>Socioeconomic Status</b>
<b>SVD</b>	<b>Singular Value Decomposition</b>



## Chapter 1

# Political Activism in Developing Africa

### 1.1 Introduction

Over the last 25 years, low electoral turnout, steadily decreasing levels of civic participation and a general disengagement in conventional political activities in developed democracies induced a growing interest in political participation (see eg.: Dalton, 2004; Dalton, 2013; Norris, 1999; Putnam, 2000). The declining trend of citizens' active participation in political and social affairs prompts researchers to conceive it as a continuous change in political participation patterns (Putnam, 2000). Some argue, however, that the fear of a permanent fall in civic engagement is premature (Norris et al., 2002; Stolle and Hooghe, 2005; Berger, 2009). The phenomenon of a fall in political participation has been widely addressed in Western societies, especially the long litany of political scandals in recent years, particularly in America, which triggered a great interest in political activism. Yet, quantitative research on this topic is limited in developing countries, especially in sub-Saharan Africa. This thesis aims to propose a uniform methodology to build an index of political participation that measures citizens' engagement in political activities in sub-Saharan African countries. The novelty of this index is that it aims to capture not only differences between citizens' political activism within a country but also differences in political activism across sub-Saharan African countries.

The debate of the existence of declining participation levels highlights a few shortcomings in the political participation literature. Dalton, 2008 argues that this trend predominately emerges from changes in political activity modes rather than changes in participation levels. This alerted scholars that political participation can no longer be conceptualised as uni-dimensional (Verba, Nie, and Kim, 1978), more so, it sheds light on the multi-dimension of political engagement (Milbrath, 1981; Putnam, 2000).

The literature lacks a universal definition of political participation as scholars are at variance with grasping the essence of political participation. Earlier research focused on political participation in its pure form. Scholars conceptualised political participation narrowly by focusing on conventional modes through which citizens can engage in political affairs. Political participation was referred to legal actions of private agents that seek to directly influence the selection of politicians or government personnel and their respective actions (Verba, Nie, and Kim, 1971; Verba and Nie, 1972). This definition includes publicly visible activities such as voting, participating in a campaign or contacting elected representatives. However, it excludes any support activities such as protesting, marching in parades, attitudes, attending political meetings or expressing support. Evidence shows that citizens become increasingly disengaged in conventional forms and seek new ways to engage with politics,

most of which are not publicly visible, and ultimately fortify their political leverage (Dalton, 2008; Inglehart, 2020). In conjunction with the changing behaviour to engage in politics and the continuous expansion of political participation modes, it underlines the relevance of updating the potentially too narrow definition of political participation. These developments endorsed the deviation from a narrow-minded definition of political participation towards a broader view of political engagement. Accentuating the wider scope of political participation, the concept of political participation increasingly integrates the change in political behaviour patterns (see eg. Salisbury, 1975; Barnes, Kaase, and al, 1979; Verba, Nie, and Kim, 1978; Milbrath, 1981; Putnam, 2000; Berger, 2009). Milbrath, 1981, for example, adopted a broader definition of political participation to incorporate heterogeneous political attitudes of private citizens when engaging in political affairs. He expressed the importance of including support and ceremonial activities to traditional direct measures of political participation as some citizens are very actively participating, while others are only passively involved.

The complexity of defining political participation conceptually translates into difficulties to quantify political participation. Given the depth of literature related to political involvement, political participation is often measured inconsistently and one-dimensionally (Schwartz, 1984). No standardised measure of political participation is readily available in the literature. Many researchers use either a single or a combination of independent measures for political participation. Overwhelmingly, existing studies on the topic use records of voting (see eg. Campante and Chor, 2012; Coffe and Bolzendahl, 2011; Bratton, 2013; Bratton, Chu, and Lagos, 2010; Kuenzi and Lambright, 2011; Verba, Schlozman, and Brady, 1995). However, Duff et al., 2007 caution against the use of potentially over-reported voting records.<sup>1</sup> Others examine measures such as attending a community meeting (Isaksson, 2014), attending a rally (Brady, Verba, and Schlozman, 1995), participating in a protest, demonstrating or raising an issue (Isaksson, Kotsadam, and Nerman, 2014). The rapid expansion of political activities in the last decades made it difficult to quantify an individual political participation level. To overcome the unilateral use of political participation proxies and recognising the multi-layered nature of political participation, especially the rising popularity of unconventional political participation modes, researchers increasingly use composite measures of political participation to analyse the overall level of political activity. Pioneers in building an index for political participation include Verba and Nie, 1972 who propose a factor analysis to construct an index for political participation. Their study demonstrated that political participation can be divided into four interconnected yet distinct modes of political participation. The four identified categories are voting, campaigning, communal activities and personalised contacting (Verba and Nie, 1972).

Since the seminal work by Verba and Nie, 1972, various other studies adopt a factor analysis approach to compute an index (see eg. Kalaycioglu and Turan, 1981; Davidson and Cotte, 1989; Coffe and Bolzendahl, 2011; Beck and Jennings, 1979), but no such index exists for sub-Saharan African countries. Despite the prominence of employing the factor analysis technique, a growing literature constructs weighted and unweighted additive indices for political participation (see eg. Stoker and Jennings, 1995; Driskell, Embry, and Lyon, 2008; Kam and Palmer, 2008; Coffé and Bolzendahl, 2010; Mayer, 2011; Persson and Solevid, 2014; Ivaldi, Bonatti, and Soliani, 2017; Robinson and Gottlieb, 2021). The most relevant paper to my paper is Robinson and Gottlieb, 2021 who use the same survey

<sup>1</sup> Duff et al.'s (2007) analysis of the American National Election Study (NES) argues that the phrasing of the turnout question entails potential sources to over-report voting. They identify the respondent's social desirability to disclose voting information and their memory as sources of over-reporting.

data from Afrobarometer, 2018 between 2011-2012 to analyses the implications of matrilineal kinship on women in Malawi. They use the inverse covariance weighted approach of Anderson, 2008 – whereby constituent variables are mean-centred and standardised – to propose three indices to examine whether matrilineality closes the gender gap in political participation by equally distributing resources and education across genders. The first index is on political engagement, the second on political participation, and the third on civic participation. Their findings suggest that women in matrilineal societies are more engaged in politics compared to women in patrilineal and mixed societies.

Brady, Verba, and Schlozman, 1995 develop a theoretical resource model (see Robinson and Gottlieb, 2021) of political participation that quantifies the multi-dimensional nature of political participation through a composite index on an empirical level. Their study questions the fundamental reasons citizens do not participate in political affairs. Alongside the absence of psychological engagement with politics and the isolation of recruitment networks, they stress the importance of resources, such as time, money and civic skills. Encompassing this underlying complexity of resources conceived at a generic level, their model moves beyond the socioeconomic status (SES) model (e.g.: education, occupation and status). Moreover, the resource perspective allows for resource costs which adds an important variant of rational choice theory. After carefully building the theory of political participation, Brady, Verba, and Schlozman, 1995 estimate the model by linking resources and various political activities such as voting records, contact to politicians or campaigning. Their findings suggest that political interests and civic skills impact the decision to participate in political acts while time controls the amount of time devoted to political activities.

In this study, I propose a unified methodology to build a political participation index (Poll) and apply it to sub-Saharan African countries. I use a comprehensive cross-country pooled dataset from Afrobarometer, 2018 over six survey rounds (1999 - 2014) and cover 32 sub-Saharan African countries to evaluate the political stance in the region. The index is built using a multiple correspondence analysis (MCA) that combines conventional and support activities and classifies them according to their visibility into three categories. To allow for both country-level and cross-country analyses, the index is normalised at the country and the global level. The results indicate that political activism is low in the sub-Saharan region. Overall, heterogeneous political behaviour is observed among citizens and across countries. However, similar patterns are also observed among countries in terms of citizens' political participation. In particular, the results indicate that neighbouring countries share similar political participation patterns. In earlier survey rounds, countries in East Africa exhibited higher levels of political participation, whereas countries in South and West Africa reported lower levels. Overall, the highest political participation levels for all African regions were observed in 2008 as most countries faced a compulsory change in governance. Given the decline in political participation levels in 2014, the phenomenon of a decline in political participation observed in Western societies is also present in sub-Saharan Africa.

## 1.2 Measuring Political Participation

Political participation is a cornerstone of democracy. It is often considered as a relevant indicator of a well-functioning society that seeks a more advanced, informed and action-oriented political system.

It is the primary mechanism through which individuals hold governments accountable and influence political agents. As such, political participation is usually referred to as public involvement or engagement in political affairs or voluntary actions which directly or indirectly influences political decisions (Milbrath and Goel, 1977). Political action can take virtually all sorts of forms. Scholars (see eg. Lamprianou, 2013; Milbrath, 1981; Putnam, 2000) often classify political participation into two categories: institutionalised (conventional) forms and non-institutionalised (unconventional) forms of political participation. The former refers to legitimate and organised activities which are usually directly regulated by the institutional process (Kaase, 1999) – such as elections, contacting politicians, attending political meetings, being a member of a political party or campaign activities. Non-institutionalised forms are associated with activities unrelated to the electoral process and the functioning of political institutions (Fuchs and Klingemann, 1995). These informal and unofficial political acts include a wide array of activities such as protest rallies, personal interest in politics, signing petitions, commentaries on social networks or illegal and aggressive actions. Aside from the general distinction, Campante and Chor, 2012 identify the forms of political engagement in terms of their tangibility. They differentiate between soft and hard measures of political participation. Given that the concept of political participation is heavily overloaded with ideological meaning (Salisbury, 1975), in this study, I refer to political participation as all actions or behaviour intended to influence political decisions. Insofar citizens can actively and passively engage in politics, pursue conventional or unconventional political activities. This interpretation allows to include any collective or individual action that supports or opposes features of politics or the government, such as political structures or decisions regarding resource allocations.

To quantify political participation, the literature often resorts to a variety of political participation measures. However, these measures are far from being standardised across countries. Often, the idea of using proxies, such as voting records or attending political events, neglects any other form of political participation. Hereby, it forecloses the possibility that an individual who does not vote may still participate in other forms of political activities. More specifically, none of these uni-dimensional measures grabs the full scope of political participation which demonstrates the limitation of previous research. A standardised measure capturing the multidimensional nature of political participation is advantageous especially once countries are compared. This study proposes a unified methodology to build a political participation index (Poll) in a cross-country analysis. Thus, fulfilling the lack of uniformity of available measures of the level of political involvement in Sub-Saharan Africa in particular, and around the world in general. The index is constructed by combining conventional and unconventional political activities, such as discussing politics, attending campaign meetings, contacting local officials and interest in public affairs. Specifically, the Poll combines more than 10 ordinal categorical variables extracted from Afrobarometer's (2018) survey questionnaire (see Table 1.1). The Poll is calculated at the individual level for each country and overall survey rounds. The individual indices are then aggregated at the country-level for each survey round to enable a cross-country analysis.

To build the index, I first classify all variables into three categories. It illustrates the necessity of creating an index compared to using merely one single measure to quantify an individual's political participation. Categorising political activities displays a spectrum of participation modes, which are neither mutually exclusive nor conditional. As such, each possible mode to be politically active is

equally important. In the perspective of Africa countries, I choose to categorise variables by their degree of visibility – soft and hard measures (similar to Campante and Chor, 2012). However, for exhaustiveness, I introduce a third category – semi-hard measures – as suggested by Campante and Chor, 2012. The latter category refines the classification, as a proportion of actions or activities are visible to only a subset of the society. To be more specific, the three measures are explicitly defined as follows.

1. **Soft measures** relate to general interest and attitudes towards politics, which are most often not publicly visible. These actions are particularly informative as it manifests initiative and quantifies an individual's time and effort to inform themselves about government policies and developments on political levels.
2. **Semi-hard measures** demonstrate political actions which are neither excessively visible nor publicly invisible. These activities capture a form of tangible political participation as it involves a small group of society. The idea behind classifying voting records as a semi-hard measure is that merely a small proportion of the society observes an individual entering the polling station and if that individual actually voted is unknown to outside observers. An observer might have seen an individual entering but cannot declare with full certainty that this individual voted, i.e. the observer can only witness the intention of voting.
3. **Hard measures**, on the other hand, consider political actions, such as attending a demonstration or a campaign meeting, which are fully visible. These actions demonstrate high levels of individual commitment in the political decision-making process. In particular, that segment of activities is eminently active and disclosing.

Despite the theoretical distinction in this classification, all categories are weighted equally in the composite index. Introducing equal weights for all categories does not disadvantage an individual who might not be willing to participate in demonstrations but is still actively engaging in other political actions that impact political decisions. Thus, the index does not neglect the importance of any activities, regardless of whether they appear universal or not. The spectrum of variables captures a comprehensive range of activities that reveal a greater extent of individuals' political engagement compared to one single variable.

TABLE 1.1: Variables used to construct the Political Participation Index (Poli)

Variable	Question	Answer choices
<u>Soft measures</u>		
<i>Interest in public affairs</i>	How interested would you say you are in public affairs?	0 = Not at all interested, 1 = Not very interested, 2 = Somewhat interested, 3 = Very interested
<i>Local government councilors listen</i> <sup>4</sup>	How much of the time do you think the following try their best to listen to what people like you have to say: Local government councilors?	0 = Never, 1 = Once, 2 = A few times, 3 = Always
<i>Close to political party</i>	Do you feel close to any particular political party?	0 = No, 1 = Yes
<i>Degree of closeness to party</i> <sup>7</sup>	Do you feel very close to this party, somewhat close, or not very close?	1 = Not very close, 2 = Somewhat close, 3 = Very close
<u>Semi-hard measures</u>		
<i>Discuss politics</i>	When you get together with your friends or family, would you say you discuss political matters:	0 = Never, 1 = Occasionally, 2 = Frequently
<i>Voted</i> <sup>3</sup>	Did you vote in the most recent national election?	0 = Not voted, 1 = Voted
<u>Hard measures</u>		
<i>Attendance</i>	Thinking about the last national election: Did you 1) Attend a campaign meeting? <sup>6</sup> 2) Attend a campaign rally? <sup>5</sup> 3) Work for a candidate or party? <sup>5</sup>	0 = No, 1 = Yes
	For each of these, please tell me whether you, personally, have done any of these things during the past year. 4) Attend a community meeting 5) Attend a demonstration or protest march 6) Join others to raise an issue	0 = No, would never do this 1 = No, but would do if had the chance 2 = Yes, once or twice, 3 = Yes, several times, 4 = Yes, often
<i>Contact</i>	During the past year, how often have you contacted any of the following persons about some important problem or to give them your views: 1) A local government councilor? <sup>1</sup> 2) A political party official? <sup>2</sup> 3) An official of a government agency? <sup>1</sup>	0 = Never, 1 = Only once, 2 = A few times, 3 = Often

Notes: All variables are common to all countries. <sup>1</sup> Data on these variables were collected in survey round 2,3,4,5,6. <sup>2</sup> Data on this variable were collected in survey round 1, 2, 3, 5, 6. <sup>3</sup> Data on this variable were collected in survey round 1, 3, 4, 5, 6. <sup>4</sup> Data on this variable were collected in survey round 3, 4, 5, 6. <sup>5</sup> Data on these variables were collected in survey round 1, 5, 6. <sup>6</sup> Data on this variable were collected in survey round 6. <sup>7</sup> Data on this variable were collected in survey round 3.

### 1.3 Data

The data was obtained from Afrobarometer, 2018, an independent research network that conducts face-to-face interviews with roughly 1200 to 2400 randomly selected individuals aged above 18 in 36 African countries. Each survey focuses on individuals' attitudes towards governance, economic conditions, democracy and other relevant issues, such as trust and corruption to measure the economic sentiment and social-political atmosphere in each country. A clustered, stratified, multi-stage, area probability sampling approach is used which minimises the probability of excluding, for example, distinct languages or ethnic groups. The sampling design ensures that the margin of sampling error is no more than  $+/- 2.8\%$  within a 95% confidence level for the sample size of 1200, whilst the sample size of 2,400 has a  $+/- 2\%$  error margin within a 95% confidence band. The uniqueness of the sample structure elevates the reliability of the data, thus reinforcing the accuracy of results and their implications for policy analysis. Seminal studies have used the same data; see e.g. Nunn and Wantchekon (2011).

I use pooled data from six survey rounds (from 1999 to 2014) for 32 African countries containing 192,479 randomly selected individuals. Responses such as "do not know" or "refused to answer" are excluded from the analysis, as these outcomes do not contribute towards the analysis. For each country, the remaining pooled cross-sectional sample is balanced and reflects a homogeneous variation in age ranges, gender, ethnic groups, regions, educational attainment and employment status. Therefore, the most significant individual character attributes in the sample are either represented proportionally in terms of their size (e.g. ethnic groups and regions) or equally distributed according to the sample size (e.g. age ranges, gender and employment status).

As discussed in Section 1.2, the index is based on soft, semi-hard and hard political participation variables, as shown in Table 1.1. This table contains 15 variables, which are either binary or categorical. All categorical variables are converted into numeric levels corresponding to the order of the answers shown in the last column of Table 1.1. Since Afrobarometer, 2018 updated the questionnaires over the six survey rounds, not all variables were included in all rounds, as some questions were removed or added to the questionnaire over rounds. Table 1.2 summarises the data used for the six rounds. In Round 1 (conducted in 1999), 12 countries were covered with a total of 21,531 individuals, whilst Round 6 contains 32 countries with a total sample size of 47,937. The index for 1999 is built with two soft political participation measures, two semi-hard political participation measures and six hard political participation measures, while in 2014 the number of soft measures and hard measures increased to three and nine, respectively. Over time, the number of countries and the number of randomly selected individuals increased. Furthermore, Afrobarometer, 2018 amended the questionnaire to include more individuals and political participation related questions.

In addition to Table 1.2, I summarised all political participation variables for each survey round. The summary statistics in Tables A.2, A.3 and A.4 in Appendix A focus on observation number, mean and the standard deviation. For brevity, countries were divided into four African regions, Central, East, Southern and West as classified by African Union (AU), 2020. Only four Central African countries are observed, which were added to the questionnaire in 2012 and 2014. Analysing regional differences in East, Southern and West Africa in Tables A.2 and A.3, citizens in East African countries show greater political engagement for most political activities in the first four survey rounds in 1999

- 2008 compared to citizens in Southern and West African countries. East African countries remain higher levels of political participation throughout 2012 as shown in Table A.4. However, a fall in soft and semi-hard measures of political participation in East African countries is recognised. By 2014, citizens in Southern Africa tend to be actively engaged in soft and semi-hard measures, whereas Central African countries are more attracted to more visible political activities, such as attending a campaign meeting or contacting an official of a government agency. This not only demonstrates that political participation varies across sub-Saharan African region, but also indicates the diversity of modes chosen by citizens to directly or indirectly influence political matters.

Alongside variables for political participation, I have also used a variety of other variables from Afrobarometer, 2018 to analyse the index. Indeed, of paramount interest are the variables demonstrating social sentiment towards the president and the government, such as the degree of political trust and perceived corruption in the government. Both variables have been converted in discrete levels, thus enabling to account for heterogeneous impacts of different political trust and perceived corruption levels in the analysis. Other variables of interest include educational attainment. Note that the survey questionnaire classifies educational attainment into four categories, "No Education", "Primary Education", "Secondary Education" and "Tertiary Education."

Aside from the Afrobarometer, 2018 surveys data, I have also collected data on a country's political environment. I focus on a country's political system and political stability. A country's political system is analysed by the Economist Intelligence Unit, 2014, henceforth EIU, which builds a democracy index for 165 independent countries and two territories. The EIU democracy index is based on measures that reflect the state of political freedom and civil liberties, however, these features do not determine whether democracy is substantive. A country's political system is measured by 60 variables which are classified into five interrelated categories: functioning of government, civil liberties, electoral process and pluralism, political participation and political culture. The sine qua non of democracy is free and fair competitive elections and political freedom. The scale of each category is from 0 to 10, whereby the overall index is calculated as the simple average. Despite the equal weighting, some adjustments are made if the country has not scored a 1 in some critical variables for democracy. If a country has scored a 0 in the capability of civil service implementing policies one point is deducted from the category: functioning of the government. One point or half a point are removed if a country has either scored a 0 or a 0.5 in the following areas: the security of voters, the influence of foreign powers on government and whether national elections are free and fair.<sup>2</sup> Once the index is adjusted, the score,  $x$ , of each country allows to classify the country according to four regimes<sup>3</sup>: (1) full democracy ( $x > 8$ ); (2) flawed democracy ( $6 < x \leq 8$ ); (3) hybrid regime ( $4 < x \leq 6$ ); and (4) Authoritarian regime ( $x \leq 4$ ).

An indicator of political stability is whether the country experienced political violence or political warfare. This data was obtained from the Centre for Systemic Peace, 2018 which compiles a large variety of political violence variables and regularly updates and extends the comprehensive war list. In this study, I focus on civil violence (cv) and civil warfare (cw). Both variables elucidate whether the country experienced episodes of civil violence or civil warfare, respectively. Their scale ranges

<sup>2</sup> More information on the methodology of the index can be found in the Democracy Index 2019 - Report which can be accessed via <https://www.eiu.com/topic/democracy-index>.

<sup>3</sup> For further information on the definition of classifications as presented by the EIU, please refer to the Annual Democracy Index Report.



TABLE 1.2: Summary Statistics

Round	Year	Countries	Number of countries	Number of individuals	Soft measures	Semi-hard measures	Hard measures
1	1999	Botswana, Ghana, Lesotho, Malawi, Mali, Namibia, Nigeria, South Africa, Tanzania, Uganda, Zambia, Zimbabwe	12	21,531	2	2	6
2	2002	Botswana, Cape Verde, Ghana, Kenya, Lesotho, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe	16	24,301	2	1	6
3	2005	Benin, Botswana, Cape Verde, Ghana, Kenya, Lesotho, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe	18	25,397	4	2	6
4	2008	Benin, Botswana, Burkina Faso, Cape Verde, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, Zimbabwe	20	27,713	3	2	5
5	2012	Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Côte d'Ivoire, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, Senegal, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe	30	45,602	3	2	8
6	2014	Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Côte d'Ivoire, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritius, Mozambique, Namibia, Niger, Nigeria, São Tomé and Príncipe, Senegal, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Uganda, Zambia, Zimbabwe	32	47,937	3	2	9

from 1 to 10, which signals the magnitude of the episode. Whereby a scale value of 0 denotes no episodes and a scale value of 10 indicates various episodes. For simplicity, I aggregate these variables into binary variables taking values of 1 if a country experienced civil violence (or civil warfare) and 0 otherwise. As such, the decision rule of whether a country experienced political violence is

$$X(cv, cw) = \begin{cases} 0 & \text{if } cv = 0 \text{ and } cw = 0 \\ 1 & \text{otherwise.} \end{cases}$$

## 1.4 Political Participation Index

To construct the composite index for political participation (Poll), I use a multiple correspondence analysis (MCA) to compute individual scores for political participation. For a given individual and a given round, this score represents an individual engagement in political activities. I, then, aggregate these scores at the country-level to form country-specific Poll's in each survey round. For clarity, I first describe the MCA approach in Section 1.4.1. Section 1.4.2 presents the individual and country-level indices for political participation (Poll).

### 1.4.1 Multiple Correspondence Analysis

In the factor analysis literature, several methodologies have been proposed for the aggregation of variables into dimension-reduced factors. Statisticians often rank these methodologies according to either their superiority or their suitability to a variety of data. Despite this enormous pool of methods available to build an index, the importance usually lies in identifying the approach which best suits the data. For this purpose, it is important to rigorously align the method with the structure of the data especially if they are discrete.

A widely used and well-known method to build an index is the principal component analysis (PCA) but the method requires continuous quantitative data. However, if the structure of the observed data is categorical, applying PCA implies that the respondent considers the difference between categories as equivalent. For example, if an individual is asked whether he/she discusses politics, the difference between the categories "Never" and "Occasionally" would be the same as the difference between "Occasionally" and "Frequently". Given the categorical nature of the data in this study, PCA is not the appropriate method to build an index of political participation.

To accommodate the nature of the data, I use a multiple correspondence analysis (MCA), which can be considered as an extension to the simple correspondence analysis. This method allows for categorical variables, particularly ordered categorical data, and allows for a nonlinear latent difference between categories. Moreover, MCA takes into account the skewed distribution of categorical variables, which is frequently observed in survey data sets. MCA is an extension of the general correspondence analysis (CA), which follows the same principle as the PCA of reducing the dimensionality of the data set. The objective of MCA is to determine the association between several categorical variables (Greenacre, 2017; Lebart, Morineau, and Warwick, 1984), thus maximising the covariance of all variables, while the PCA's objective function is to maximise the variance. Thus, MCA not only allows to examine the relationship between variables but also between categories.

Typically, four approaches can be considered when implementing MCA. The conventional technique is a simple CA with data converted into an indicator matrix,  $\mathbf{X}$ . This approach performs a singular-value decomposition (SVD) on the standardised residuals matrix which is calculated on the indicator matrix shown in Panel A in Table 1.3. This approach calculates the principal inertias and the principal coordinates. A theoretically equivalent method is Gifi's (1990) homogeneity analysis which computes the eigenvalues and scale values. Strictly speaking, homogeneity analysis uses categorical data and the optimal solution is calculated with a particular loss function. The optimal solution minimises the difference between each question score values and the summed score rather than maximising the correlation between each question's score values and summed score as indicated by the MCA algorithm.

From a CA perspective, another preferred approach is an eigenvalue-eigenvector decomposition based on the Burt matrix,  $\mathbf{B}$ , which is the cross product of the data indicator matrix,  $\mathbf{B} = \mathbf{X}'\mathbf{X}$ . The Burt matrix is composed of the correlation of two variables as presented in Panel B of Table 1.3. However, the structure of  $\mathbf{B}$  leads to an inflation of the total inertia as the submatrices on the main diagonal are correlations of the variable itself. It may lead to a severe underestimation of the percentage of inertia which is explained by the first dimension. This occurs in particular for cases where the eigenvalues are less or equal to  $\frac{1}{C}$ , where  $C$  is the overall number of categories, which codes extra dimensions.

The other two approaches aim to correct for the overestimation of the total inertia by either performing a joint correspondence analysis (JCA) (Greenacre, 1988) or adjusting the inertias (Greenacre, 1993). To implement the JCA, Greenacre, 1988 proposes the recursive least squares method, which modifies the diagonal blocks associated with the variables on the Burt matrix,  $\mathbf{B}$ , but leaves the off-diagonal values unchanged. The modification follows an iteration process, whereby the blocks are replaced by the  $f$ -dimensional MCA approximation of the altered Burt matrix,  $\mathbf{B}_{m-1}$ , until a certain convergence tolerance level is reached. From the converged solution, the JCA calculates the coordinates and the inertias, whereby the total inertia is the sum of the inertias of the off-diagonal blocks. While the adjustment method corrects the coordinates of the solution to accurately fit the correlations on the main diagonal of  $\mathbf{B}$ , by taking into account that the small eigenvalues (i.e. those smaller than  $\frac{1}{C}$ ) create additional dimensions. One common correction method is introduced by Benzécri, 1979 who proposes to correct the eigenvalues using the eigenvalues obtained from the indicator matrix. After correcting the eigenvalues, the traditional method<sup>4</sup> to calculate the percentage of inertia can be used. The second, more appropriate, method, suggested by Greenacre, 1993, is the evaluation of the percentage of inertia relative to the average inertia of the off-diagonal block elements of  $\mathbf{B}$ .

## Algorithm

Considering the four approaches discussed above, and given the qualitative nature of the data, the most appropriate technique to build the political participation index is a MCA based on an indicator matrix  $\mathbf{X}$ ; see Greenacre and Blasius, 2006.

Suppose that the survey questionnaire consists of a set of  $Q$  questions,  $\mathcal{Q} = \{1, \dots, Q\}$ , and each question  $q \in \mathcal{Q}$  contains  $c \in \mathcal{C}_q = \{1, 2, \dots, C_q\}$  real-numbered categories, where the number of categories in  $\mathcal{C}_q$  can range from 2 to 5 as shown in Table 1.1. Therefore, the total number of categories

<sup>4</sup> The traditional technique divides each eigenvalue with the sum of all eigenvalues to obtain the percentage of inertia.



is  $M = \sum_{q=1}^Q \sum_{c_q=1}^{C_q} M_{q c_q}$ , whereby  $c_q$  is the number of categories per question  $q$ , which for example can be  $c_q = 2$  for a binary (yes or no) question,  $M_{q c_q}$  defines the categories for all questions, thus it represents the columns of the indicator matrix. Let  $N$  denote the total number of individuals in the sample. The matrix  $\mathbf{X}$  is thus an  $N$  by  $M$  indicator matrix whose elements are 0 and 1. The element 1 classifies an individual into a category and 0 indicates that the individual does not belong into the category. The scales of the categorical variables are represented in the vector  $\mathbf{s}_q = (s_1, s_2, \dots, s_{c_q})'$ , while the scores are denoted by  $\mathbf{X}_q \mathbf{s}_q$ . The scores recover the  $N$  responses to the survey question  $q$ .

To express the variance of the specific variable and the covariance between the responses of any two variables and their respective variances, it is crucial to choose  $\mathbf{s}_q$  such that  $\mathbf{1}' \mathbf{X}_q \mathbf{s}_q = 0$ , where  $\mathbf{1}$  is a vector of ones. By mean centering the recovered responses, the variances and covariances are denoted as follows

$$s_{11} = s_1^2 = \frac{1}{N} \mathbf{s}_1' \mathbf{X}_1' \mathbf{X}_1 \mathbf{s}_1, \quad (1.4.1)$$

$$s_{12} = s_2^2 = \frac{1}{N} \mathbf{s}_1' \mathbf{X}_1' \mathbf{X}_2 \mathbf{s}_2. \quad (1.4.2)$$

The inner product of each variable is a diagonal matrix, whereby the diagonal,  $\mathbf{D}_1 = \mathbf{X}_1' \mathbf{X}_1$ , represents the marginal relative frequencies, often called masses within the MCA terminology. For two variables, the correspondence matrix is given by  $\mathbf{X}_1' \mathbf{X}_2$  however to illustrate a generalised inner product of more than two variables a Burt matrix,  $\mathbf{B} = \mathbf{X}_Q' \mathbf{X}_Q$ , is required, where  $\mathbf{X}_Q$  represents the indicator matrix formed with the  $Q$  questions. The diagonal of the Burt matrix is denoted as  $\mathbf{D}_q$  while the correspondence matrix for each pair is presented on the off-diagonal,  $\mathbf{X}_p' \mathbf{X}_q$  for all  $p \neq q$  where  $p, q \in Q$ . Following this, the correlation between any two variables,  $X_1$  and  $X_2$ , is given by

$$r_{12} = \frac{s_{12}}{s_1 s_2} = \frac{(1/N) \mathbf{s}_1' \mathbf{X}_1' \mathbf{X}_2 \mathbf{s}_2}{\sqrt{\mathbf{s}_1' \mathbf{D}_1 \mathbf{s}_1 \mathbf{s}_2' \mathbf{D}_2 \mathbf{s}_2}}. \quad (1.4.3)$$

To find the scale values for  $\mathbf{s}_1$  and  $\mathbf{s}_2$  the correlation needs to be maximised, which illustrates a classical canonical correlation problem. To solve this problem, Greenacre and Blasius, 2006 reformulate the canonical correlation problem by proving that the maximisation problem is equivalent to the maximisation problem of the correlation between two variables and their respective sum, illustrating that the optimal vectors  $\mathbf{s}_1$  and  $\mathbf{s}_2$  are identical for both problems. Thus, given the indicator matrix  $\mathbf{X}$ , with all  $M$  number of categories and the vector  $\mathbf{s}$  consisting of all scale values for all  $Q$  questions, Greenacre and Blasius, 2006 suggest to maximise the correlation between two individual values  $\mathbf{X}_q \mathbf{s}_q$  and the sum of both values,  $\mathbf{X} \mathbf{s}$ , to find the scale values  $\mathbf{s}_q$ .

This maximisation problem needs to satisfy the identification restriction that the total variance is equal to 1,  $\mathbf{s}' \mathbf{D} \mathbf{s} = 1$ , whereby

$$\mathbf{D} = \frac{1}{Q} \begin{pmatrix} \mathbf{D}_1 & 0 & \dots & 0 \\ 0 & \mathbf{D}_2 & \dots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \dots & \mathbf{D}_Q \end{pmatrix}. \quad (1.4.4)$$

The diagonal block matrix,  $\mathbf{D}$ , of relative frequencies for each  $q$  is scaled by  $Q$ . In comparison to the canonical correlation problem of two variables in the case of multiple variables, the variance of any response is not constrained to be equal to 1.

As stated in Greenacre and Blasius, 2006, the objective function, also known as the loss function is given as

$$\min_s \frac{1}{NQ} \sum_{q=1}^Q \left[ (\mathbf{X}_q \mathbf{s}_q - \mu_{\mathbf{X}_s})' (\mathbf{X}_q \mathbf{s}_q - \mu_{\mathbf{X}_s}) \right]; \quad (1.4.5)$$

whereby  $\mu_{\mathbf{X}_s} = \mathbf{X}_s/Q$ . The solution to the minimisation problem is obtained by using the classic approach to a MCA of performing a SVD on the indicator matrix  $\mathbf{X}$ , as suggested by Greenacre, 1984. To compute of the coordinates of the row and column profiles respectively to the principal axes, I define the marginal sum of the row and column of the indicator matrix  $\mathbf{X}$  as vectors  $a$  and  $b$ , where the vectors of the row and column masses are represented by the diagonal matrices,  $\mathbf{D}_a$  and  $\mathbf{D}_b$ , of these matrices. Following the SVD approach, I need to calculate:

1. The matrix of standardised residuals:  $\mathbf{R} = \mathbf{D}_a^{-\frac{1}{2}} (\mathbf{X} - \mathbf{a}\mathbf{b}') \mathbf{D}_b^{-\frac{1}{2}}$

2. SVD:  $\mathbf{R} = \mathbf{U}\mathbf{D}_{\text{ff}}\mathbf{V}'$  whereby  $\mathbf{U}'\mathbf{U} = \mathbf{I}_N$  and  $\mathbf{V}'\mathbf{V} = \mathbf{I}_M$

In our case,

$$\mathbf{R} = \sqrt{n} \left( \frac{\mathbf{X}}{Qn} - \frac{1}{n} \mathbf{1}\mathbf{1}'\mathbf{D} \right) \mathbf{D}^{-\frac{1}{2}}. \quad (1.4.6)$$

3. The principal row coordinates:  $\mathbf{E} = \mathbf{D}_a^{-\frac{1}{2}} \mathbf{U}\mathbf{D}_{\text{ff}}$

4. The principal column coordinates:  $\mathbf{H} = \mathbf{D}_b^{-\frac{1}{2}} \mathbf{V}\mathbf{D}_{\text{ff}}$

5. The standard row coordinates (scale row values):  $\mathbf{Y} = \mathbf{D}_a^{-\frac{1}{2}} \mathbf{U}$

6. The standard column coordinates (scale column values):  $\mathbf{W} = \mathbf{D}_b^{-\frac{1}{2}} \mathbf{V}$ .

Lastly the inertia (or total variance) can be computed as:

$$\phi = \sum_{n=1}^N \sum_{m=1}^M \frac{(x_{nm} - a_n b_m)^2}{a_n b_m}.$$

The total variance,  $\phi$  is based on relative observed and expected frequencies and resembles a  $\chi^2$  statistic. The coordinate matrices in Steps 3 to 6 of the SVD approach consist of the rows of the indicator matrix, whilst the columns refer to the principal dimensions of the solution. Note the principal row and column coordinates are scaled so that the weighted sum of squares of coordinates on the  $k$ -th dimension is equal the eigenvalue,  $\alpha_k^2$ . Thus,  $\mathbf{E}\mathbf{D}_a\mathbf{E}' = \mathbf{H}\mathbf{D}_b\mathbf{H}' = \mathbf{D}_\alpha^2$ , which means the inertia in that direction of this dimension equals the principal inertia (Nenadic and Greenacre, 2007). While the weighted sum of squares of the standard row and column coordinates is 1, i.e.  $\mathbf{Y}\mathbf{D}_a\mathbf{Y}' = 1$  and  $\mathbf{W}\mathbf{D}_b\mathbf{W}' = 1$ .

The scale values are therefore obtained as:

$$\hat{\mathbf{s}} = \mathbf{D}^{-\frac{1}{2}} \mathbf{v} \Rightarrow \tilde{\mathbf{s}} \equiv \mathbf{X}\hat{\mathbf{s}}, \quad (1.4.7)$$

where  $\mathbf{v}$  is the first singular vector of the indicator matrix  $\mathbf{X}$ ,  $\mathbf{D}$  is the diagonal block matrix and  $\hat{s}$  is obtained for each question  $q \in \mathcal{Q}$ . It is important to note that these scores are not distorted by the classification of political participation measures as each variable receives an equal weight.

### 1.4.2 Poll

In this section, I extract the aggregate scale values for each individual in the sample obtained from the MCA (see Section 1.4.1) and utilise them to construct the political participation index. From this perspective, the index is constructed based on two standardisation methods - country level as discussed in Section 1.4.2 and global (Africa) level in Section 1.4.2.

#### Country Level Normalisation

To enable a country-specific analysis, the first aggregation approach normalises the index on the country level, which allows me to discuss changes in political engagement for each country over rounds.

#### Individual Poll

I use individuals' scores from the MCA to formulate their specific political participation index. Specifically, for a given individual in survey round  $r$  and in country  $c$ , its Poll takes the form:

$$\mathbf{Poll}_{irc} = 100 \left[ \frac{\tilde{s}_{irc} - \min_{i=1, \dots, N_{rc}} \{\tilde{s}_{irc}\}}{\text{Range}} \right] \quad i = 1, \dots, N; c = 1, \dots, C, r = 1, \dots, 6 \quad (1.4.8)$$

where  $\tilde{s}_{irc}$  is the scaled score from Section 1.4.1 and  $\text{Range} = \max_{i=1, \dots, N_{rc}} \{\tilde{s}_{irc}\} - \min_{i=1, \dots, N_{rc}} \{\tilde{s}_{irc}\} = \bar{\tilde{s}}_{rc} - \underline{\tilde{s}}_{rc}$ . I see that  $\mathbf{Poll}_{irc}$  ranges from 0 to 100 for each country and each round, whereby an index value of 100 represents the highest level of political participation, while 0 insinuates less political engagement (not politically active). Note that from (8), an individual with an index value of 0 in survey round  $r$  has a score  $s_{irc}$  equalling the country minimum  $min_{rc}$  in that round. As such, this individual is not considered as not engaging in any political activities, but his/her political involvement is so low that he/she is classified not to be politically active. Similarly, an individual with an index value of 100 in survey round  $r$  has a score  $s_{irc}$  equalling the country maximum  $max_{rc}$  in that round. Therefore, this individual fully engages in any political activities, thus has the highest level of political participation. As the index is constructed on the scales, which are the marginal frequency of choosing a particular category for a question, once the scales increase the Poll increases too which leads to the following property:

$$\frac{\partial \mathbf{X}s}{\partial x_q} = s_q > 0 \Rightarrow \frac{\partial \mathbf{Poll}_{irc}}{\partial x_q} > 0 \quad \forall q \quad (1.4.9)$$

where  $\mathbf{X}s$  is the score and  $x_q$  is an individual's answer to a survey question  $q$ . Equation (1.4.9) implies that the score and thus the Poll increases if an individual amends his/her answer choice in favour of being more politically active. For example, if an individual votes rather than not voting his/her individual scale increases thereby increasing his political participation index. Similarly, if an individual

chooses to not vote rather than voting his/her index decreases, as

$$\frac{\partial \mathbf{Xs}}{\partial x_q} = s_q < 0 \Rightarrow \frac{\partial \mathbf{Poll}_{irc}}{\partial x_q} < 0 \quad \forall q. \quad (1.4.10)$$

### Country-specific Poll

To analyse political participation patterns in Africa, I use the individual-level Poll computed in Section 1.4.2 and simply take the average for each country  $c$  in round  $r$  as follows:

$$\mathbf{Poll}_{rc} = \frac{1}{N_{rc}} \sum_{i=1}^{N_{rc}} \mathbf{Poll}_{irc} \quad c = 1, \dots, C, r = 1, \dots, 6. \quad (1.4.11)$$

Similarly to the individual index, the country-specific Poll can take any value in  $[0, 100]$  over rounds, whereby 0 represent the lowest political participation level and 100 the highest level of political participation. Given the standardisation method, no country can obtain an index level of 0 or 100. Firstly, a country can only obtain an index  $\mathbf{Poll}_{rc}$  of:

$$\mathbf{Poll}_{rc} = 100 \iff \mathbf{Poll}_{irc} = 100 \quad \forall i \quad (1.4.12)$$

Given the standardisation approach in equation (1.4.8), if every individual in country  $c$  in round  $r$  requires an index of 100, it automatically indicates that each individual has the same score,  $\tilde{s}_{irc} = \tilde{s}_{rc}$ . But if every individual has the same score, then the range will be zero, meaning that the index  $\mathbf{Poll}_{rc}$  is not defined.

Secondly, a country can only obtain an index  $\mathbf{Poll}_{rc}$  of:

$$\mathbf{Poll}_{rc} = 0 \iff \mathbf{Poll}_{irc} = 0 \quad \forall i \quad (1.4.13)$$

Equation (1.4.13) implies that  $\tilde{s}_{irc} = \tilde{s}_{rc}$ . If each individual in survey round  $r$  and in country  $c$  has the same minimum score, then the range is zero. Thus, the  $\mathbf{Poll}_{irc}$  is undefined.

### Global Normalisation

The country-specific normalisation in Section 1.4.2 does facilitate the comparison across countries. To enable comparability across countries, I consider a global normalisation at all Sub-Saharan African countries level. This index allows me to illustrate common patterns among countries as well as differences across them.

### Individual Poll

Similarly to Section 1.4.2, I extract each individual score from the MCA and form the index for each given individual in survey round  $r$  and in country  $c$ . The individual Poll is obtained by:

$$\mathbf{Poll}_{irc} = 100 \left[ \frac{\tilde{s}_{irc} - \min_{i,c} \{\tilde{s}_{irc}\}}{\text{Range}} \right] \quad i = 1, \dots, N; c = 1, \dots, C, r = 1, \dots, 6 \quad (1.4.14)$$



where  $\tilde{s}_{irc}$  is the scaled score from Section 1.4.1 and  $Range = \max_{i,c}\{\tilde{s}_{irc}\} - \min_{i,c}\{\tilde{s}_{irc}\} = \bar{\tilde{s}}_r - \underline{\tilde{s}}_r$ . This standardisation method obtains the minimum and the maximum score for each survey round over all countries rather than computing the country-specific minimum and maximum. Hereby, it is most likely that the minimum individual score and the maximum individual score are not recorded in the same country. Furthermore, as the normalisation uses the global minimum, the range calculated in equation (1.4.14) will always be larger than the country specific range calculated in equation (1.4.8).

$$\bar{\tilde{s}}_r - \underline{\tilde{s}}_r \geq \bar{\tilde{s}}_{rc} - \underline{\tilde{s}}_{rc}.$$

The rationale behind this result is that the minimum score  $\underline{\tilde{s}}_r$  will always be

$$\underline{\tilde{s}}_r \leq \underline{\tilde{s}}_{rc} \quad \forall r.$$

Similarly, the global maximum  $\bar{\tilde{s}}_r$  will always be

$$\bar{\tilde{s}}_r \geq \bar{\tilde{s}}_{rc} \quad \forall r.$$

As the index properties in Section 1.4.2,  $\mathbf{Poll}_{irc}$  in Equation (1.4.14) ranges from 0 to 100 for each survey round, whereby an index value of 100 represents the highest level of political participation, while 0 insinuates less political engagement. Note that from equation (1.4.14), an individual with an index value of 0 in survey round  $r$  has a score  $s_{irc}$  equalling the global minimum  $\underline{\tilde{s}}_r$  in that round. As such, this individual is considered as the least politically engaging individual overall sample countries in a given survey round. An individual with an index value of 100 in survey round  $r$  has a score  $s_{irc}$  equalling the global maximum  $\bar{\tilde{s}}_r$  in that round. Therefore, this individual is considered as the most politically active person across the sample countries. He/she demonstrates the highest level of political participation in that particular survey round  $r$ .

### Country-specific Poll

Given the global normalisation in Section 1.4.2, the analysis of common patterns among African countries and differences across them in terms of political participation is enabled. I aggregate the individual-level Poll to country-level by simply taking the sample average for each country  $c$  in round  $r$  as follows:

$$\mathbf{Poll}_{rc} = \frac{1}{N_{rc}} \sum_{i=1}^{N_{rc}} \mathbf{Poll}_{irc} \quad c = 1, \dots, C, r = 1, \dots, 6. \quad (1.4.15)$$

Similarly to the individual index, the country-specific Poll can take any value in  $[0, 100]$  over rounds, whereby 0 represent the lowest political participation level and 100 the highest level of political participation. Given the standardisation method, no country can obtain an index level of 0 or 100, as discussed in Section 1.4.2.

## 1.5 Results

The result section is divided into three main parts. In Section 1.5.1, I first present the results for the index which is based on the country-specific normalisation. Here, I distinguish between the individual

and the country-specific political participation index, which allows for comparisons within countries. I, then, focus on the index results based on the global normalisation in Section 1.5.2. Finally, I descriptively analyse various sources of potential inequalities in terms of political participation (Section 1.5.3).

### 1.5.1 Index Based on Country-Specific Normalisation

In this section, I focus on citizens' involvement in political activities, and how it varies within countries and over time. In this perspective, examining the within-country variation in political sentiment over time is of paramount interest.

Figures 1.1 and 1.2 display the probability density functions (PDFs) of each country's political participation index overall survey rounds. These figures enable me to distinguish whether countries have experienced a change in political engagement over years and whether there are common trends among survey rounds. For simplicity, the plots of the PolI distribution are ordered by countries' alphabetical names, i.e., Figure 1.1 presents the index distribution for the first 16 countries in alphabetical order while Figure 1.2 shows that of the remaining 16 countries.

In general, countries in sub-Saharan Africa are beset with low political participation levels. Figure 1.1 and 1.2 show significant differences in political participation across citizens within countries. The relatively flat distribution in Liberia, São Tomé and Príncipe, Sierra Leone and Uganda demonstrates a particular heterogeneous picture in terms of individual's attitude towards political activities. Whilst prominent peaks indicate greater commonalities in political activism. For example, citizens in Madagascar, Mauritius and to some extent Mozambique demonstrate conformity in terms of political participation. Most individuals in Madagascar and Mauritius, on average, hardly participate in political activities. In the view of Mauritius, the relatively well functioning institutional structure and the climate of political stability might induce individual's to participate less in activities especially if these activities aim to oppose the current government.

Alongside the common patterns observed among citizens and differences between them in their political pursuit in each survey round, similarities and contrasts are also seen over survey rounds. Only a small subset of countries, Guinea, Liberia, Mauritius, Sierra Leone, Swaziland, Uganda and Zimbabwe, show consistent political participation levels. These consistencies are explained by either a stable political system (Mauritius) or consecutive presidency terms (Guinea, Liberia, Sierra Leone, Swaziland) or the presence of a dictatorship (Uganda, Zimbabwe). In most countries, citizens adopted their political behaviour to accommodate the current political situation. For example citizens in Burundi, Côte d'Ivoire and Sudan present greater levels of political activism in 2012. Burundi failed to stabilise the political situation in 2012 after violent attacks and reciprocal killings by members of the ruling group, the National Council for the Defense of Democracy, and the rebel group, National Liberation Forces. Côte d'Ivoire, on the other hand, underwent a political crisis in 2010-11 as the election outcome in 2010 was contested by the opposition, whilst Sudan endured several conflicts and war as a result of the separation of North and South Sudan. Not only these three countries manifested higher political stimuli, Cameroon, Niger, but Tanzania and Togo also faced presidential elections. Cameroon and Tanzania voted in favour of the incumbent, while citizens in Niger aimed to repulse the military attack on the presidential palace, whereby the president was captured, in 2010. In addition to elections, Togo encountered non-peaceful protest against proposed electoral reforms

in 2012. Meanwhile, Botswana, Cape Verde and Mali recorded higher political participation levels in 2008 due to elections. Both Cape Verde and Mali were in favour of the incumbent, whereas citizens in Botswana were confronted with a compulsory presidential change in 2008. Lesotho experienced greater political involvement in 2008 and 2012 as a result of elections. Despite the reformed electoral system in Lesotho in early 2002 which aimed at subsiding violence, the 2007 elections were marred by violent conflicts engendering higher levels of political participation. Elections in 2012, however, led to fissiparous proclivities as power was transferred from the incumbent party to an opposition party. Noteworthy, however not observed by the data due to the period, in 2015 Lesotho's incumbent government handed over to the incumbent party in 2012 (Weisfelder, 2015). Higher political participation levels are observed in Kenya in 2008 as a consequence of the Kenyan economic, political and humanitarian crisis that erupted after the election in 2007. Afterwards, political participation reverts to earlier levels.

Besides temporary changes in political participation, Nigeria, Senegal and South Africa present a more dynamic yet homogeneous picture. South Africa, for example, shows a steady growth in political participation which may have been stimulated by Nelson Mandela and Thabo Mbeki. In 2008, increases in political participation might be caused by the compulsory change in government due to the resignation of Thabo Mbeki and the relatively brief tenure of Kgalema Motlanthe. From 2012, citizens withdrew themselves from political activities which might be associated with the demanded resignation of Jacob Zuma following the low confidence in the National Assembly. A similar detracting political behaviour is observed in Burkina Faso and Senegal in later survey years. Formerly, Senegal's presidential election in 2000 marked a notable change towards a more democratic system. The opposition leader Abdoulaye Wade defeated long-term incumbent president Abdou Diouf in the second round of elections. Since Senegal's independence, it was the first time for the Socialist Party to lose power to the Senegalese Democratic Party. In addition to the overpowering of the Socialist Party, Senegal suffered from an ongoing Casamance conflict that was particularly violent during 1992 - 2001, which induced greater levels of citizen's active involvement in politics. Further conflict emerged in 2010 and 2011, but towards the elections in 2012 waned which coincident with lower political participation thereafter.

More conflicting cases are Malawi, Madagascar, Mozambique and Ghana. Madagascar suffered several crises, which resulted in postponing elections. After the coup in 2009, Madagascar's situation deteriorated into an open crisis in 2012 which can be associated with the increase in political participation from 2005 to 2012. The election outcome in 2014 indicates an ostensible return to democracy that might set an end to Madagascar's crisis and might have induced a lower political engagement as a consequence. Unlike Madagascar, the second democratic election in Malawi in 1999 motivated citizens to be politically active. During Bingu wa Mutharika's tenure, Malawians, on average, decreased their political participation levels while the death of Bingu wa Mutharika's in 2012 and protests for political and economic reforms may have induced greater political activism within the society. Similarly, citizens in Mozambique increased their political participation during election periods too, especially as several unsanctioned electoral fraud cases occurred in 2004. In 2009, the incumbent party won 75% of the votes and remained for another five years. This might explain higher levels of participation as citizens supported and aimed to maintain the incumbent party. Lastly, Ghana not only experienced differences across survey rounds but presents a transition from more heterogeneous

political behaviours to a more homogeneous view on politics. Increasing commonalities in political participation emerged in 2002 at the appointment of John Kufuor. Thereafter, political participation decreased as a result of greater political stability throughout the early 2000s. Despite the more conflicting cases, citizens in Benin demonstrate consistent political participation levels overall survey rounds. This consistency in political behaviour can be attributed to political stability.

FIGURE 1.1: PDF of Poll for each country

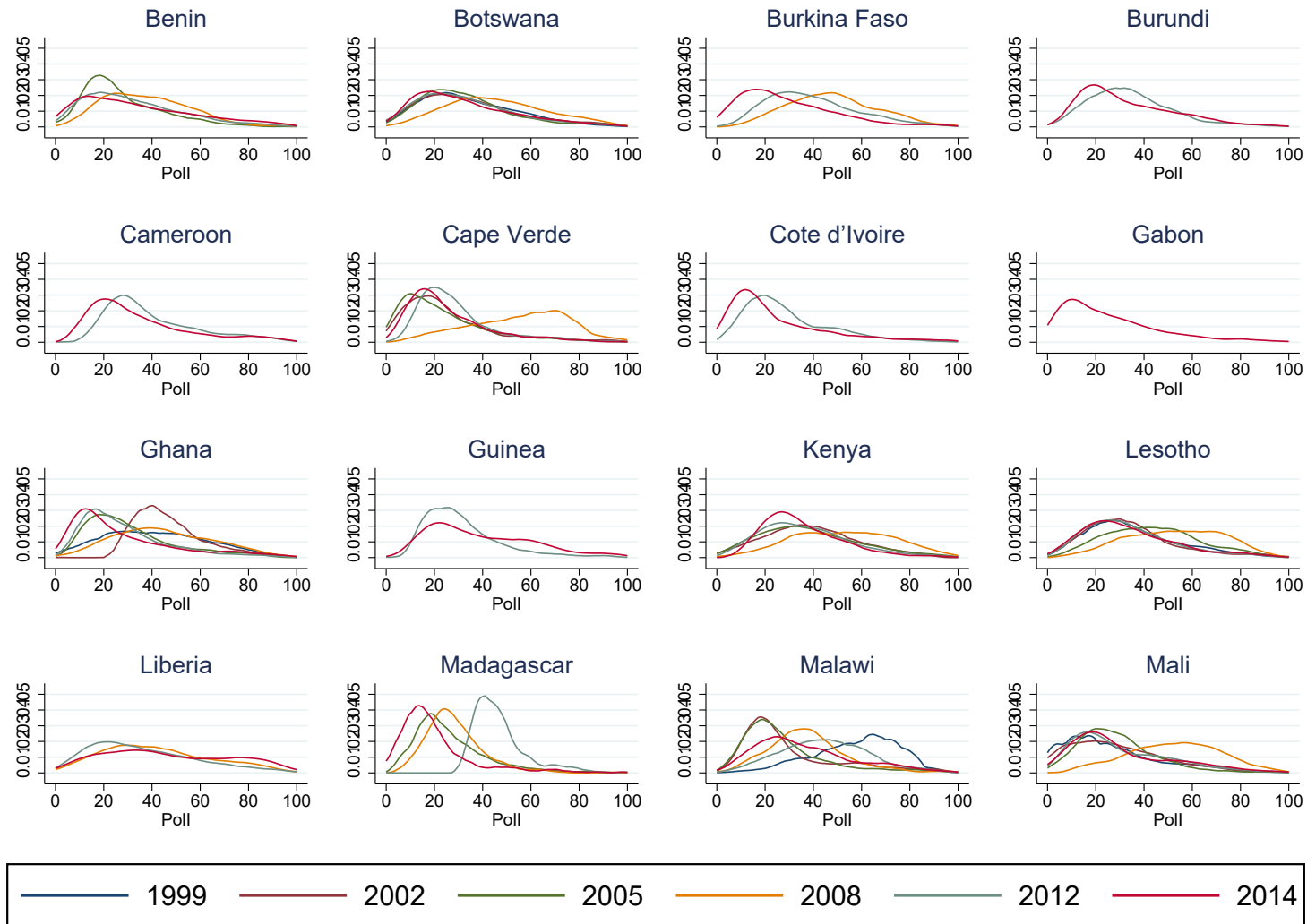


FIGURE 1.2: PDF of Poll for each country - continued

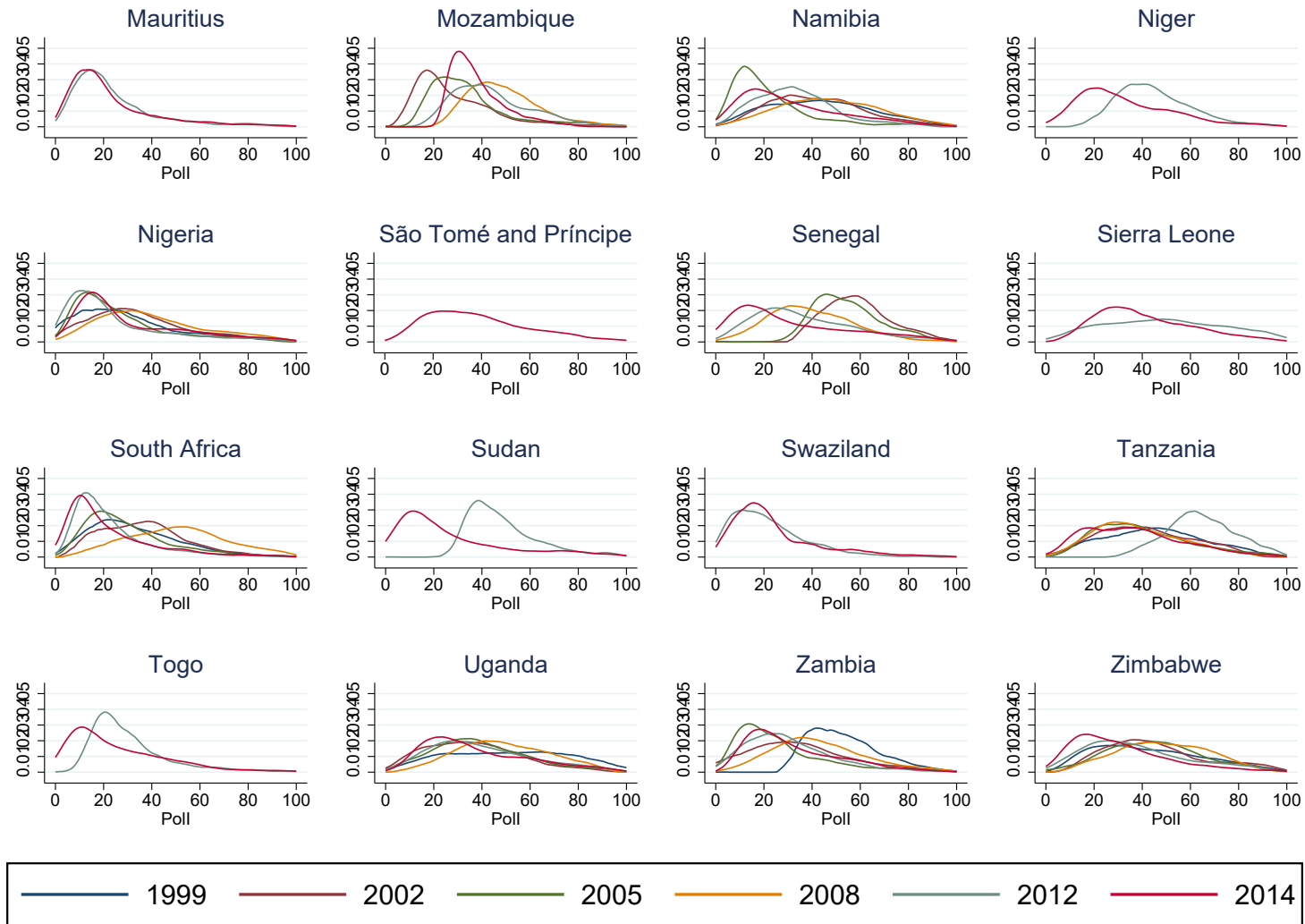


TABLE 1.4: Evolution of Poll: Country-level Normalisation

Country	1999	2002	2005	2008	2012	2014	Average	Median	Trend
Benin			27.9	37.8	32.4	34.4	33.1	33.4	↑
Botswana	34.6	34.5	33.5	46.1	33.5	33.1	35.9	34.0	↑
Burkina Faso				48.1	39.7	29.4	39.1	39.7	↓
Burundi					34.6	33.2	33.9	33.9	↓
Cameroon					39.9	34.5	37.2	37.2	↓
Cape Verde		25.7	23.8	55.1	29.3	26.0	32.0	26.0	↑
Côte d'Ivoire					29.5	25.2	27.3	27.3	↓
Gabon						25.8	25.8	25.8	
Ghana	41.6	47.1	31.3	45.1	28.8	28.2	37.0	36.5	↓
Guinea					31.5	39.3	35.4	35.4	↑
Kenya		39.0	38.5	52.4	36.7	35.5	40.4	38.5	↓
Lesotho	36.0	34.1	43.5	52.9	34.1	34.2	39.1	35.1	↓
Liberia				42.2	36.5	46.4	41.7	42.2	↑
Madagascar			26.5	28.5	46.9	20.3	30.6	27.5	↑
Malawi	57.6	30.5	28.2	37.9	44.9	36.5	39.3	37.2	↓
Mali	26.4	29.0	28.9	52.5	30.3	31.0	33.0	29.7	↑
Mauritius					24.0	23.5	23.8	23.8	↓
Mozambique		28.5	35.0	49.2	44.1	38.1	39.0	38.1	↑
Namibia	43.6	42.0	23.4	47.3	33.4	31.8	36.9	37.7	↓
Niger					45.3	33.1	39.2	39.2	↓
Nigeria	29.6	35.5	26.8	40.5	24.3	30.9	31.3	30.3	↓
São Tomé and Príncipe						38.9	38.9	38.9	
Senegal		59.0	54.8	39.5	36.8	32.0	44.4	39.5	↓
Sierra Leone					49.4	41.2	45.3	45.3	↓
South Africa	32.9	37.0	30.2	50.7	23.1	22.6	32.7	31.6	↓
Sudan					48.6	27.3	38.0	38.0	↓
Swaziland					22.1	24.4	23.3	23.3	↑
Tanzania	45.2	41.6	40.6	39.0	64.5	36.9	44.7	41.1	↑
Togo					30.6	26.1	28.3	28.3	↓
Uganda	50.6	36.3	39.7	48.9	40.1	38.0	42.3	39.9	↓
Zambia	53.2	34.9	27.3	43.0	30.7	32.5	36.9	33.7	↓
Zimbabwe	43.0	45.7	45.3	48.9	37.8	31.2	42.0	44.2	↓
Average	41.2	37.5	33.6	45.3	36.1	31.9			
Standard deviation	9.6	8.3	8.5	6.7	9.2	6.0			

Note: The Poll for each country is an aggregate over all individual Poll's for a particular round. The Poll in 1999 comprises of 10 variables and in 2002 9 variables. The Poll in 2005 represents 12 variables, while the Poll in 2008 is calculated over 10 variables. The last two Poll's in 2012 and 2014 contain 13 and 14 variables, respectively. The number of variables vary from year to year due to changes in the structure of the questionnaire. The trend is based on the slope of the linear approximation.

In addition to the analysis on individuals' engagement in political affairs within the sub-Saharan African region in Figures 1.1 and 1.2, I investigated the general trend for each country by using the index formulation in Section 1.4.2. Table 1.4 summarises the average, median, and trend (upward or downward) of Poll for each country over survey rounds. Supplementary to these country-specific summary statistics, the bottom part of the table presents the pooled sample average per round and the respective standard deviation. In general, the majority of countries in the sample experienced a downward trend,<sup>5</sup> thus signalling that on average most sub-Saharan African countries tend towards lower political participation levels. The average Poll decreased in 2002 and 2005 relative to 1999, while it spiked in 2008. This downward trend might be a result of countries suffering from several crises or coups. In contrast, the downward trend could have been caused as many countries embarked on the democratic system in the early 2000s. Round 4 in 2008 records the highest Poll values, with an average index of 45.3%. Higher political participation levels were probably induced by elections in 2007, 2008 and 2009. Regardless of whether these elections led to a compulsory change in

<sup>5</sup> The trend illustrates whether the country has a positive or negative sign of the slope of the linear trend-line of all Poll's.

the presidency, citizens were more politically active to either support or oppose the incumbent party. After 2008, the average pooled index decreased to 31.9% in 2014, which is accentuated by the fact that most tenures are 5 years.

In general, political participation is relatively low in sub-Saharan African countries. However, it is important to note that political parties started to only promote female participation in political matters in the last 20 years. As such, the empowerment of women in politics will increase overall political participation levels in the future.

### 1.5.2 Index Based on Global Normalisation

Alongside the comparison among citizens in a particular country in Section 1.5.1, normalising the Poll on a global perspective as discussed in Section 1.5.2 enables to analyse of differences across countries. For clarity and comprehensibility, I focus mainly on three survey rounds: 1999, 2008 and 2014. These three survey rounds illustrate the key findings of the analysis, mark extensive additions, and provide a comprehensive picture of the evolution of political participation in sub-Saharan Africa. The analysis of the remaining survey rounds are presented in Appendices B1, B2 and B3.

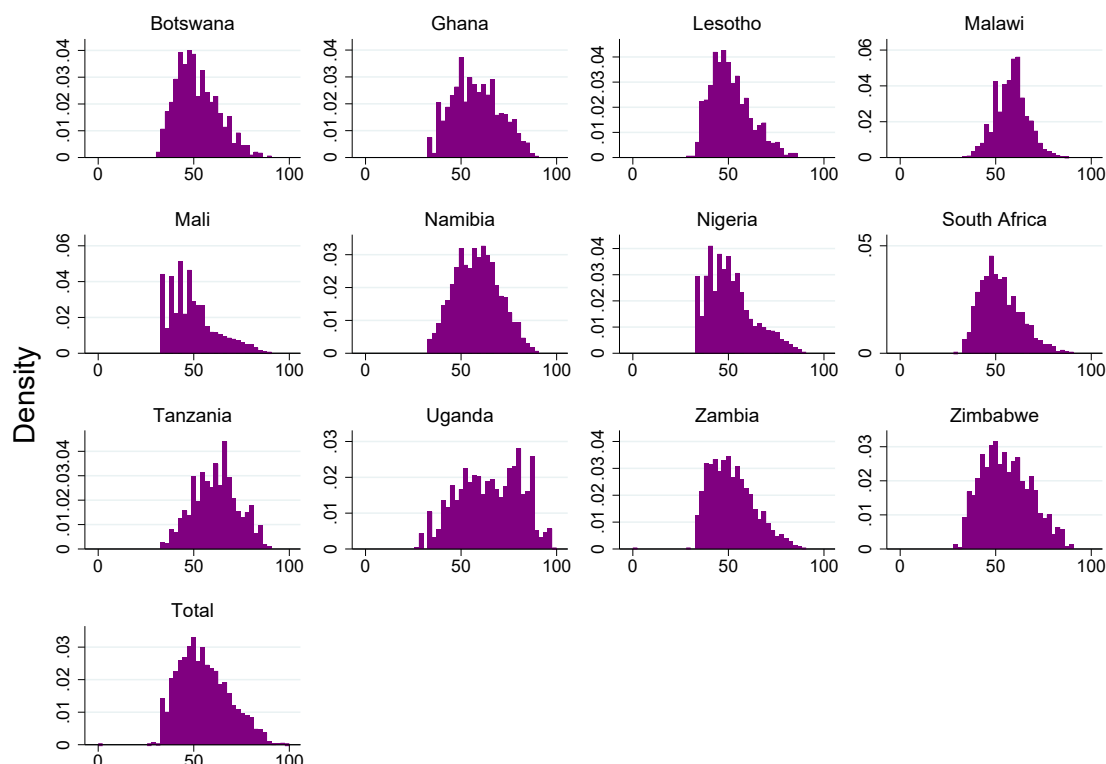
Figure 1.3 shows the density histogram for 12 countries<sup>6</sup> in the first survey sample in 1999, along with the pooled total sample distribution in 1999. In general, Figure 1.3 reveals common patterns across countries. Similarities towards political participation are presented in one distinct geographical cluster consisting of seven neighbouring South African countries: Botswana, Lesotho, Malawi, Namibia, South Africa, Zambia and Zimbabwe. As a result of the elections in Botswana, Lesotho, Malawi, Namibia and South Africa, the defeat of the constitutional referendum in Zimbabwe consequently ended in diverging from democratic governance norms, and political turmoils in Zambia induced above average political participation levels. In comparison to other South African countries, Malawians were, on average, more politically engaged. A potential reason for this high level of political participation in Malawi could be the presidential election which was postponed twice before being held on 15 June 1999. In this election, Malawi recorded a voter turnout of 94%, which is one of the highest to date in Africa. Lower political participation levels are represented in West Africa. Particularly in Mali and Nigeria, a greater proportion of individuals are less engaged in political activities, while Ghana represents higher levels of political participation similar to levels in Namibia or Botswana. In contrast, in East African countries, citizens in Tanzania and Uganda have the highest political participation levels. The tendency of higher political participation levels, especially in Tanzania, roots back to great involvement in general elections with voter turnouts of 74.4% and 84.43% in 1990 and 2000 respectively. In Uganda, Blattman, 2009 argues that higher participation levels in conventional political activities in Uganda are results of combat experiences and war violence.

Despite the common geographical patterns, differences in the dispersion of political participation levels are observed on a country level. To a great extent, most individuals share similar political views with their compatriots. In Uganda, on the other hand, citizens political activity diverges greatly. One proportion of the population is highly engaged in political activities whilst another proportion, equally in size to the first, shows relatively low political participation levels.

<sup>6</sup> The following countries were included in 1999: Botswana, Ghana, Lesotho, Malawi, Mali, Namibia, Nigeria, South Africa, Tanzania, Uganda, Zambia, Zimbabwe



FIGURE 1.3: Distribution of Poll in 1999

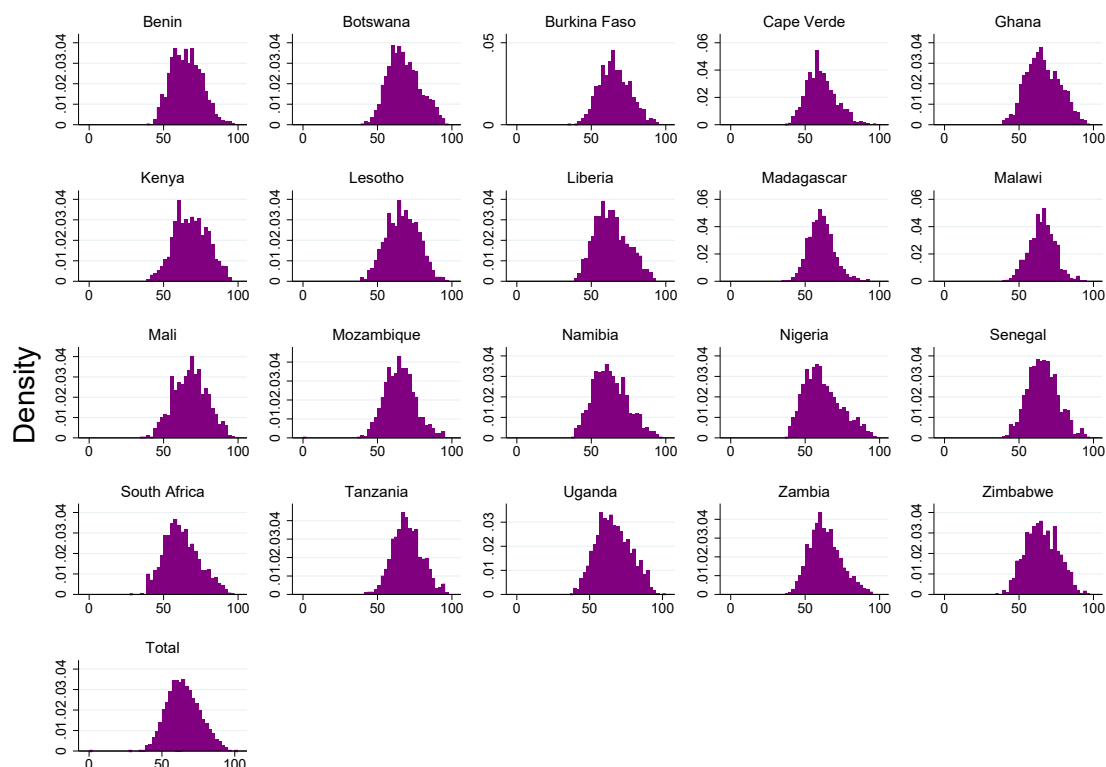


Note: The Poll for round 1 (1999) was computed based on 10 variables: Interest in public affairs, Discuss politics, Contact party official, Close to political party, Vote, Attend a demonstration or protest march, Attend a community meeting, Join the others to raise an issue, Attend a campaign rally and Worked for a candidate or party.

As Table 1.4 in Section 1.5.1 demonstrates a strong positive shift in political participation levels in 2008, Figure 1.4 shows the distribution plots for the extended sample<sup>7</sup> in 2008. Compared to earlier survey rounds, Figure 1.4 clearly shows a tendency towards higher political in all countries. Not only do countries display similar political participation levels, in general, the political sentiment within countries tightened as the majority of individuals now share similar political values. Given the convergence in political activism in sub-Saharan Africa primarily as a consequence of a compulsory change in governance or political turmoils associated with elections, large geographical patterns observed in 1999 faded. Malawi strikes as one of the most politically engaged countries. As a result of practically impeaching the incumbent president and the suspension of the parliament, Malawi was mired in a political crisis in 2007 which engendered public protests. Similar to 1999, the East African countries, Tanzania and Uganda, remain highly politically active societies.

<sup>7</sup> Cape Verde, Kenya, Mozambique, and Senegal were included in 2002, Benin and Madagascar were included in 2005 and Burkina Faso and Liberia were added in 2008.

FIGURE 1.4: Distribution of Poll in 2008

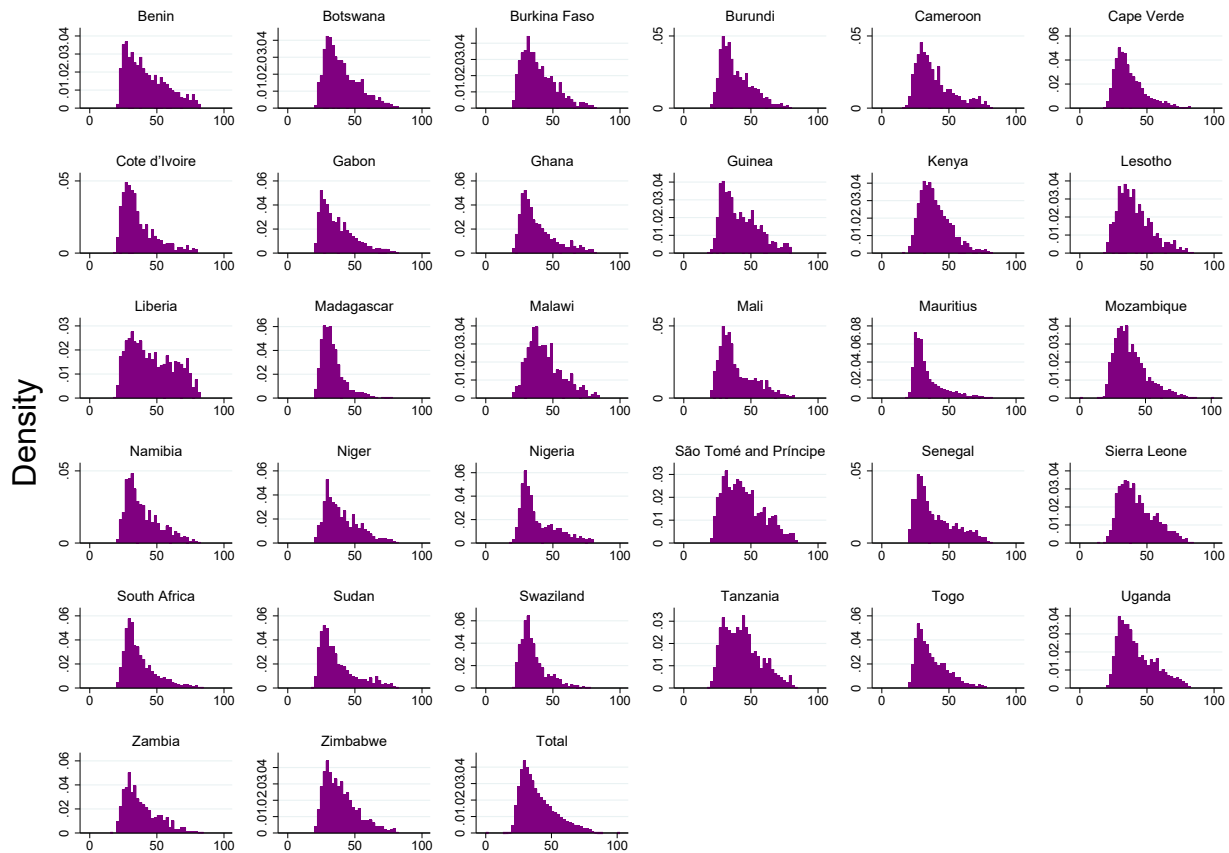


Note: The Poll for round 4 (2008) was computed based on 10 variables: Interest in public affairs, Discuss politics, Close to political party, Vote, Attend a demonstration or protest march, Attend a community meeting, Join the others to raise an issue, Contact local government councilor, Contact official of a government agency and Local government councilors listen.

The last survey round consisting of 32 countries<sup>8</sup> was conducted in 2014. Figure 1.5 shows a considerable movement towards less political participation. On average, individuals in sub-Saharan Africa tend to increasingly abandon political activities compared to earlier survey rounds. In addition to the presence of political apathy, political views within countries diversified. Some countries signal strong within-country heterogeneity, whilst others feature great homogeneity towards political behaviour. Some examples of the former, are Lesotho, Liberia, Malawi, São Tomé and Príncipe and Tanzania. While Madagascar, Mauritius, Nigeria, South Africa and Swaziland represent examples of the latter. Interestingly, Liberia almost exhibits a uniform distribution, which catapults Liberia to one of the most politically active countries in 2014. Similar to earlier survey rounds, Tanzania still shows high political involvement, while Uganda reveals a record low in political participation which insinuates a clear change in citizens' political sentiment. This development might be associated with the unchanged governance since 1996, as Yoweri Museveni was in office for 35 years.

<sup>8</sup> Burundi, Cameroon, Côte d'Ivoire, Guinea, Mauritius, Niger, Sierra Leone, Sudan, Swaziland and Togo were added in 2012, while Gabon and São Tomé and Príncipe were added in 2014.

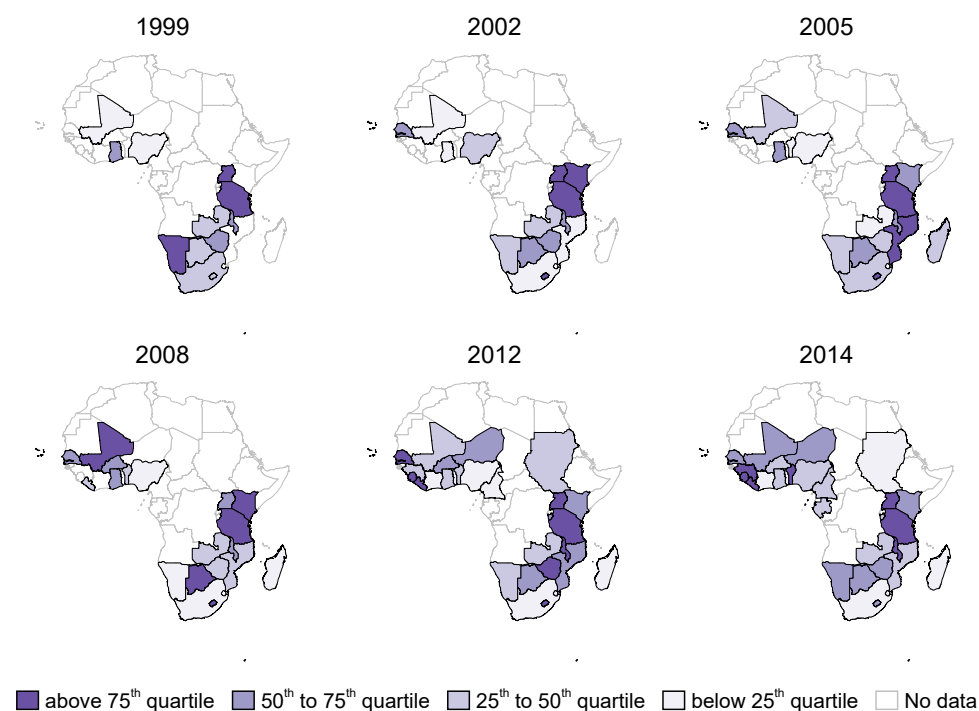
FIGURE 1.5: Distribution of Poll in 2014



Note: The Poll for round 6 (2014) contains 14 variables: Interest in public affairs, Discuss politics, Contact party official, Close to political party, Vote, Attend a demonstration or protest march, Attend a community meeting, Join the others to raise an issue, Attend a campaign rally, Attend a campaign meeting, Worked for a candidate or party, Contact local government councilor, Contact official of a government agency, and Local government councilors listen.

Despite the detailed analysis of political participation of individuals across countries and over the survey years, Figure 1.6 graphically shows the average Poll for each country overall survey rounds. The map divides countries into quartiles. These quartiles are formed by ranking each country’s average Poll. Countries coloured in a dark violet have a higher average Poll value while countries with a pale violet are within the 25<sup>th</sup> quartile - exhibiting a low political participation level. Table 1.5 summarises the average, median, and trend (upward or downward) of Poll for each country over survey rounds and supports the graphical representation in Figure 1.6. In addition to these country-specific summary statistics, the bottom part of the table also indicates the pooled sample average per round, as well as its associated standard deviation. As illustrated in Figure 1.6, neighbouring countries demonstrate similar attitudes towards participating in political affairs within all survey rounds. Perhaps it reflects the homogeneity in terms of cultural values or the overall political situation.

FIGURE 1.6: Poll: Global Normalisation



Note: Each country's Poll which is based on the global normalisation is ranked and then divided into quartiles. Each colour represents a different quartile. The darkest violet illustrates the 75<sup>th</sup> quartile, while the lightest violet demonstrates the 25<sup>th</sup> quartile.

Considering survey round 1 in 1999, the highest politically engaged countries are Namibia, Tanzania and Uganda, while the least engaging nations were Mali and Nigeria. In general, the sample in 1999 indicates that countries in the South and East African region tend to be more politically engaged compared to West Africa which aligns with Tables A.2, A.3 and A.4 in Appendix A. Although political participation deteriorated in 2002, the common pattern observed in 1999 was maintained. The highest level of political activism is found in Lesotho, Kenya, Tanzania and Uganda, while Ghana, Madagascar, Mozambique are classified as the least politically participating countries. The downward trend of political involvement continues in 2005 as the Africa average approaches a low of 44.9%. Despite the negative trend in political participation, Uganda and Tanzania remain the most politically active countries in Africa, while Zambia and Nigeria decrease their average political participation compared to 2002. The country average for Madagascar and Mozambique, on the other hand, increases and catapults them into the centre. While the first three survey rounds exhibit similar commonalities and differences, the survey round in 2008 illustrates a different picture. While similarities among geographical areas still hold, the most politically engaged countries are wider dispersed compared to previous survey rounds. Kenya, Mali, Tanzania belong to the most politically engaging countries, while Cape Verde, Madagascar and Nigeria inhibit the least politically active individuals in Africa. After the spike in the African wide average in political participation, the political sentiment in Africa decreases in 2012. In line with all previous rounds, Tanzania and Uganda are considered as highly politically active countries, while Madagascar and Nigeria maintain their status as low politically engaging countries.

In view of Sierra Leone, the high value of the index might be a result of emerging from civil war. The United Nation (UN)-backed Sierra Leone war crimes court in The Hague concluded its work by

TABLE 1.5: Evolution of Poll: Global Normalisation

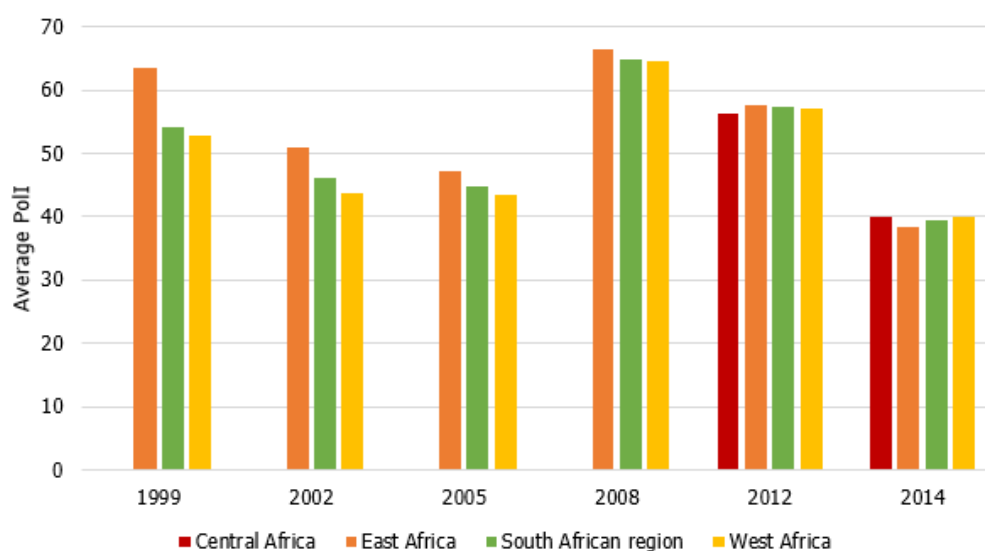
Country	1999	2002	2005	2008	2012	2014	Average	Median	Trend
Benin			42.2	65.3	57.1	42.4	51.8	49.7	↓
Botswana	51.8	46.9	45.5	67.8	57.3	40.5	51.7	49.4	↑
Burkina Faso				65.7	57.8	39.3	54.3	57.8	↓
Burundi					58.0	39.2	48.6	48.6	↓
Cameroon					54.6	39.1	46.9	46.9	↓
Cape Verde		43.3	39.7	60.9	57.4	37.2	47.7	43.3	↑
Côte d'Ivoire					53.5	36.7	45.1	45.1	↓
Gabon						37.3	37.3	37.3	
Ghana	57.9	42.2	45.9	66.2	54.7	38.7	50.9	50.3	↓
Guinea					56.8	42.0	49.4	49.4	↓
Kenya		49.5	45.3	68.4	58.3	39.8	52.3	49.5	↓
Lesotho	51.2	49.5	49.9	66.8	59.0	40.9	52.9	50.6	↓
Liberia				63.5	59.8	46.5	56.6	59.8	↓
Madagascar			42.7	60.8	50.5	33.3	46.9	46.6	↓
Malawi	58.2	47.0	45.3	65.5	61.7	44.1	53.6	52.6	↓
Mali	49.4	41.9	44.5	68.0	55.2	39.3	49.7	47.0	↑
Mauritius					52.6	34.1	43.4	43.4	↓
Mozambique		42.7	48.2	65.1	58.4	39.1	50.7	48.2	↑
Namibia	58.4	46.0	44.2	62.8	54.7	39.6	50.9	50.4	↓
Niger					58.3	40.3	49.3	49.3	↓
Nigeria	51.1	45.1	41.5	61.8	53.6	39.0	48.7	48.1	↓
São Tomé and Príncipe						44.7	44.7	44.7	
Senegal		46.1	46.7	65.9	59.6	39.6	51.6	46.7	↑
Sierra Leone					63.6	42.8	53.2	53.2	↓
South Africa	52.4	43.0	42.5	62.2	53.8	37.2	48.5	47.7	↓
Sudan					54.7	37.2	45.9	45.9	↓
Swaziland					53.9	35.3	44.6	44.6	↓
Tanzania	61.5	52.8	51.0	70.0	66.6	43.7	57.6	57.2	↓
Togo					54.2	37.3	45.8	45.8	↓
Uganda	64.9	50.5	49.2	66.4	62.4	42.4	56.0	56.5	↓
Zambia	51.9	44.0	40.1	63.5	55.4	38.3	48.8	47.9	↓
Zimbabwe	55.6	49.1	43.5	65.4	60.8	39.6	52.3	52.3	↓
Average	55.4	46.2	44.9	65.1	57.1	39.6			
Standard deviation	4.8	3.3	3.2	2.5	3.6	3.0			

Note: The Poll for each country is an aggregate over all individual Poll's for a particular round. The Poll in 1999 comprises of 10 variables and in 2002 9 variables. The Poll in 2005 represents 12 variables, while the Poll in 2008 is calculated over 10 variables. The last two Poll's in 2012 and 2014 contain 13 and 14 variables, respectively. The number of variables vary from year to year due to changes in the structure of the questionnaire. The trend is based on the slope of the linear approximation.

convicting former Liberian leader Charles Taylor for aiding and abetting war crimes in Sierra Leone's civil war.

Another fall in political participation was marked in 2014. The average for the sub-Saharan African region is 39.6%, which is a decrease of 30 percentage points compared to 2012. Interestingly, Liberia, Malawi and São Tomé and Príncipe supersede Tanzania and Uganda as the most politically engaged countries. The bottom end of the distribution remains unchanged, the lowest political participation is observed in Madagascar, Mauritius and Swaziland. In general, the majority of countries in the sample experienced a decline in political participation.

FIGURE 1.7: African regions and Poll: Global Normalisation



Note: The average for each region is based on each country's global Poll for a particular survey round. No countries in Central Africa were observed in the first four survey rounds.

In addition, to Figure 1.6 and Table 1.5, Figure 1.7 shows the average Poll value for all four African regions overall survey rounds, which allows analysing differences across regions and over time.<sup>9</sup> Clearly, political participation levels decreased from 1999 to 2005, whereby in 2008 political participation substantially increased. Thereafter, political engagement fell to an all-time low in 2014. Indeed, observed countries in East Africa reported higher Poll values for the first four survey rounds compared to countries in South and West Africa. However, in 2012 countries in South and West Africa caught up with political participation levels in East Africa. Interestingly, in 2014 Central and West Africa countries had similar political levels, while East and South African countries' political participation levels deteriorated. As shown in Figure 1.7, the phenomenon of a general disengagement in political activities also holds for the sub-Saharan African region.

### 1.5.3 Inequalities in Political Participation Levels

A substantial part of the literature on political participation illuminates motivations and determinants of political activity. Researches confirm inequalities in accessing political activities that arise due to the socio-economic environment (see e.g. Putnam, Leonardi, and Nanetti, 1994; Siegel, 2009; Quintelier and Hooghe, 2013; Campbell, 2013; Isaksson, Kotsadam, and Nerman, 2014; Bratton, 2013;

<sup>9</sup> No countries were observed in Central Africa in the first four survey rounds.

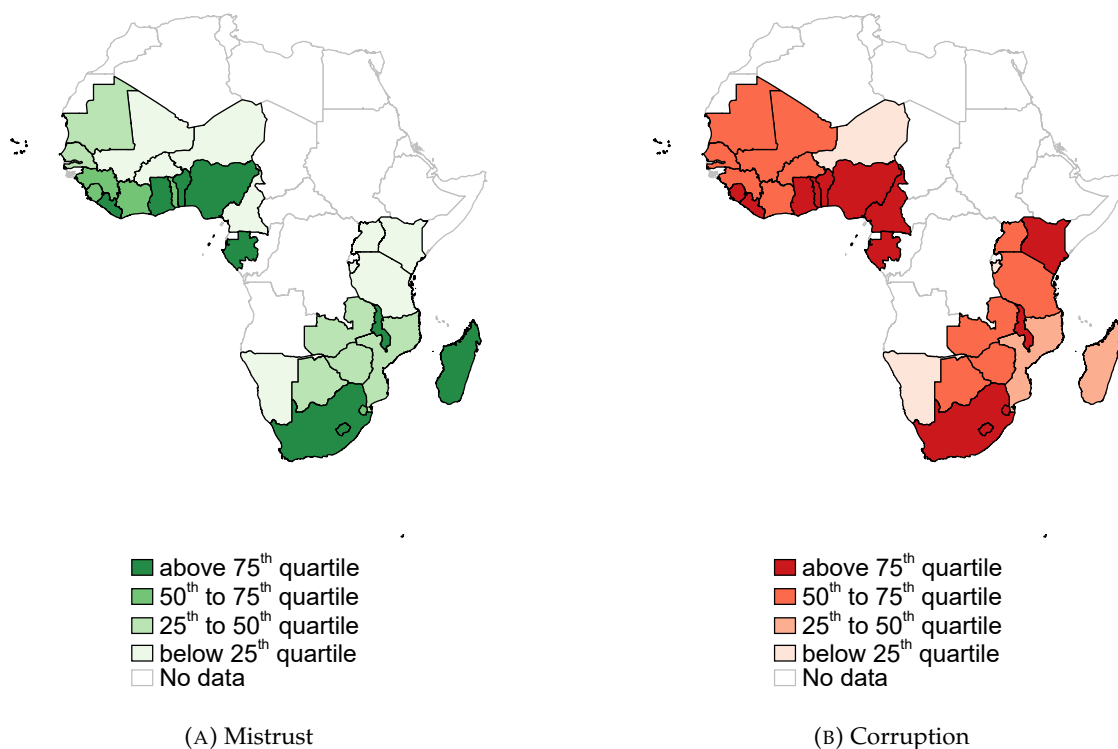
Bratton, Chu, and Lagos, 2010; Robinson and Gottlieb, 2021). Therefore, it is crucial to analyse how individuals' micro-environment affect their decision to engage in political activities. Since the PolI is a composite index based on soft, semi-hard and hard measures (see the classification in Section 1.2), an individual decision to engage in political activities might be associated with the social sentiment, the level of education and gender. Also, I investigate the macro-environment under which individuals interact influence their decision to engage in political activities such as the political system and the overall political stability.

### Social Sentiment

Several political economists have long stressed the relationships between political participation, trust and corruption, but there is no consensus on the direction of these relationships. On one hand, political scientists (e.g. E. Warren, 2004, Ecker, Glinitzer, and Meyer, 2016 and De Vries and Solaz, 2017) argue that corruption leads to withdrawals from participating in political processes, in particular it is a deterrent to voter turnout. On the other hand, Karahan, Coats, and Shughart, 2006; Karahan, Coats, and Shughart, 2009, Inman and Andrews, 2009; Inman and Andrews, 2015 and Školník, 2020 advocate that corruption provokes political mobilisation. In the same vein, political scholars debate whether trust motivates political participation or leads to political apathy.

Indeed, considering Figure 1.6 along with both Figures 2.2a and 1.8a, I see no clear relationship between these factors can be drawn. For instance, South Africa exhibits one of the lowest PolI values, and the overall sentiment of the society is relatively negative. Citizens in South Africa, on average, do not trust the president and perceive a highly corrupted political office. Madagascar has one of the lowest PolI values and the society presents high levels of mistrust, however, its citizens believe only a few officers in the presidency office engage in corrupt behaviour. On the other hand, Guinea reports a high PolI value, while the society mistrusts the president and generally believes officers in the presidency office are corrupt. Another example is Mozambique, a country with low mistrust and perceived corruption levels, but yet with the 38.1% PolI values clearly above the pooled countries' PolI average. Given this disparity, it is obvious that within-country variation contributes more to explaining political participation. Certainly, each country's social sentiment towards the president and the presidential office has a different impact on a citizen's political engagement. Seemingly, for some countries, lower PolI values are associated with higher mistrust and corruption levels, whilst for other countries, higher PolI values are related to higher mistrust and corruption levels. Also, the sample includes countries that report an index value above average and perceive low levels of corrupt activities in the presidency office, as well as a low level of mistrust in the president. This indicates that low levels of corruption or mistrust may have an impact on political participation.

FIGURE 1.8: Sentiment in Africa



Note: Mistrust in Figure (a) aggregates the proportion of individuals who affiliate themselves with a trust level of “Not at all” for each country for round 6. Corruption in Figure (b) aggregates the proportion of individuals who respond one of the following three levels of corruption: “Some of them”, “Most of them”, “All of them” for each country separately for round 6. Only respondents reporting “No corruption” are excluded. All values, corruption and trust levels, are classified in quartiles. The darkest green/red illustrates the 75<sup>th</sup> quartile, while the lightest green/red demonstrates the 25<sup>th</sup> quartile.

Aside from country-level heterogeneity, analysing the correlation on the aggregate level - pooled sample of all countries - indicates a positive monotonic relationship<sup>10</sup> between the index and trusting the president, whilst the correlation between the index and corruption is negative, thus illustrating a negative monotonic relationship<sup>11</sup>.

### Educational Attainment

Scholars widely acknowledged the importance of education in determining the level of political participation (see e.g. Putnam, 2000; Verba, Nie, and Kim, 1978; Campante and Chor, 2012; Bratton, 1999; Bratton, 2008). Generally speaking, a more educated society is more inclined to participate in all kinds of political affairs (Glaeser, Ponzetto, and Shleifer, 2007; Verba, Nie, and Kim, 1978; Hillygus, 2005). Using the same survey data from Afrobarometer, 2018, Bratton’s (1999) findings for Zambia show that higher educational levels decrease the propensity to vote, while Kuenzi and Lambright’s (2011) and Bratton, Chu, and Lagos’s (2010) results for 10 and 12 African countries respectively suggest mixed effects of education. Similar to earlier studies, Isaksson, Kotsadam, and Neriman’s (2014) study of 20 sub-Saharan African countries shows mixed results, higher education stimulates raising an issue while it detracts from voting. Given the inconsistency in previous studies, Figure 1.9a and

<sup>10</sup> The Spearman correlation, who test the correlation between two ranked variables, shows that the Poll and trusting in the president have a correlation of 0.1073 which is significant at 1% level.

<sup>11</sup> The Spearman correlation shows that the Poll and perceived corruption have a correlation of -0.0513 which is significant at the 1% level.

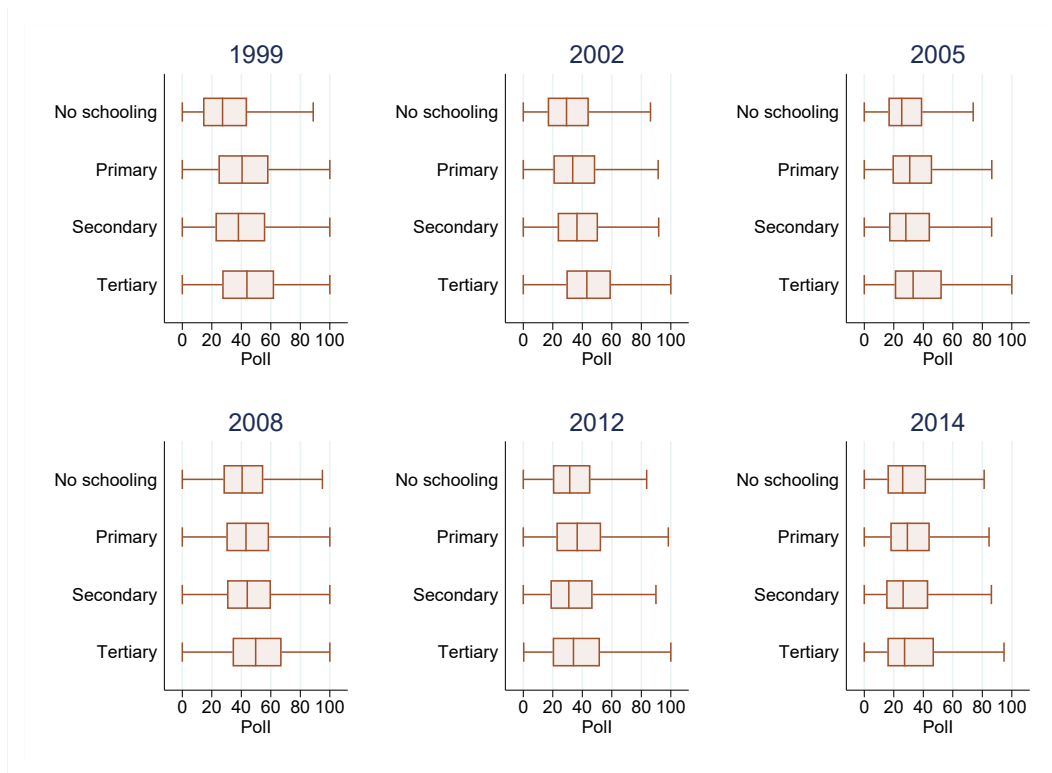


1.9b summarise boxplots displaying the association between education levels and Poll in each survey round and for each Poll normalisation method. Results are mixed and vary over survey rounds. Figure 1.9a displays that individuals with no education tend to have a lower Poll in 1999. Over the survey rounds, less educated citizens tend to be as politically active as citizens who attained a higher educational level. On average, in 2014, citizens with no formal schooling participated in political affairs as actively as individuals that completed tertiary education. This result might reflect the collective lockstep of pliant citizens rather than political decisions of well-informed individuals Bratton, 1999. In general, tertiary-educated citizens tend to be more politically active, while primary and secondary educational levels yield similar political participation levels. Having said that, in the most recent survey rounds, 2012 and 2014, the assumption that a higher level of education infers a higher level of political participation seems to fade.

Similar results are obtained when analysing the Poll standardised to the global perspective as illustrated in the boxplots in Figure 1.9b. Compared to the boxplots in Figure 1.9a, the boxplots for the global Poll present denser ranges, as more individuals are centred towards the average political participation level. In addition to Figures 1.9a and 1.9b, the Spearman correlation between the categorical education variable and the country and the global Poll is 0.0307 for both and statistically significant at 1% nominal level.

Given educational differences across sub-Saharan African countries, Table 1.6 summarises the proportions of individuals who never attended school and those who attained tertiary education for each country, respectively, for survey round 6 in 2014. Irrespective of educational attainment, countries report similar Poll values. For example, data from 2014 (Round 6) for Niger, Guinea, Sierra Leone and Mali indicates that more than a third of respondents received no school education, however, all these countries have an average political participation index value above the yearly overall average of 31.9%. On the other hand, Nigeria, South Africa and Gabon have the highest proportion of tertiary-educated individuals, but each of them reported an average Poll value below the 2014 overall average (see Table 1.6). Thus, there is no clear evidence that higher education attainment facilitates political activism. As far as African countries are concerned, there is little evidence that higher education might lead to political apathy.

FIGURE 1.9: Educational Attainment and Poll



(A) Country-level Normalisation



(B) Global Normalisation

TABLE 1.6: Educational Attainment and Poll

Country	% of No School Education	% of Tertiary Education	Poll
Benin	37.0%	7.2%	34.4%
Botswana	12.8%	22.2%	33.1%
Burkina Faso	51.5%	3.8%	29.4%
Burundi	22.9%	3.8%	33.2%
Cameroon	2.8%	24.0%	34.5%
Cape Verde	9.6%	19.1%	26.0%
Côte d'Ivoire	9.0%	16.3%	25.2%
Gabon	1.0%	25.8%	25.8%
Ghana	17.5%	12.0%	28.2%
Guinea	39.5%	11.7%	39.3%
Kenya	6.6%	18.9%	35.5%
Lesotho	11.3%	8.0%	34.2%
Liberia	14.7%	20.6%	46.4%
Madagascar	7.5%	3.9%	20.3%
Malawi	12.3%	4.7%	36.5%
Mali	37.8%	4.7%	31.0%
Mauritius	1.3%	20.4%	23.5%
Mozambique	13.9%	8.6%	38.1%
Namibia	4.9%	19.0%	31.8%
Niger	40.4%	2.8%	33.1%
Nigeria	5.2%	26.6%	30.9%
São Tomé and Príncipe	2.2%	13.2%	38.9%
Senegal	21.8%	11.8%	32.0%
Sierra Leone	38.0%	13.2%	41.2%
South Africa	2.5%	26.5%	22.6%
Swaziland	8.0%	18.9%	24.4%
Tanzania	9.2%	6.5%	36.9%
Togo	14.8%	11.1%	26.1%
Uganda	14.2%	8.4%	38.0%
Zambia	7.6%	13.2%	32.5%
Zimbabwe	6.7%	14.2%	31.2%

The Poll for each country is an aggregate over all individual Poll's for the last round 6 in 2014. The proportion of citizen who have either attained no schooling or completed tertiary education are percentages taken from round 6.

## Gender

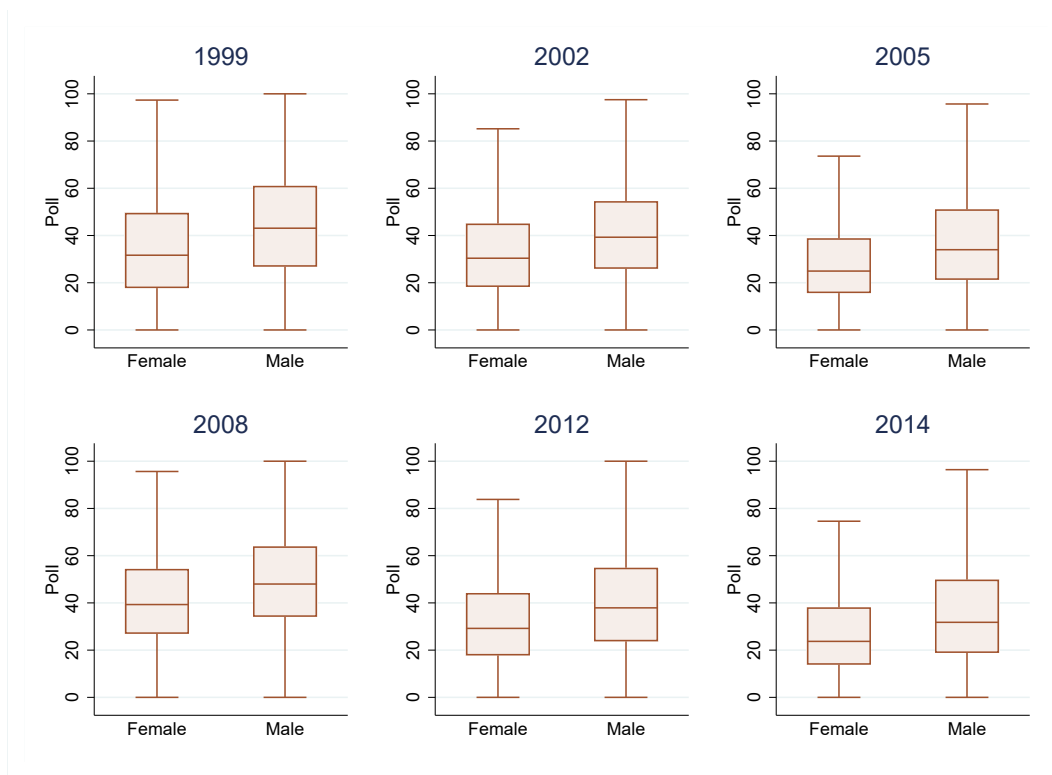
Inequalities in political participation not only arise due to differences in education or social sentiment but also where gender gaps exist. On average in the Western industrialised democracies, women tend to participate less than men (Andersen, 1975; Schlozman, Burns, and Verba, 1994). Similarly, Bratton's (1999) study indicated a similar political participation pattern in Zambia. His results show that women are equally likely to register to vote and engage in a variety of political activities compared to men, however, women are less likely to pervade their vote. These unequivocal results signal gender gaps exist as well in Africa, yet the impact varies across political participation types. A broader analysis was conducted by Coffe and Bolzendahl, 2011, who investigated the gender gap in political participation across 18 sub-Saharan African countries<sup>12</sup>. Results suggest that women are less likely to participate in less institutionalised participation types. In line with the literature, Figures 1.10a and 1.10b illustrate the gender gap across survey rounds for the PolI normalised at the country level and the global level, respectively. The box plots in Figure 1.10a clearly show that women are prone to be less politically active. Expect political participation levels in 2008, both women and men display a parallel trend as political participation decreased over time. Interestingly, survey round years 1999 and 2008 are the only years in which some women obtained a relatively high PolI compared to all other years which show significant lower maximum levels. Despite the variation in maximum PolI levels, the interquartile range for women is denser and it decreased over the course of the survey rounds. Signalling that women, in general, have a similar stance towards political participation whereas men tend to show more diversity. In terms of the evolution over time, the mean difference between men and women in 1999 is relatively large, while the mean difference in 2012 and 2014 decreased significantly. This allows me to assume that the gender gap in political participation in Africa reduces over time and as more countries enable females to access a greater variety of political activities.

Figure 1.10b shows the boxplots for the PolI based on the global normalisation. In comparison to Figure 1.10a, usually, only one person in the sample obtains an index of 100 (similar for the minimum value, 0). As expected, in each round a man records the highest possible index value. Analogously to Figure 1.10a, I observe the same parallel trend in Figure 1.10b. Thus, regardless of the normalisation method, men are more politically active in sub-Saharan Africa.

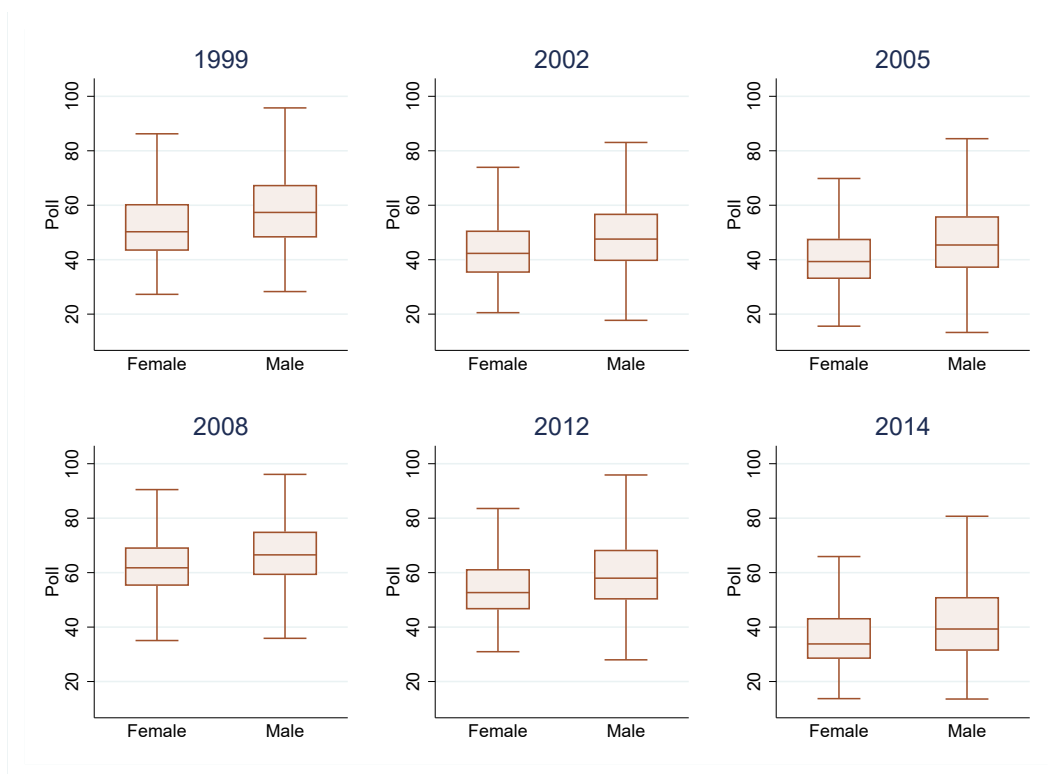
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<sup>12</sup> Coffe and Bolzendahl, 2011 used the same dataset, Afrobarometer. Their study used the survey data for 2005.

FIGURE 1.10: Gender and Poll



(A) Country-level Normalisation



(B) Global Normalisation

## Political Environment

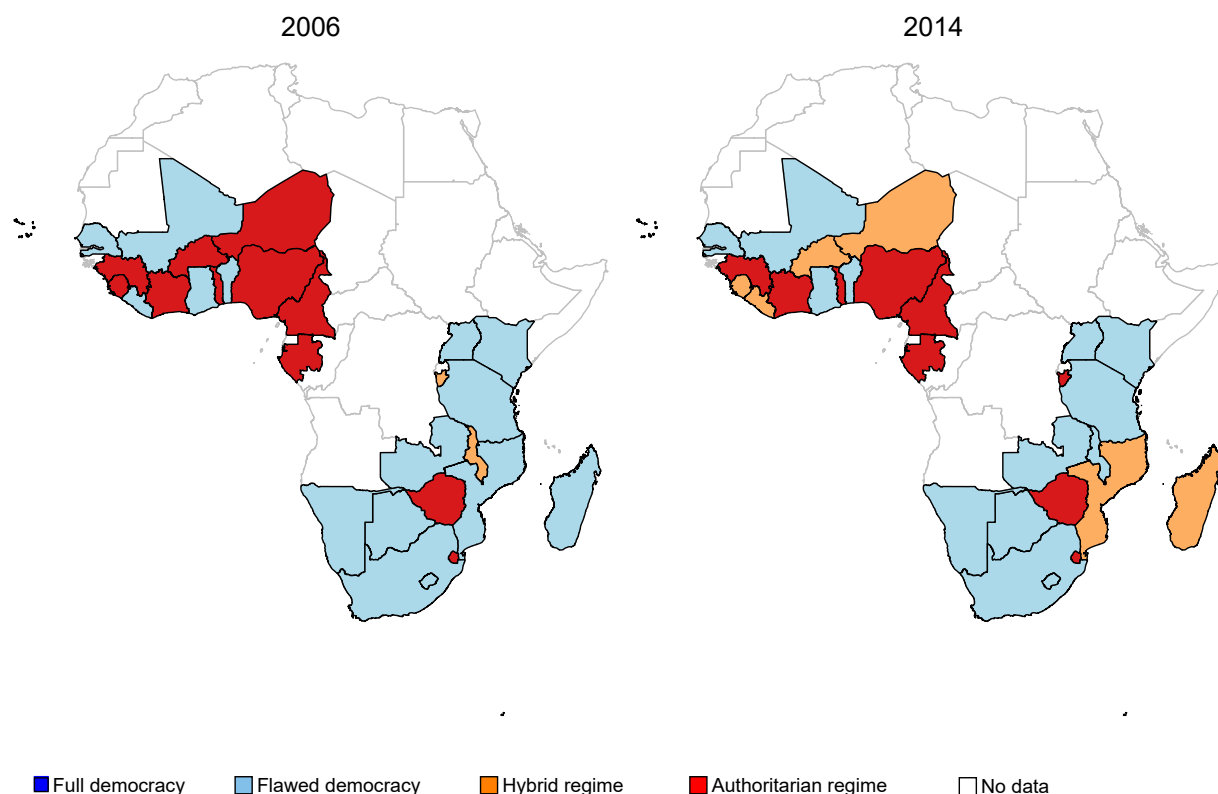
The low index values observed in 2012 and 2014 might be explained by the political environment in those years since a greater degree of political instability is fatal for a country's economic development. The political environment is analysed firstly by whether the country is considered as a democracy according to the democracy index developed by the Economist Intelligence Unit, 2014 (EIU), and secondly on a country's political stability. The former criterion allows investigating the status of the governmental system which indicates whether the country has a stable and well functioning political system. To determine the latter criterion, I adduce detailed information from the Centre for Systemic Peace, 2018 to show how political violence has progressed throughout the observed period, 1999 to 2014, in Sub Saharan Africa.

## Political System

As mentioned in Section 1.3, the EIU bases its democracy index on measures that reflect the state of political freedom and civil liberties. Since the EIU classifies the democracy index into four regimes, this analysis adopts this categorisation to visualise each country's democracy index graphically. Figure 1.11 represents the democratic progression in Sub Saharan Africa from 2006 to 2014. Further information on which specific country adopted a particular political regime in 2006 and 2014 is provided in Appendix A.1. In 2006, eleven countries in the sample lived under an authoritarian rule according to EIU, while two countries, Burundi and Malawi, were considered as being ruled by a hybrid regime and the rest of the sample was classified as a flawed democracy. Eight years after, nine countries remain in an authoritarian system, whilst the number of countries with hybrid regimes increases to 6, whereby the rest remains in a flawed democracy. The only country in the sample with a full democracy within the sample period is Mauritius, which is not illustrated in Figure 1.11. Drawing a connection with the type of political system and the Poll, I look at Malawi, which in 2006 was regarded as a hybrid regime and had a Poll of 28.2% in 2005; 5.4% below the pooled country average in 2005. Throughout the years, Malawi's Poll increased with a spike of about 44.9% in 2012 well above the pooled country 2014 Poll average of 36.5%. According to the EIU, in 2014 Malawi was classified as a flawed democracy. This example shows that the higher the Poll the higher is the likelihood of having a more democratic system in place.

Likewise, Sierra Lorne and Niger have adapted more democratic regimes and reported an index value above the pooled country 2014 Poll average. The reverse relationship between the political regime and political activism holds as well. An example of this is Madagascar, whose average Poll value is 26.5% in 2005 but was classified as a flawed democracy in 2006. However, Madagascar moved to a hybrid regime in 2014 while exhibiting a decline in its Poll to 20.3%, which is 11.6% below the 2014 pooled country Poll average.

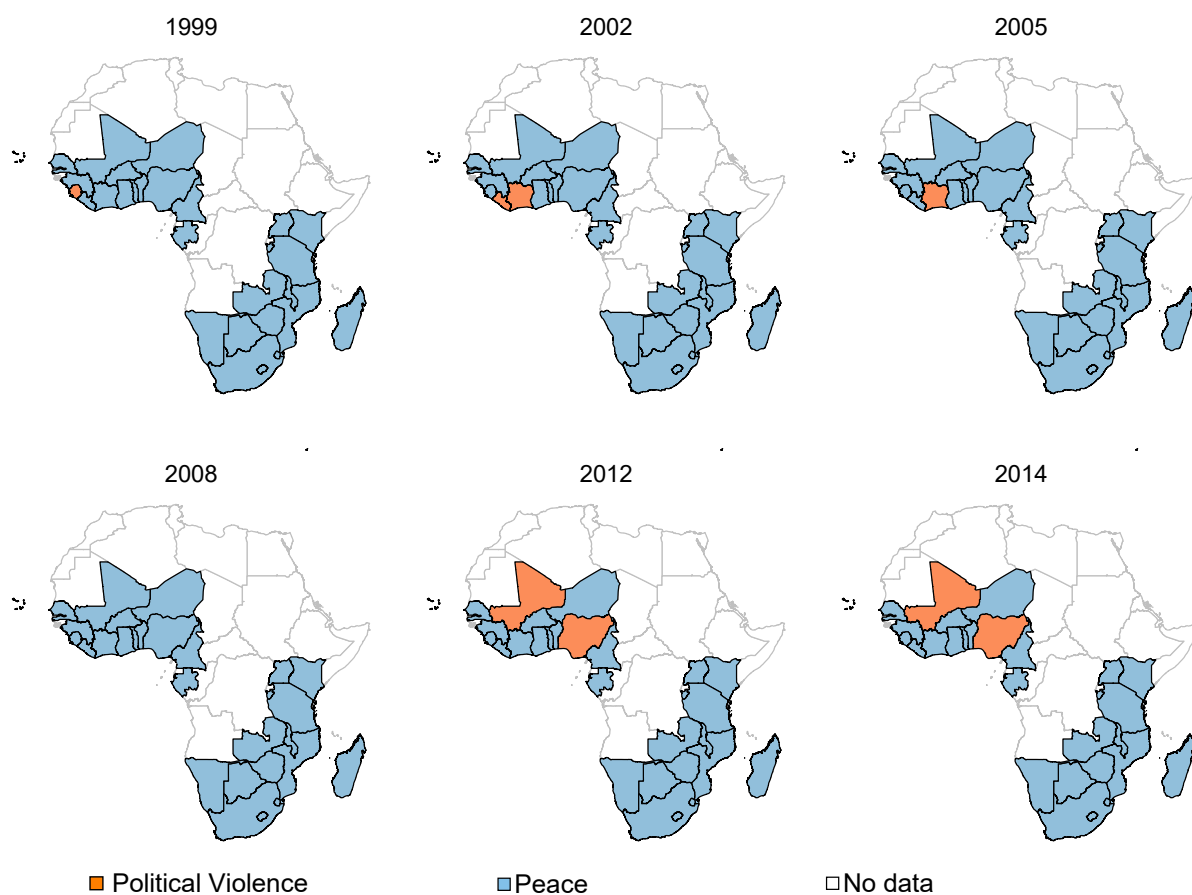
FIGURE 1.11: Political System



### Political Violence

The decision rule explained in Section 1.3 illustrates whether a country experienced civil violence and/or civil warfare during the sample period. According to this decision rule, Figure 1.12 illustrates the progress of political violence in Sub Saharan Africa. Only a few isolated cases show political violence during the sample period, predominately countries for which no data exists for these periods. In 1999, only Sierra Leone experiences political violence while in 2002 Liberia and Côte d'Ivoire encounter political violence. In 2005 exclusively Côte d'Ivoire dealt with political turmoils, whilst in 2008 no country in the sample was affected by political outrages. However, in 2012 and 2014 Nigeria and Mali were faced with violent political attacks. This political instability was reflected with a below Poll average value for Mali and Nigeria in both years, as reported in Table 1.4. In the case of Nigeria, the Poll increased from 24.3% to 30.9%, whilst for Mali, the Poll increased only slightly. Overall, there is little evidence of a systematic relationship between political violence and Poll.

FIGURE 1.12: Political Violence



## 1.6 Conclusion

Political participation refers to any individual or collective activity that influences political structures, politicians' or government officials' actions or decisions regarding resource allocations. Previous research recognises this multilayered dimension of political participation conceptually, however lacks a uniform measure empirically, especially for African countries. This study builds an index for political participation in sub-Saharan Africa. The composite index is constructed using the multiple correspondence analysis (MCA) technique and utilises ordered categorical variables that include measures of a variety of political activities. The analysis capitalises on two normalisation methods: (a) the country level and (b) the global African level. The former allows for analysing differences within countries, while the latter facilitates cross-country comparisons. The index is calculated for a sample of 32 sub-Saharan African countries using Afrobarometer, 2018 survey dataset over six rounds (1999 - 2014).

My results show heterogeneity among citizens and across countries in terms of political engagement. In general, low levels of political participation are observed in the sub-Saharan African region overall survey rounds, except round 4 in 2008. In 2008, an overwhelming majority of societies are inclined to participate more actively in political matters. Greater political involvement may emerge as a result of compulsory and non-compulsory changes in governance, political crises, turmoils or



instability. Indeed, supporting or opposing the current government arouses motivation to participate in political affairs. Yet this study does not conceptualise a theoretical framework to identify sources of political participation. It merely attempts to make sense of the impetus and dynamics of political participation. Despite the evidence of heterogeneous political patterns, findings are indicative of geographical clusters which align with the general classification of African regions. Homogeneity is present for neighbouring countries which might be due to similar cultural values, overlap in terms of ethnic groups, similar democratic norms or attitudes towards political activities. The existence of clusters was maintained over survey rounds. However, political participation evolved. In the early 2000s, the highest political levels were recorded in East Africa, while the lowest levels are reported in West and South African countries, exhibiting great levels of political idleness. The greatest transition in terms of political participation is observed in West Africa. Citizens in West African countries transitioned from political apathy to greater political activism in later survey rounds. Given the drastic fall in Poll values over the last two survey years, the phenomenon of a general disengagement in political activities also holds for the sub-Saharan African region.

Aside from analysing the Poll across countries, the paper conducts a descriptive analysis of a citizen's micro and macro environment. The micro-environment focuses on the social sentiment, predominantly on trusting the president and perceived corruption in the government, gender inequalities and educational attainment. Both micro-environment indicators manifest heterogeneity across countries. Some countries signal a lower Poll, a higher level of mistrust but a low level of perceived corruption, whilst other countries indicate a higher Poll but a relatively high level of distrust and perceived corruption. On the aggregate, Poll and trust are positively correlated, whereas perceived corruption and Poll are negatively correlated. Similarly to political trust and perceived corruption levels, the descriptive analysis of education levels and the Poll presents mixed results. Overall, political participation levels vary across education levels, whereby higher educational attainment is associated with a higher Poll value. Although the positive trend between education and political participation seems to disappear in the last two survey rounds. Gender, on the other hand, displays persistent inequalities in political participation. Men tend to be more politically active compared to women in all survey rounds and across countries. The analysis suggests that the gender gap decreased over the six survey rounds. In terms of the political environment, no systematic relationship between Poll and political violence or system can be demonstrated.

Overall, the composite index allows for comparisons within and across countries. Using this index, the study demonstrates significant diversity in political participation patterns in sub-Saharan African countries. In particular, substantial heterogeneity between citizens exists in the region, and geographical clusters are identified in terms of countries' similarity in political participation activism. Classifying countries according to the political participation levels is a fundamental step towards further research of political participation patterns, their underlying sources and motivations, especially in sub-Saharan Africa. Furthermore, the universality of the proposed index makes it a powerful tool to assess political participation around the world.

## Chapter 2

# Political Participation, Trust and Corruption in Developing Africa

### 2.1 Introduction

A perennial question of political economists is whether citizens' distrust of politicians or their perception that the government is corrupt disincentivizes or stimulates them to participate in political activities. The principle of political activities is to express personal preferences and hold the government accountable for its actions (Ecker, Glinitzer, and Meyer, 2016). However, often distrust and corruption are deeply rooted in political practices, especially in less developed countries. The presence of distrust and corruption in these political processes poses threats to political accountability and political legitimacy. Given the desirable democratic ideal of a highly politically engaged society and the detrimental effect of distrust and corruption on political systems, researchers predominately investigated the impact of trust or corruption on political participation separately and mostly in Western societies. Several studies find that corruption not only undermines political legitimacy and the culture of democracy but also erodes political trust (see e.g. della Porta, 2000; Seligson, 2002; Anderson and Tverdova, 2003; Chang and Chu, 2006; Püllbeck and Doko Tchatoka, 2020). This underlying complexity of political trust and corruption adds another layer to determine their impact on political activism. This paper stresses the importance of jointly investigating the effect of perceived corruption and political trust on political activism in sub-Saharan Africa. In particular, the study proposes a methodology that exploits exogenous variations resulting from the nexus between perceived corruption and political trust to identify the impact of both (perceived corruption and political trust) on political activism.

Broadly, political corruption is defined as the abuse of collective power and authority for personal or collective gain at the expense of the greater society (E. Warren, 2004). In previous research, corruption was perceived as one of the lesser evils in pathologies of politics, as some scholars argue the presence of corruption in democracies reduces inefficiencies and lowers transaction costs; see e.g. Leys, 1965; Huntington, 1968; Anechiarico and Jacobs, 1996. Recent literature, however, portrays corruption as source of dysfunctional democracies (see e.g. Della Porta and Vannucci, 1999; E. Warren, 2004). In particular, the presence of corruption erases citizen's power to influence collective decisions as it deflates the effective domain of political activism. Once citizens anticipate duplicity in political activities, this expectation tarnishes all political agents regardless of them being corrupt or not.

Corruption corrodes the function of governments to equally reallocate resources and provide services citizens are entitled to (Dahlberg and Solevid, 2016). Since corrupt behaviour in governments narrows the effectiveness of collective action and leads to a lack of confidence in political institutions (E. Warren, 2004; Ecker, Glinitzer, and Meyer, 2016; De Vries and Solaz, 2017), researchers are interested in the impact of corruption on political behaviour. Scholars debate whether corruption leads to withdrawals from participating in political processes or mobilises citizens to actively participate to punish misuse of collective power. Conceptually, E. Warren, 2004 argues that corruption causes an unjustifiable dis-empowerment of citizens that are harmfully excluded from those included in collective actions and decisions. Similarly, De Vries and Solaz's (2017) conceptual study of the electoral consequences of corruption shows that citizens often fail to punish corrupt political actors despite conceiving an abhorrence for corruption. Empirically, researches predominantly focus on the effect of corruption on voter turnout.

One strand of literature advocates that the presence of corruption stimulates citizens to greater engagement in political affairs (see e.g. Karahan, Coats, and Shughart, 2006; Karahan, Coats, and Shughart, 2009; Escaleras, Calcagno, and Shughart, 2012; Kostadinova, 2009; Inman and Andrews, 2009; Inman and Andrews, 2015; Bonifácio and Paulino, 2015; Školník, 2020). Karahan, Coats, and Shughart, 2006; Karahan, Coats, and Shughart, 2009 investigate the effect of convicted corruption cases on voter turnout in Mississippi's statewide election and general elections. They show that turnout increases if more incumbent supervisors were charged with bribery. Similarly, Escaleras, Calcagno, and Shughart's (2012) analysis indicates that corruption in governments increases voter turnout in gubernatorial US elections. Studying the effect of corruption on political participation in America and the Caribbean, Bonifácio and Paulino, 2015 analysis of an extensive set of participation indicators finds citizens' exposure to corruption and tolerance to bribes encourages citizens to participate in political activities. In particular, citizens will aim to choose more effective modes of participation (Scartascini and Tommasi, 2012; Machado, Scartascini, and Tommasi, 2011). In Columbia, Školník's (2020) study of the impact of corruption on six forms of political participation differentiates between perceiving and experiencing corruption. The analysis illustrates that experiencing corruption mobilises citizens to participate, while perceived corruption is scarred with a deterrent effect. Kostadinova, 2009, on the other hand, analyse the strength of the mobilisation and the abstention effect in eight post-communist countries using the Comparative Study of Electoral Systems (CSES) survey data. Their results show that the mobilisation effect was slightly stronger if perceived corruption was high. Their results also strongly indicate that the indirect effect of corruption erodes citizens' faith in democratic elections. Particularly noteworthy is the study by Inman and Andrews, 2009; Inman and Andrews, 2015 who investigate the effect of perceived corruption on political participation in Senegal using a structured experiment and a survey analysis. The structured field-based experiment sampled 208 students at the University of Dakar, Cheikh Anta Diop in Senegal in 2007. Experiment results reveal that corruption increases the likelihood to participate in politics in Senegal. Since corruption is seen as an indicator of political performance, higher levels of perceived corruption motivate individuals to take political action to remove corrupt governments. Their findings suggest that corruption may be a salient factor in individuals' political participation decisions. In addition to the experiment, they used survey data for Senegal in 2008 from Afrobarometer. Using the same measure of perceived corruption as in this study, their results show greater engagement in political

affairs if citizens perceive the president or officials in the presidency office as corrupt. In particular, citizens are more inclined to vote if corruption exists.

Despite perceiving corruption as a mobilising agent, some scholars argue that corruption alienates and decreases vote turnout (see e.g. Dahlberg and Solevid, 2016; McCann and Dominguez, 1998; Simpser, 2012; Chong et al., 2011; Stockemer, LaMontagne, and Scruggs, 2013; Sundström and Stockemer, 2015; Giommoni, 2021a; Zheng et al., 2017; Hooghe and Quintelier, 2014). Stockemer, LaMontagne, and Scruggs, 2013 show that corruption decreases the likelihood to vote not only in rich industrialised countries but also in emerging and poor democracies. Using CSES data for 26 countries, Dahlberg and Solevid's (2016) analysis of the effect of perceived political corruption on turnout reveals that higher political corruption levels negatively affect turnout. Similar results are found for Mexico. For example, Chong et al., 2011 alerts that information on corrupt behaviour leads to withdrawal from the political process in Mexico, while McCann and Dominguez's (1998) results show the detrimental effect of electoral fraud on voting turnouts and Simpser, 2012 finds a negative effect of electoral manipulation. In particular, McCann and Dominguez, 1998 stress that at the beginning of the democratisation process, corrupt countries record higher rates of turnout at first, but if corruption lingers, voter turnout reduces over time. In Europe, Sundström and Stockemer, 2015 show that citizens are less inclined to vote if they perceive government services and electoral processes as corrupt, whilst Hooghe and Quintelier, 2014 find a joint negative impact of corruption and bad governance on political engagement in Central and Eastern European countries. Agerberg, 2019 analyses the effect of the interaction between corruption and education on political activism. He finds that in a corrupt political environment, educated and politically sophisticated individuals manifest a similar political resignation as their less-educated peers. Also, his results support that highly educated citizens are more active in non-institutionalised political activities when exposed to high corruption levels compared to individuals exhibiting lower corruption levels. In Italy, Giommoni, 2021a shows that citizens reduce political participation if they are exposed to corruption. In particular, they lose interest in politics. While in Hungary, Kostadinova and Kmetty, 2019 find that corruption affects both electoral and non-authorized forms of political action. The demobilisation effect is present in turnover, while citizens are inclined to increase their political activism in legal but non-electoral activities. Similar to Bonifácio and Paulino, 2015, Kostadinova and Kmetty, 2019 second the idea that corruption stimulates participation in collective action, but not necessarily in elections.

An influential study on the impact of corruption on voter behaviour is Ecker, Glinitzer, and Meyer's (2016). They investigate the consequences of corruption in 20 parliamentary elections in Western and Central Eastern Europe through a reward and punishment framework. Using individual voting data from CSES and different levels of corruption, their findings suggest that if voters perceive corruption and differentiate parties, they sanction incumbent parties. This effect is reinforced once voters increase their level of corruption. Indeed, increasing the corruption level by one unit decreases the probability to vote in favour of the incumbent by 5.4 percentage points. Yet, results show no consistent evidence on the effect of high corruption levels on voter turnout.

Alongside the impact of perceived corruption on political participation, scholars argue that the presence of corruption in government weakens citizens' political trust. Whereby political trust is defined as citizen's confidence in political institutions (Catterberg and Moreno, 2006). Once individuals

are mistrustful of political institutions, they dissociate themselves from externally controlled political activities. Citrin, 1974 argues political alienation is associated with rejecting conventional political participation modes and individuals exhibiting greater levels of political cynicism are more likely to either withdraw from conventional activities altogether or participate in non-conventional activities. Thus, scholars resonate that the alleged fall in political trust will influence political participation levels (Putnam, 2004).

Similar to the effect of corruption, controversy about the influence of political trust on political participation exists. Some researchers claim that the occurrence of any form of political participation relies on the existence of political trust, while others argue that mistrust in political processes induces greater participation levels in non-institutionalised activities. In favour of the former are Almond and Verba, 1963 and advocates for the latter are Seligson, 1980 and Barnes, Kaase, and al, 1979.

Almond and Verba, 1963 argue that participants in politics require positive attitudes towards the political system, as negative perceptions result in alienation and over time into democratic instability. Supporting previous findings, Neilson and Paxton, 2010 find that higher levels of political trust lead to greater political participation levels in Europe. Dalton's (2004) findings for twelve advanced democracies report a positive relationship between political trust and voter turnout. Similar results are found for the UK and Canada (Pattie and Johnston, 2001; Bélanger and Nadeau, 2005). Whereas Gamson, 1968b and Fraser, 1970 claim that only political trust and political efficacy jointly trigger greater political activism. An important paper to my study is Bratton, 1999 who investigates political participation using pilot survey data from Bratton and Liatto-Katundu, 1994 for Zambia. Their findings suggest that trust in governments experiences a positive association with contacting political leaders in Zambia.

On the other side, Seligson, 1980 finds that low levels of trust mobilise citizens to greater political engagement in Costa Rica. Barnes, Kaase, and al, 1979 differentiate between conventional and unconventional political participation. They find that political trust induces greater engagement in conventional activities which include all activities that are associated with the electoral process, whilst dissent in democratic societies leads to a transition to unconventional modes of participation with no direct influence on the election. A similar result is also found in Hooghe and Marien's (2013) study of 25 European countries. This study reveals a positive effect of political trust on institutionalised forms of participation, while political trust is negatively related to non-institutionalised modes of engagement. A similar stance is supported by Norris, 1999, who argues that distrust in political processes induces the creation of new challenging modes of political participation. Rosanvallon and Goldhammer, 2008 add that distrust is a prerequisite to actively monitor politicians' actions and governments' decision making processes. The motivating role of distrust is particularly underpinned by Hibbing and Theiss-Morse's (2001), who argue that distrust not only induces greater engagement levels in non-institutional forms of political participation but stimulates all kinds of participation. Hereby Hibbing and Theiss-Morse, 2001 reinforce Gamson's (1968) view that political trust alone erases the imperative to influence political agents. Similarly, Kaase's (1999) shows that lower levels of political trust increase the probability of engaging in political activities in nine Western European countries. Analysing the tendency to demonstrate in the UK, Heath's (2008) reveals that dissatisfied citizens are more willing to protest.

Despite a large amount of literature on the impact of perceived corruption and political trust,

most studies are conducted in more developed countries and often focus on one form of political participation. As political participation is a crucial democratic ideal, analysing the impact of political trust and perceived corruption in sub-Saharan Africa is of paramount interest. This study addresses the influence of perceived corruption and political trust on the level of political participation in sub-Saharan Africa. Data on political trust and perceived corruption were obtained from Afrobarometer, 2018. To investigate the heterogeneity between perceived corruption and political trust levels, the paper distinguishes between four levels of political trust and perceived corruption, while political participation is measured with a composite index of political participation,  $Poll^1$ , to capture several political participation modes. The study proposes a bi-variate ordered probit approach to control for the endogeneity between political trust and corruption. The findings show that perceived corruption significantly influences political participation while political trust has little bearing on political activism. The findings also reveal heterogeneous effects across perceived corruption and political trust levels. In particular, citizens show greater political engagement when they do not perceive any corruption or assume everyone is corrupt in the presidency office, while their political engagement falls if they only assume some extent of corruption in the presidency office. For political trust, higher levels reduce citizens incentive to participate in political activities, while distrust has a mobilising effect on political engagement. Alongside the effect of political trust and perceived corruption, the study finds substantial differences across countries, suggesting the existence of geographic clusters. Generally, a similar impact of political trust on political participation is found in East and Southern Africa, while similar findings emerge for Central and West Africa. The impact of perceived corruption across sub-Saharan African regions manifests greater differences. Southern and West Africa align with the general sub-Saharan African trend, whereas citizens in Central and East Africa withdraw themselves from political activities once they perceive high corruption levels. In essence, the absence of perceived corruption in the presidency office and distrust mobilise citizens in sub-Saharan Africa to be more politically active.

## 2.2 Empirical Model and Identification Strategy

Consider the following specification:

$$Poll_{icr} = \beta_0 + \gamma_c + \gamma_r + \beta_1 T_{icr}^* + \beta_2 C_{icr}^* + X'_{irc} \delta_1 + M'_{irc} \delta_2 + u_{icr}, \quad (2.2.1)$$

where  $Poll_{icr}$  measures the political participation (as per Chapter 1) of individual  $i$  in country  $c$  in the survey year  $r$ ;  $T_{icr}^*$  and  $C_{icr}^*$  are latent measures of political trust and perceived corruption in the presidency office respectively;  $X_{icr}$  includes individual level covariates, while  $M_{icr}$  contains economic and political country-specific characteristics such as the existence of political violence, the type of political system, the gross domestic product (GDP) and the consumer price index (CPI);  $\beta_j$ ,  $j = 0, 1, 2$  and  $\delta_l$ ,  $l = 1, 2$  are unknown parameters;  $\gamma_c$  and  $\gamma_r$  are country and survey round fixed effects respectively; and  $u_{icr}$  are idiosyncratic error terms. Throughout the study, two measures of political participation are used which differ in terms of the aggregation method<sup>2</sup> – one is normalised at the country level and the other at the sub-Saharan African level; see Chapter 1.

<sup>1</sup> The political participation index (Poll) is built in Chapter 1.

<sup>2</sup> See Chapter 1 for the construction of country-level and regional-level political participation indices.

Interest lies in identifying the causal impact of political trust ( $T_{icr}^*$ ) and perceived corruption ( $C_{icr}^*$ ) on political participation, so the objects of inferential interest in (2.2.1) are the parameters  $\beta_1$  and  $\beta_2$ . In respect to specification (2.2.1), there are two threats to identification. Firstly, the latent measures of political trust ( $T_{icr}^*$ ) and perceived corruption ( $C_{icr}^*$ ) are possibly correlated with the error term,  $u_{icr}$ . Secondly, these latent measures ( $T_{icr}^*$  and  $C_{icr}^*$ ) are also potentially simultaneously determined (see e.g. Püllbeck and Doko Tchatoka, 2020; Uslander, 2005; Chang and Chu, 2006; Morris and Klesner, 2010). To account for this potential simultaneous nature of both measures, I consider the first-stage specification:

$$T_{icr}^* = \varphi_0^T + \omega_c^T + \eta_r^T + \varphi_1^T C_{icr}^* + X'_{irc} a_1^T + M'_{irc} a_2^T + Z'_{irc} a_3^T + u_{icr}^T \quad (2.2.2)$$

$$C_{icr}^* = \varphi_0^C + \omega_c^C + \eta_r^C + \varphi_1^C T_{icr}^* + X'_{irc} a_1^C + M'_{irc} a_2^C + V'_{irc} a_3^C + u_{icr}^C, \quad (2.2.3)$$

where  $Z'_{irc}$  and  $V'_{irc}$  contain exogenous covariates for  $T_{icr}^*$  and  $C_{icr}^*$ , respectively;  $\varphi_j^p$  and  $a_k^p$  for  $(p, k) \in \{T, C\} \times \{1, 2, 3\}$  are unknown parameters;  $\omega_c^p$  and  $\eta_r^p$  for  $p \in \{T, C\}$  are country and round specific effects respectively; and  $u_{icr}^p$  for  $p \in \{T, C\}$  are error terms possibly correlated with each other and also possibly correlated with the error term  $u_{icr}^p$  of the specification of interest (2.2.1).

As aforementioned,  $T_{icr}^*$  and  $C_{icr}^*$  are latent measures of political trust and perceived corruption and are not observed in (2.2.1), but I observe individuals' choices in terms of their expectations of political trust and perceived corruption levels following the decision rules:

$$T_{icr} = j \quad \text{if} \quad \mu_{j-1} < T_{icr}^* \leq \mu_j, \quad j = 1, 2, 3, 4 \quad (2.2.4)$$

$$C_{icr} = m \quad \text{if} \quad \nu_{m-1} < C_{icr}^* \leq \nu_m, \quad m = 1, 2, 3, 4, \quad (2.2.5)$$

where  $\mu_0 = \nu_0 = -\infty$ ,  $\mu_4 = \nu_4 = +\infty$ , and the observed variables  $T_{icr}$  and  $C_{icr}$  are constructed as:

$$T_{icr} = \begin{cases} 1 & \text{if Trust = Not at all} \\ 2 & \text{if Trust = A little} \\ 3 & \text{if Trust = Somewhat} \\ 4 & \text{if Trust = A lot,} \end{cases} \quad (2.2.6)$$

$$C_{icr} = \begin{cases} 1 & \text{if Perceived corruption = None of them} \\ 2 & \text{if Perceived corruption = Some of them} \\ 3 & \text{if Perceived corruption = Most of them} \\ 4 & \text{if Perceived corruption = All of them.} \end{cases}$$

Both observed measures  $T_{icr}$  and  $C_{icr}$  in (2.2.6) are ascending ordered categorical variables. Lower numerical values for  $T_{icr}$  represent lower trust levels, while lower numerical values for  $C_{icr}$  refer to a lesser extent of perceived corruption in the presidency office.

Given (2.2.2) - (2.2.3), the reduced-form for  $T_{icr}$  and  $C_{icr}$  is expressed as

$$T_{icr}^* = \psi_0 + \psi_c + \psi_r + X'_{irc} \theta_1 + M'_{irc} \theta_2 + Z'_{irc} \theta_3 + \varepsilon_{icr} \quad (2.2.7)$$

$$C_{icr}^* = \alpha_0 + \alpha_c + \alpha_r + X'_{irc} \gamma_1 + M'_{irc} \gamma_2 + V'_{irc} \gamma_3 + v_{icr}, \quad (2.2.8)$$

where all  $\theta_j$  and  $\gamma_j$  ( $j = 1, 2, 3$ ),  $\psi_0, \alpha_0, \psi_c, \alpha_c, \psi_r, \alpha_r, \varepsilon_{icr}$ , and  $v_{icr}$  depend on the parameters and

errors terms of the system (2.2.2) - (2.2.3). Under (2.2.4) - (2.2.5) and if further  $(\varepsilon_{icr}, v_{icr})'$  follows a standard bi-variate normal distribution with correlation  $\rho \in [-1, 1]$ , then the reduced form equations (2.2.7)-(2.2.8) define a bi-variate ordered probit model.

As discussed previously, the identification of the parameters of interest,  $\beta_1$  and  $\beta_2$ , in Equation (2.2.1) can be challenging, especially when  $u_{icr}$  is correlated with  $(\varepsilon_{icr}, v_{icr})'$ ; see Heckman (1978), Blundell and Smith (1994), and Lewbel (2007) and Chesher and Rosen (2012) among others. If  $u_{icr}$  is correlated with  $(\varepsilon_{icr}, v_{icr})'$ , then  $T_{icr}^*$  and  $C_{icr}^*$  are endogenous in (2.2.1). This endogeneity along with the latent nature of the two variables of interest,  $T_{icr}^*$  and  $C_{icr}^*$ , complicates the identification of  $\beta_1$  and  $\beta_2$ . In this study, I propose a methodology that enables the identification of  $\beta_1$  and  $\beta_2$  irrespective of the latent nature of  $T_{icr}^*$  and  $C_{icr}^*$  and the potential correlation between  $u_{icr}$  and  $(\varepsilon_{icr}, v_{icr})'$ . This, however, requires imposing identifying restrictions as discussed in the next section.

### 2.2.1 Assumptions and Likelihood Functions

As mentioned above, threats to identification in model (2.2.1) emerge from two main sources. The first is related to the approximation of both unobserved covariates  $T_{icr}^*$  and  $C_{icr}^*$ . The second is related to the fact that the error,  $u_{icr}$ , in (2.2.1) is potentially correlated with the errors  $u_{icr}^T$  and  $u_{icr}^C$  in (2.2.2)-(2.2.3), which ultimately induces a correlation with the bi-variate reduced-form errors  $\varepsilon_{icr}$  and  $v_{icr}$  in (2.2.7)-(2.2.8). This potential correlation raises endogeneity concerns in the regression model (2.2.1).

To enable a consistent estimation of  $\beta_1$  and  $\beta_2$ , previous studies often impose identifying restrictions on the bi-variate structural system similar to (2.2.2)-(2.2.3), but restrict attention to binary outcome settings (i.e., the case where the observed outcome variables have only two distinct realisations) see Maddala (1986), Poirier (1980), Heckman (1978), Blundell and Smith (1994), and Lewbel (2007) and Chesher and Rosen (2012). To the best of my knowledge, I am not aware of a study that investigates the identification of models such as (2.2.1) in an ordered probit setting as specified in (2.2.2)-(2.2.5). Recently, Püllbeck and Doko Tchatoka (2020) investigate the identification of the bi-variate structural system (2.2.2)-(2.2.3) within an ordered probit framework, but their study does not address the identification of the second-stage model of interest (2.2.1). Specifically, Püllbeck and Doko Tchatoka (2020) show that the control function approach (see Wooldridge, 2015) provides a framework under which the structural system (2.2.2)-(2.2.3) can be identified. To enable identification, the reduced-form ordered probit model (2.2.7)-(2.2.8) must provide enough exogenous variations to not only consistently approximate the latent variables  $T_{icr}^*$  and  $C_{icr}^*$ , but also to generate sufficient statistics which once included in (2.2.2) or (2.2.3) as additional covariates will capture the simultaneity between  $T_{icr}^*$  and  $C_{icr}^*$ . In this study, I argue under some standard regularity assumptions that the reduced-form bi-variate ordered probit model (2.2.7)-(2.2.8) provides a framework under which both the latent nature of  $T_{icr}^*$  and  $C_{icr}^*$  and as their potential endogeneity in (2.2.1) can be addressed. This is done mainly by including the bi-variate inverse mills ratios in (2.2.1) as additional covariates (see Poirier, 1980; Maddala, 1986) and by approximating the latent outcome variables with their predicted values from the bi-variate ordered probit model estimation (2.2.7)-(2.2.8) (similar to Blundell and Smith, 1989).

Among other things, I maintain the exclusion restrictions on the covariates  $Z_{irc}$  and  $V_{irc}$ , as illustrated in (2.2.2)-(2.2.3) and (2.2.7)-(2.2.8). Clearly, in view of the bi-variate structural system (2.2.2)-(2.2.3), the covariates in  $Z_{irc}$  play the role of instruments for perceived corruption, while those in  $V_{irc}$



are seen as instruments for political trust. As usual in the literature, I also maintain the following assumptions on the model variables and parameters, where  $G$  is the number of countries,  $R$  represents the number of survey rounds, and  $N_{cr}$  is the sample size of country  $c$  in survey round  $r$ .

**Assumption 2.2.1** (i) The sample  $\{(T_{irc}, C_{irc}, X_{irc}, M_{irc}, Z_{irc}, V_{irc}) : c \leq K, r \leq R, i \leq N_{cr}\}$  is i.i.d. across  $i, c$  and  $r$ ; (ii)  $\mathbb{E}[u_{icr}|X_{irc}, M_{irc}, Z_{irc}, V_{irc}] = 0$ ,  $\mathbb{E}[\epsilon_{icr}|X_{irc}, M_{irc}, Z_{irc}, V_{irc}] = 0$  and  $\mathbb{E}[v_{icr}|X_{irc}, M_{irc}, Z_{irc}, V_{irc}] = 0 \forall i, c, r$ ; (iii)  $(v_{icr}, v_{icr})'|X_{irc}, M_{irc}, Z_{irc}, V_{irc} \sim N(0, \Sigma) \forall i, c, r$ , where  $\Sigma = \begin{bmatrix} 1 & \rho \\ \rho & 1 \end{bmatrix}$ .

Assumption 2.2.1 (i) is standard in the literature. Condition (ii) states the exogeneity of the instruments  $(Z_{irc}, V_{irc})$  and covariates  $(X_{irc}, M_{irc})$  in both the model (2.2.1) and the reduced-form bi-variate ordered probit model (2.2.7) - (2.2.8). Condition (iii) does not impose any distributional assumption on the errors  $u_{icr}$  of model (2.2.1). It only specifies the joint conditional distribution (given covariates) of the bi-variate ordered probit model (2.2.7) - (2.2.8) errors, which allows for the ordered probit estimation. However, its violation will have little impact on estimates' consistency by virtue of the Central Limit Theorem (CLT), and can be weakened and replaced by appropriate non-parametric assumptions (see e.g., Mora and Moro-Egido, 2008). The correlation parameter  $\rho$  in the covariance matrix  $\Sigma$  controls for the simultaneity between political trust and perceived corruption. If  $\rho = 0$ , the system (2.2.7) - (2.2.8) can be estimated equation-by-equation by applying a standard ordered probit method. However, if  $\rho \neq 0$ , a bi-variate ordered probit estimation is warranted.

Under Assumption 2.2.1 and (2.2.4)-(2.2.6), the likelihood of jointly observing a given political trust level  $j \in \{1, 2, 3, 4\}$  and a given perceived corruption level  $m \in \{1, 2, 3, 4\}$ , for an individual  $i$ , in country  $c$ , in survey round  $r$  is:

$$\begin{aligned} \mathbb{P}(T_{icr} = j, C_{icr} = m) &= \mathbb{P}(\mu_{j-1} < T_{icr}^* \leq \mu_j, v_{m-1} < C_{icr}^* \leq v_m) \\ &= \mathbb{P}(T_{icr}^* \leq \mu_j, C_{icr}^* \leq v_m) - \mathbb{P}(T_{icr}^* \leq \mu_{j-1}, C_{icr}^* \leq v_m) \\ &\quad - \mathbb{P}(T_{icr}^* \leq \mu_j, C_{icr}^* \leq v_{m-1}) + \mathbb{P}(T_{icr}^* \leq \mu_{j-1}, C_{icr}^* \leq v_{m-1}). \end{aligned} \quad (2.2.9)$$

Let  $\phi_2(\epsilon_{icr}, v_{icr}, \rho)$  and  $\Phi_2(\epsilon_{icr}, v_{icr}, \rho)$  denote the probability density function (PDF) and the cumulative density function (CDF), respectively, of a bi-variate normal random variables  $(\epsilon_{icr}, v_{icr})'$  in (2.2.7) - (2.2.8), where their dependence on  $\rho$  is made explicit to underline the potential simultaneity between political trust and perceived corruption. Then, the likelihood function of individual  $i$  in country  $c$  in round  $r$  can be expressed as:

$$\begin{aligned} \mathbb{P}(T_{icr} = j, C_{icr} = m) &= \Phi_2(\mu_j - x'_{1irc}, v_m - x'_{2irc}, \rho) \\ &\quad - \Phi_2(\mu_{j-1} - x'_{1irc}, v_m - x'_{2irc}, \rho) \\ &\quad - \Phi_2(\mu_j - x'_{1irc}, v_{m-1} - x'_{2irc}, \rho) \\ &\quad + \Phi_2(\mu_{j-1} - x'_{1irc}, v_{m-1} - x'_{2irc}, \rho) \end{aligned} \quad (2.2.10)$$

where  $x'_{irc} = X'_{irc}\theta_1 + M'_{irc}\theta_2 + Z'_{irc}\theta_3$  and  $x'_{2irc} = X'_{irc}\gamma_1 + M'_{irc}\gamma_2 + V'_{irc}\gamma_3$ . The log likelihood of a given individual  $i$ , in country  $c$ , in survey round  $r$  is:

$$\ln L_{icr} = \sum_{j=1}^4 \sum_{m=1}^4 I(T_{icr} = j, C_{icr} = m) \ln \mathbb{P}(T_{icr} = j, C_{icr} = m), \quad (2.2.11)$$

where  $I(\cdot)$  is an indicator function. Under the i.i.d. sampling in Assumption 2.2.1-(i), the log likelihood of the entire sample is given by

$$\ln \mathcal{L} = \sum_{c=1}^G \sum_{r=1}^R \sum_{i=1}^{N_{cr}} \sum_{j=1}^4 \sum_{m=1}^4 I(T_{icr} = j, C_{icr} = m) \ln \mathbb{P}(T_{icr} = j, C_{icr} = m). \quad (2.2.12)$$

Before elaborating on the proposed estimation method, I first discuss how a potential endogeneity of the latent variables  $T_{icr}^*$  and  $C_{icr}^*$  can be handled in model (2.2.1).

## 2.2.2 Correction for Endogeneity and Estimation

To correct for a potential correlation between the error term  $u_{icr}$  and the latent variables  $T_{icr}^*$  and  $C_{icr}^*$  in (2.2.1), I extended the methodology in Maddala (1986) and Poirier (1980) to bi-variate ordered probit models.

Suppose that we are concerned with a bi-variate probit model

$$y^1 = x'\beta + \varepsilon \quad (2.2.13)$$

$$y^2 = z'\alpha + \varepsilon \quad (2.2.14)$$

whereby  $y^1$  and  $y^2$  are scalar binary random variables such that the outcome of  $y^2$  depends on the outcome of  $y^1$  and  $(\varepsilon, \varepsilon)' | x, z \sim N(0, \Sigma)$  with  $\Sigma = \begin{bmatrix} 1 & \rho \\ \rho & 1 \end{bmatrix}$ . Thus, the three possible outcomes are  $\mathbb{P}(y^2 = 1 | y^1 = 1)$ ,  $\mathbb{P}(y^2 = 0 | y^1 = 1)$  and  $\mathbb{P}(y^2 = 0) = \mathbb{P}(y^2 = 0 \cap y^1 = 0)$ . Following Maddala, 1986 and Poirier, 1980, the two inverse mills ratios (IMRs) in this bi-variate probit setting are

$$\lambda^1 = \frac{\phi(x'\beta)\Phi\left(\frac{z'\alpha - \rho x'\beta}{\sqrt{1-\rho^2}}\right)}{\Phi_2(x'\beta, z'\alpha, \rho)}, \quad \lambda^2 = \frac{\phi(z'\alpha)\Phi\left(\frac{x'\beta - \rho z'\alpha}{\sqrt{1-\rho^2}}\right)}{\Phi_2(x'\beta, z'\alpha, \rho)}, \quad (2.2.15)$$

where  $\phi(\cdot)$  and  $\Phi(\cdot)$  are the pdf and cdf of a standard normal random variable. Note that in the univariate setting where (2.2.13) and (2.2.14) are considered separately, the IMRs simplify (see Heckman, 1979; Heckman, 1976) to  $\lambda^1 = \phi(x'\beta)/\Phi(x'\beta)$  and  $\lambda^2 = \phi(z'\alpha)/\Phi(z'\alpha)$ . Following Püllbeck and Doko Tchatoka (2020), I adapt the IMRs in (2.2.15) to a bi-variate ordered probit setting as specified in the system of equations (2.2.7) - (2.2.8). With respect to the observed outcome rules in (2.2.4)-(2.2.6) and

Assumption 2.2.1-(iii), the IMRs needed to correct the endogeneity of  $T_{icr}^*$  and  $C_{icr}^*$  in (2.2.1) are:

$$\lambda_{irc}^1(j, m) = \frac{\phi(\mu_j - x'_{1irc})\Phi\left(\left(v_m - x'_{2irc} - \rho(\mu_j - x'_{1irc})\right)\zeta\right) - \phi(\mu_{j+1} - x'_{1irc})\Phi\left(\left(v_m - x'_{2irc} - \rho(\mu_{j+1} - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_{j+1} - x'_{1irc}, v_m - x'_{2irc}, \rho) - \Phi_2(\mu_j - x'_{1irc}, v_m - x'_{2irc}, \rho)} \quad (2.2.16)$$

$$\lambda_{irc}^2(m, j) = \frac{\phi(v_m - x'_{2irc})\Phi\left(\left(\mu_j - x'_{1irc} - \rho(v_m - x'_{2irc})\right)\zeta\right) - \phi(v_{m+1} - x'_{2irc})\Phi\left(\left(\mu_j - x'_{1irc} - \rho(v_{m+1} - x'_{2irc})\right)\zeta\right)}{\Phi_2(\mu_j - x'_{1irc}, v_{m+1} - x'_{2irc}, \rho) - \Phi_2(\mu_j - x'_{1irc}, v_m - x'_{2irc}, \rho)} \quad (2.2.17)$$

for all  $(j, m) \in \{1, 2, 3, 4\}^2$ ,  $c \leq K$ ,  $r \leq R$ , and  $i \leq N_{cr}$ , where  $\zeta = 1/\sqrt{1-\rho^2}$ ,  $x'_{1irc} = X'_{irc}\theta_1 + M'_{irc}\theta_2 + Z'_{irc}\theta_3$  and  $x'_{2irc} = X'_{irc}\gamma_1 + M'_{irc}\gamma_2 + V'_{irc}\gamma_3$ , and  $\mu_j$  and  $v_m$  are defined in (2.2.4)-(2.2.5).

### Algorithm for the IMRs Calculations

Given the similarity between  $\lambda_{irc}^1(j, m)$  and  $\lambda_{irc}^2(m, j)$ , I present the algorithm for the computation of the  $\lambda_{irc}^1(j, m)$  values, as those of  $\lambda_{irc}^2(m, j)$  are deduced in the same way. For clarity, I detail the algorithm for all political trust levels given a specific perceived corruption level.

1. First trust level:

$$\lambda_{irc}^1(T_{icr}^* = 1 | C_{icr}^* = 1) = -\frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_1 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_1 - x'_{1irc}, v_1 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 1 | C_{icr}^* = 2) = -\frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_2 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_1 - x'_{1irc}, v_2 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 1 | C_{icr}^* = 3) = -\frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_3 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_1 - x'_{1irc}, v_3 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 1 | C_{icr}^* = 4) = -\frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_4 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_1 - x'_{1irc}, +\infty, \rho)}$$

## 2. Second trust level:

$$\lambda_{irc}^1(T_{icr}^* = 2 | C_{icr}^* = 1) = \frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_1 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right) - \phi(\mu_2 - x'_{1irc})\Phi\left(\left(v_1 - x'_{2irc} - \rho(\mu_2 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_2 - x'_{1irc}, v_1 - x'_{2irc}, \rho) - \Phi_2(\mu_1 - x'_{1irc}, v_1 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 2 | C_{icr}^* = 2) = \frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_2 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right) - \phi(\mu_2 - x'_{1irc})\Phi\left(\left(v_2 - x'_{2irc} - \rho(\mu_2 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_2 - x'_{1irc}, v_2 - x'_{2irc}, \rho) - \Phi_2(\mu_1 - x'_{1irc}, v_2 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 2 | C_{icr}^* = 3) = \frac{\phi(\mu_1 - x'_{1irc})\Phi\left(\left(v_3 - x'_{2irc} - \rho(\mu_1 - x'_{1irc})\right)\zeta\right) - \phi(\mu_2 - x'_{1irc})\Phi\left(\left(v_3 - x'_{2irc} - \rho(\mu_2 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_2 - x'_{1irc}, v_3 - x'_{2irc}, \rho) - \Phi_2(\mu_1 - x'_{1irc}, v_3 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 2 | C_{icr}^* = 4) = \frac{\phi(\mu_1 - x'_{1irc}) - \phi(\mu_2 - x'_{1irc})}{\Phi_2(\mu_2 - x'_{1irc}, +\infty, \rho) - \Phi_2(\mu_1 - x'_{1irc}, +\infty, \rho)}$$

## 3. Third trust level:

$$\lambda_{irc}^1(T_{icr}^* = 3 | C_{icr}^* = 1) = \frac{\phi(\mu_2 - x'_{1irc})\Phi\left(\left(v_1 - x'_{2irc} - \rho(\mu_2 - x'_{1irc})\right)\zeta\right) - \phi(\mu_3 - x'_{1irc})\Phi\left(\left(v_1 - x'_{2irc} - \rho(\mu_3 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_3 - x'_{1irc}, v_1 - x'_{2irc}, \rho) - \Phi_2(\mu_2 - x'_{1irc}, v_1 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 3 | C_{icr}^* = 2) = \frac{\phi(\mu_2 - x'_{1irc})\Phi\left(\left(v_2 - x'_{2irc} - \rho(\mu_2 - x'_{1irc})\right)\zeta\right) - \phi(\mu_3 - x'_{1irc})\Phi\left(\left(v_2 - x'_{2irc} - \rho(\mu_3 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_3 - x'_{1irc}, v_2 - x'_{2irc}, \rho) - \Phi_2(\mu_2 - x'_{1irc}, v_2 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 3 | C_{icr}^* = 3) = \frac{\phi(\mu_2 - x'_{1irc})\Phi\left(\left(v_3 - x'_{2irc} - \rho(\mu_2 - x'_{1irc})\right)\zeta\right) - \phi(\mu_3 - x'_{1irc})\Phi\left(\left(v_3 - x'_{2irc} - \rho(\mu_3 - x'_{1irc})\right)\zeta\right)}{\Phi_2(\mu_3 - x'_{1irc}, v_3 - x'_{2irc}, \rho) - \Phi_2(\mu_2 - x'_{1irc}, v_3 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 3 | C_{icr}^* = 4) = \frac{\phi(\mu_2 - x'_{1irc}) - \phi(\mu_3 - x'_{1irc})}{\Phi_2(\mu_3 - x'_{1irc}, +\infty, \rho) - \Phi_2(\mu_2 - x'_{1irc}, +\infty, \rho)}$$

## 4. Fourth trust level:

$$\lambda_{irc}^1(T_{icr}^* = 4 | C_{icr}^* = 1) = \frac{\phi(\mu_3 - x'_{1irc})\Phi\left(\left(v_1 - x'_{2irc} - \rho(\mu_3 - x'_{1irc})\right)\zeta\right)}{\Phi_2(+\infty, v_1 - x'_{2irc}, \rho) - \Phi_2(\mu_3 - x'_{1irc}, v_1 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 4 | C_{icr}^* = 2) = \frac{\phi(\mu_3 - x'_{1irc})\Phi\left(\left(v_2 - x'_{2irc} - \rho(\mu_3 - x'_{1irc})\right)\zeta\right)}{\Phi_2(+\infty, v_2 - x'_{2irc}, \rho) - \Phi_2(\mu_3 - x'_{1irc}, v_2 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 4 | C_{icr}^* = 3) = \frac{\phi(\mu_3 - x'_{1irc})\Phi\left(\left(v_3 - x'_{2irc} - \rho(\mu_3 - x'_{1irc})\right)\zeta\right)}{\Phi_2(+\infty, v_3 - x'_{2irc}, \rho) - \Phi_2(\mu_3 - x'_{1irc}, v_3 - x'_{2irc}, \rho)}$$

$$\lambda_{irc}^1(T_{icr}^* = 4 | C_{icr}^* = 4) = \frac{\phi(\mu_3 - x'_{1irc})}{1 - \Phi_2(\mu_3 - x'_{1irc}, +\infty, \rho)}$$

I develop a code in Stata that implements Steps 1-4 above, and similarly the perceived corruption levels.

## Estimation

The estimation is implemented in the following four steps:

1. Firstly, estimate the bi-variate ordered probit model given the latent variable model (2.2.7) - (2.2.8). By estimating this model, the fitted probabilities  $\hat{T}_{icr}$  and  $\hat{C}_{icr}$  are recovered and converted in levels.<sup>3</sup>
2. From this bi-variate ordered probit estimates, filter the IMRs  $\lambda_{irc}^1(\hat{j}, m)$  and  $\lambda_{irc}^2(\hat{m}, j)$  for each  $j = 1, 2, 3, 4$  and  $m = 1, 2, 3, 4$  following the algorithm above.
3. Estimate  $\beta_1$  and  $\beta_2$  using the new specification

$$Poll_{icr} = \beta_0 + \gamma_c + \gamma_r + \beta_1 \hat{T}_{icr} + \beta_2 \hat{C}_{icr} + A'_{icr} \delta + \hat{\lambda}_{irc}^1 \psi_1 + \hat{\lambda}_{irc}^2 \psi_2 + \varepsilon_{icr} \quad (2.2.18)$$

where  $A'_{icr} = [X'_{irc}, M'_{irc}]$ .

4. Calculate the marginal effect of  $\hat{T}_{icr}$  and  $\hat{C}_{icr}$  after OLS regression of (2.18). These marginal effects provide good approximation of those of the latent variables  $T_{icr}^*$  and  $C_{icr}^*$  in (2.2.1).

## 2.3 Data

The empirical analysis uses pooled cross-country data for 30 countries over four survey rounds (from 2005 to 2014) from the independent research network, Afrobarometer, 2018. The survey data collected by Afrobarometer focuses on individuals' attitudes towards governance, economic conditions, democracy and other relevant issues, such as trust and corruption, thereby measuring the economic sentiment and social-political atmosphere in currently 36 African countries. Excluded countries are Algeria, Egypt, Morocco, São Tomé and Príncipe, Sudan and Tunisia. I exclude all northern African countries (Algeria, Egypt and Morocco) as they demonstrate great cultural differences to Sub-Saharan African countries. Sudan has been at war since its independence in 1956. São Tomé and Príncipe is the second-smallest African sovereign state after Seychelles with a population of about 201,800 (2018 official estimate)<sup>4</sup> and has only been observed in one survey round. Afrobarometer's clustered, stratified, multi-stage, area probability sampling approach minimises the probability of excluding distinct languages or ethnic groups. The sampling design ensures that the margin of sampling error is no more than  $\pm 2.8\%$  within a 95% confidence level for the sample size of 1200, whilst the sample size of 2,400 has a  $\pm 2\%$  error margin within a 95% confidence interval. The uniqueness of the sample structure elevates the reliability of the data.

As specified in (2.2.6), the study uses four levels of political trust and perceived corruption to avoid polarisation towards extreme values of political trust or perceived corruption. This allows to analyse heterogeneous impacts of different political trust and perceived corruption levels on political

<sup>3</sup> Note that the fitted probabilities for each political trust level given a particular level of perceived corruption, and vice versa, are recovered into levels. Note that for each individual in the sample there are four possible predicted probabilities for each trust/corruption level obtained by conditioning on the four corruption/trust observed outcome level. I convert these fitted probabilities into a level values, where the highest conditional fitted probability is given the corresponding observed outcome level. In doing so, I collapse the 16 fitted conditional probabilities into one trust/corruption level, thus matching the structure of the observed outcomes.

<sup>4</sup> See [https://en.wikipedia.org/wiki/S%C3%A3o\\_Tom%C3%A9\\_and\\_Pr%C3%ADncipe#cite\\_note-auto-11](https://en.wikipedia.org/wiki/S%C3%A3o_Tom%C3%A9_and_Pr%C3%ADncipe#cite_note-auto-11).

participation. Alongside these two variables of interest (i.e., political trust and perceived corruption), individual characteristics such as gender, age, educational attainment, employment status, religion and regional determinants, and covariates for individuals' sentiment towards the president and the political system (indicators for satisfaction with democracy, bribe voters, president's ability to handle job creation; food; crime and corruption) are also obtained from the Afrobarometer database.

In addition to individual and political environment covariates from Afrobarometer, 2018 survey data, the analysis includes variables for the political environment and a set of macroeconomic variables to control for the economic performance, political stability and system of each country. For this, I collected data on the annual gross domestic product (GDP) growth rate and the Consumer Price Index (CPI) from the World Bank, 2020 for the period 2004 to 2014 for each country. In line with Chapter 1, I include the democracy index from the Economist Intelligence Unit, 2014, henceforth EIU. This index summarises 60 variables that measure the functioning of the government, civil liberties, electoral process and pluralism, political participation and political culture. The index ranges from 0 to 10, whereby each country is classified into four regimes as explained in Section 3 of Chapter 1. The higher the index, the more democratic is the country.<sup>5</sup> To control for political stability, data on civil violence and civil warfare are obtained from the Centre for Systemic Peace, 2018 which compiles a large variety of political violence variables and regularly updates and extends the comprehensive war list. Both variables are binary, whereby a value of 1 indicates that the country experienced civil violence or civil warfare in a given year and 0 otherwise. Alongside political stability and the democracy index, I include dummy variables for election years, whether these elections call for a compulsory change in governance and whether the country introduced a maximum tenure.

The data for the political participation index (Poll) for all countries and all survey rounds is obtained from Chapter 1. As explained in Section 3 of Chapter 1, the index includes 15 soft, semi-hard and hard political participation variables. Using a multiple correspondence analysis (MCA) as outlined in Section 4.1 of Chapter 1, obtained scores were normalised (i) on a country level; and (ii) on a global African level as described in Sections 4.2.1 and 4.2.2 of Chapter 1, respectively. The index ranges from 0 to 100, whereby an individual with an index value of 0 indicates the lowest political participation. That, however, does not mean that this individual is not involved in any political activities rather than the score is the lowest compared to either the country or the global African level. Likewise, an index value of 100 signals the highest political participation, which, as mentioned in Chapter 1, is not the possible maximum level of political involvement, rather the highest level of political activism compared to the country or the global African level. The list of countries and a full summary statistics is available in Appendix B1 and B2 respectively.

### 2.3.1 Political Trust, Perceived Corruption and Political Participation

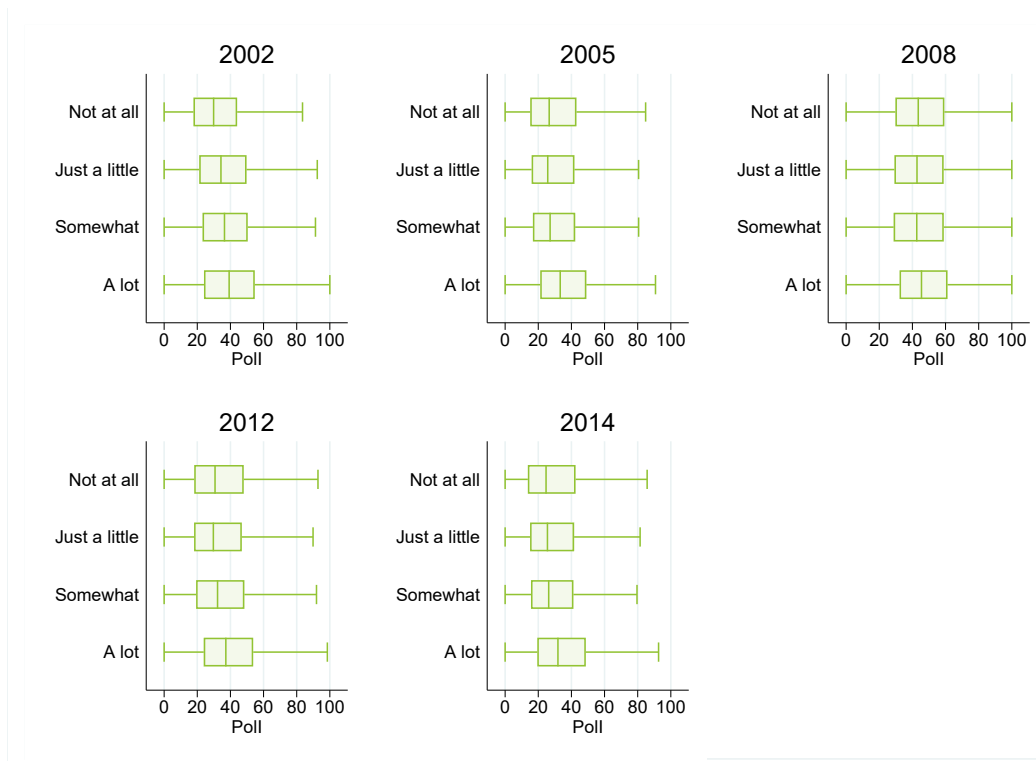
Given the on-going debate whether political trust alleviates or enforces political participation, Figure 2.1 illustrates boxplots for a given level of political trust for each survey round and both the country level and global level political participation index (Poll), respectively in Figure 2.1a and Figure 2.1b. As seen from these figures, regardless of the normalisation method used (country or global level), more trusting individuals tend to be more politically active in all given survey rounds, except in the

<sup>5</sup> For further information on the EIU index classification, see the Annual Democracy Index Report: <https://www.eiu.com/topic/democracy-index>.

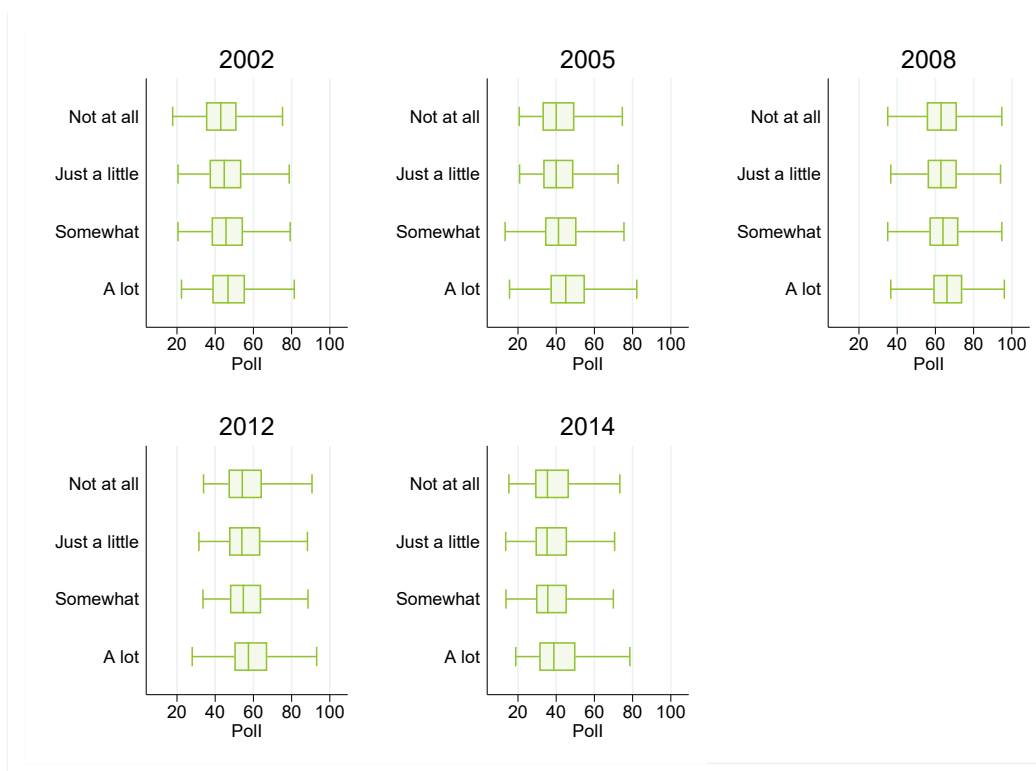
year 2008. In 2008, all dimensions of political trust reflected a similar political behaviour pattern. Over the survey years, the lower three trust levels seemed to converge to similar political participation levels. And by 2014, no clear differences in political activism were observed for political trust levels "Not at all", "Just a little" and "Somewhat". However, individuals who expressed their trust in the president (i.e., trust level "A lot") are inclined to show higher political participation levels. Given the preliminary analysis in Figure 2.1, the sub-Saharan African region seems to fall in line with the notion that political trust motivates political participation (see eg. Almond and Verba, 1963; Neilson and Paxton, 2010) although the positive association seems to be weak. Noteworthy are the relatively high levels of political participation in 2008 compared to all other survey years. Greater political involvement in the sub-Saharan African region in 2008 might be a result of elections, whereby some of them entailed a compulsory change in governance. By 2014, political engagement fell to an all-time low, which aligns with the decline in political participation experienced in Western societies (Putnam, 2000).

Similarly to the impact of political trust on political participation that has been at the cornerstone of a robust debate among researchers, scholars are incommensurate with the impact of perceived corruption on political participation. Figure 2.2 shows the boxplots of political participation indices (with both country and global level normalisation) for a given level of perceived corruption for each survey year. Similarly to Figure 2.1, Figure 2.2a presents the boxplots for the country-level index, while Figure 2.2b represents that of the global level. Both indices indicate heterogeneity across perceived corruption levels. Lower levels of perceived corruption increase political participation, while individuals with higher perceived corruption levels seem to withdraw from political activities. This supports the argument that corruption leads to withdrawals from participating in political processes (see eg. E. Warren, 2004; Ecker, Glinitzer, and Meyer, 2016; De Vries and Solaz, 2017). Yet, only minor differences between levels are detected in the first survey rounds (2002 and 2005). In 2008 and 2014, the slight heterogeneous effects seen in earlier survey rounds faded. Regardless of the perceived corruption level, political activism seems to be similar. Like political trust, a common trend seems to prevail over heterogeneous effects in terms of the impact of perceived corruption on political participation when all survey rounds are considered.

FIGURE 2.1: Political Trust and Political Participation



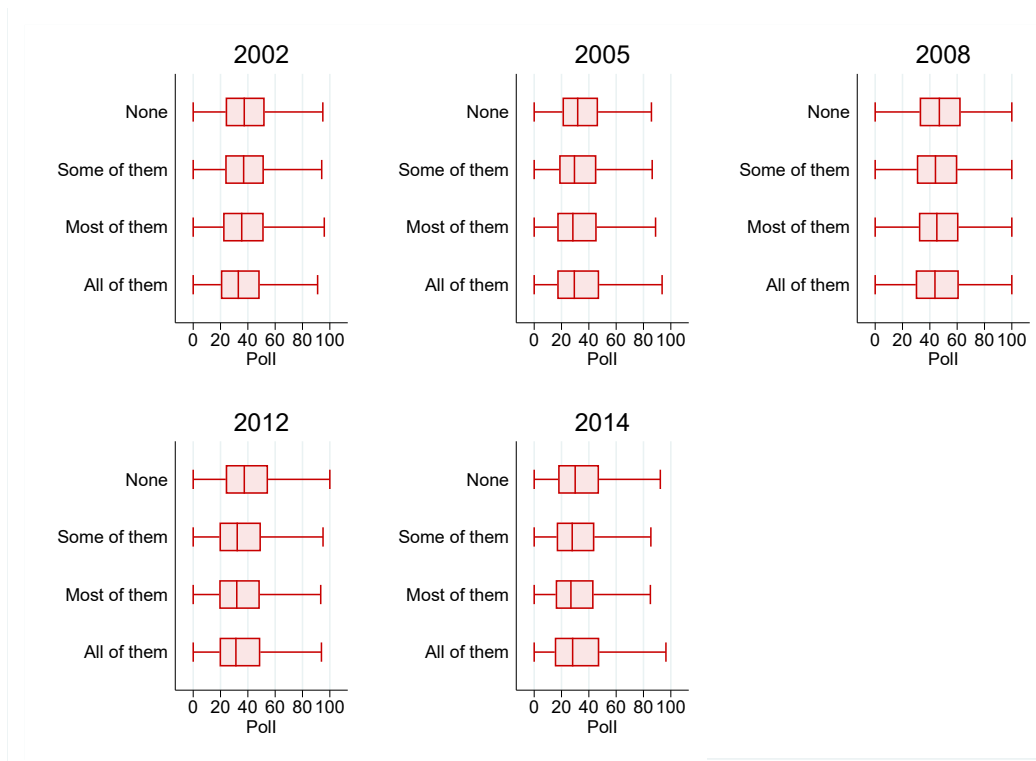
(A) Country level Normalisation



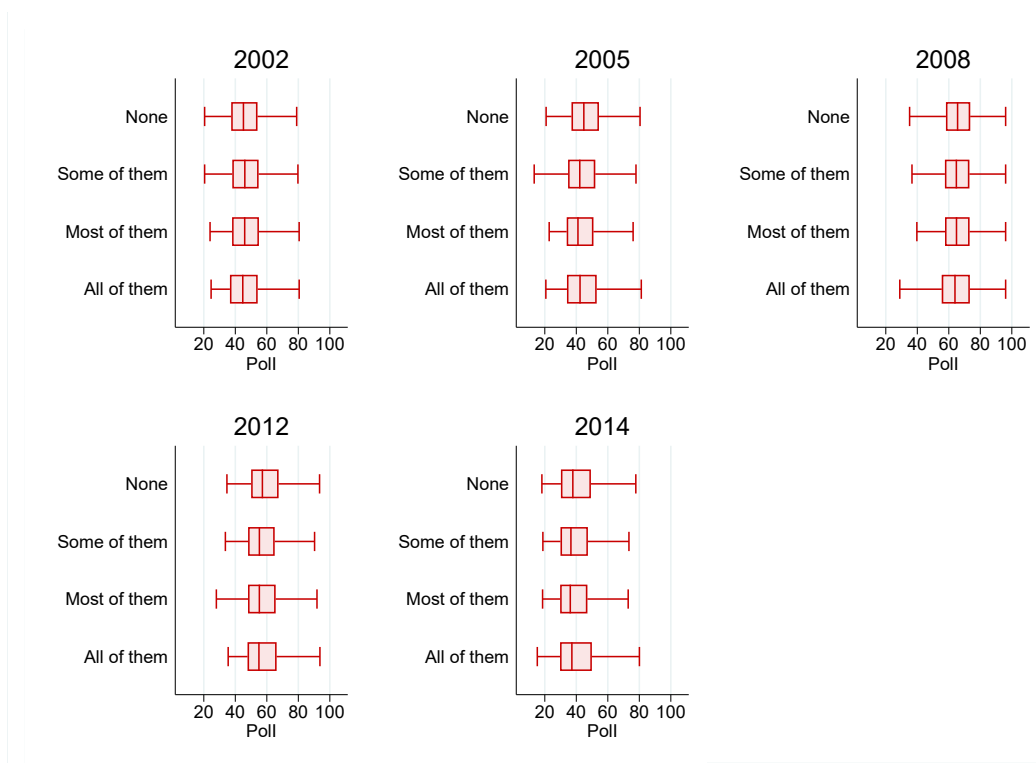
(B) Global Normalisation



FIGURE 2.2: Perceived Corruption and Political Participation



(A) Country level Normalisation



(B) Global Normalisation

### 2.3.2 Country and Regional Differences

Given the pluralism of political participation modes as discussed extensively in Chapter 1, this study uses the composite index for political engagement constructed in Chapter 1 to capture conventional and unconventional modes of political activism. Naturally, one would imagine that political participation varies across sub-Saharan African countries and regions. According to the African Union (AU), 2020, sub-Saharan African is subdivided into four main regions (Central, East, South and West)<sup>6</sup>. Figure 2.3 shows the countries included in the four African regions<sup>7</sup> for the sample data.

To analyse country and regional differences, Figures 2.4a and 2.4b summarise the mean of political participation based on the country level political participation index for sub-Saharan African countries and African regions, respectively. In Figure 2.4a, I rank the country's mean values of political participation over the sample period 2005 - 2014 and divide them into quartiles, while in Figure 2.4b regions are merely ranked according to their regional average over the sample period. The ascending colour scheme, light to dark violet, categorises countries into low to high political participation levels. The figures reflect both the heterogeneous and homogeneous nature of political activism in sub-Saharan Africa. Neighbouring countries share similar political attitudes, whereas, in general, more geographically distanced countries seem to diverge. Interesting patterns are shown in the west of Africa. Sierra Leone and Liberia record the highest levels of political activism. While Burkina Faso, Niger, Mali and Senegal represent moderate political engagement levels. In contrast to upper Western African countries, citizens in Côte d'Ivoire and Nigeria record, on average, some of the lowest political participation levels. Similar to the upper West region, citizens in Southern African countries, on average, tend to moderately participate in political activities. A denser geographical cluster is illustrated between Kenya, Mozambique, Uganda and Tanzania. These four countries show some of the highest political participation levels compared to the rest of sub-Saharan Africa.

Figure 2.4a clearly insinuates distinct geographical patterns. Some regions in sub-Saharan Africa show greater tendencies towards higher levels of political engagement. Once political participation levels are presented at the regional level (see Figure 2.4b), East Africa represents the highest political participation, while Central Africa tends to be the least politically engaged region in sub-Saharan Africa. Southern and West Africa record moderate levels of political activism, whereby countries in Southern Africa show marginally higher levels of political participation. In essence, the figures illustrate important variations of political activism not only across countries but also across sub-Saharan African regions.

<sup>6</sup> The classification of the five geographical African regions is provided by the African Union, see [https://au.int/en/member\\_states/countryprofiles2](https://au.int/en/member_states/countryprofiles2)

<sup>7</sup> Only three Central African countries are included in the sample: Gabon, Burundi and Cameroon.

East African countries are Mauritius, Madagascar, Kenya, Uganda and Tanzania.

Southern African countries are Swaziland, Namibia, Zambia, Botswana, Lesotho, Zimbabwe, Malawi, Mozambique and South Africa.

West African countries are Mali, Nigeria, Ghana, Senegal, Côte d'Ivoire, Benin, Togo, Cape Verde, Guinea, Sierra Leone, Niger, Burkina Faso and Liberia.

FIGURE 2.3: African Regions

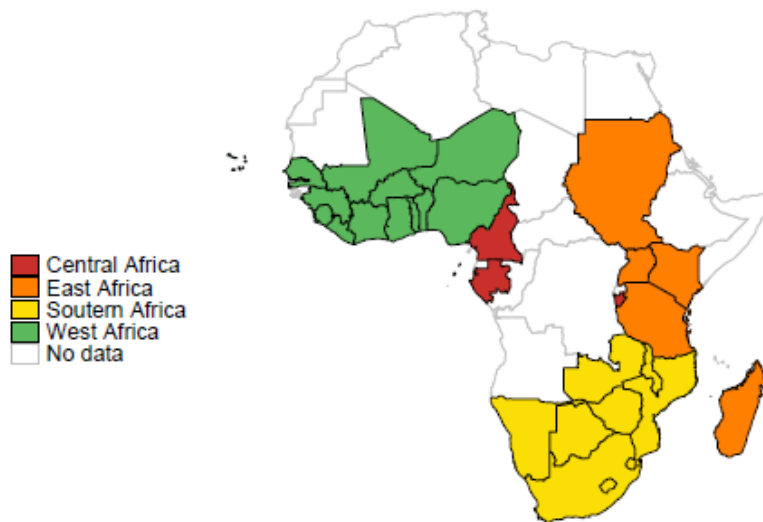
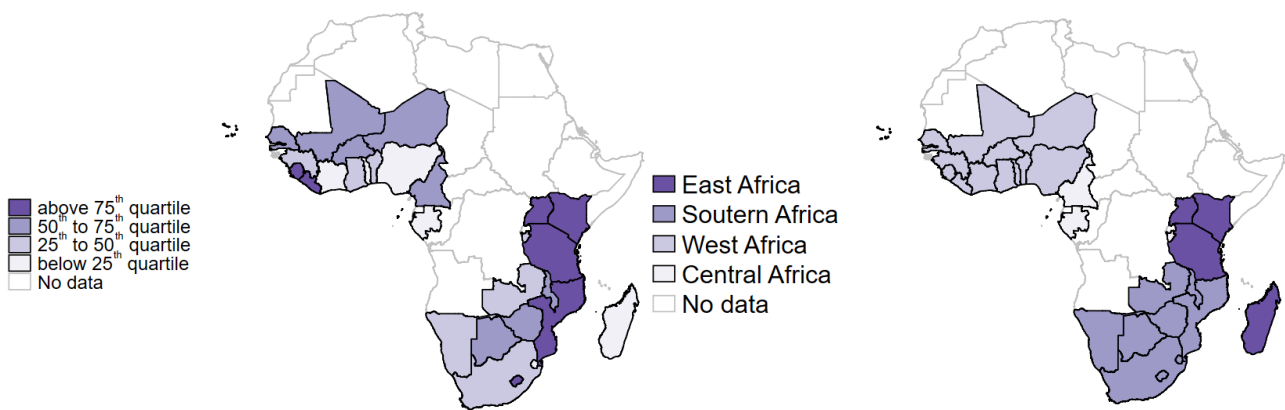


FIGURE 2.4: Variations in Political Participation in sub-Saharan Africa



(A) Average Country Variation

(B) Average Regional Variation

Note: Figure (a) computes the average of the country level political participation index for the sample period 2005 - 2014. Each country's Poll which is based on the global normalisation is ranked and then divided into quartiles. Each colour represents a different quartile. The darkest violet illustrates the 75<sup>th</sup> quartile, while the lightest violet demonstrates the 25<sup>th</sup> quartile. Figure (b) computes the average of the regional political participation level based on the country political participation index for the sample period 2005 - 2014. Each colour represents a different African region. The darkest violet illustrates the highest political participation, while the lightest violet demonstrates the lowest.

## 2.4 Results

I present the estimation of the model described by equations (2.2.1)-(2.2.8) using the algorithm at the end of Section 2.2.2. For clarity, the analysis covers four main setups: (1) impact of political trust and perceived corruption on political participation, (2) impact of covariates on political participation, (3) country-specific differences in terms of political participation, and (4) region-specific differences in terms of political participation. In the first two setups, I emphasise both country and global level normalisation indices, while the last two setups deal with the country level normalisation index as the country-level index is more appropriate by construction to investigate differences across countries

and regions. Hereby, I am focusing on two political participation indices (i) the country Poll and (ii) the global Poll, which differ in their normalisation method as discussed in Section 4.2 in Chapter 1. The analysis focuses on survey years 2005, 2012 and 2014 as one of the main covariates is not observed in 2008. The former is normalised on the country minimum and maximum, while the latter is normalised on the global African minimum and maximum. Section 2.4.2 discusses the impact of individual characteristics, political sentiment and the macro environment on political participation and Sections 2.4.3 and 2.4.4 refer to differences between countries and regions, respectively.

### 2.4.1 Trust, Perception of Corruption and Political Activism

In this section, I investigate the impact of political trust and perceived corruption on political activism in the Sub-Saharan Africa region. Table 2.1 summarises the impact of political trust and perceived corruption on both the country level political participation index (Panel A) and the global level political participation index (Panel B). In each panel, the first two columns refer to the naive OLS estimates of specification (2.2.1), the third and fourth columns report the estimated marginal effects from the regression of (2.2.1) where the latent measures of political trust and perceived corruption are replaced by the fitted level values from bi-variate ordered probit (2.2.7) - (2.2.8), while the fifth and sixth columns show the estimated marginal effects from the regression of (2.2.1) where the latent are replaced by the fitted level values from bi-variate ordered probit (2.2.7) - (2.2.8) and the two IRMs are added as additional covariates, as described in 2.2.18 of Section 2.2.2. In addition, Table 2.1 also includes the estimate of the correlation coefficient  $\rho$ , which was obtained by the reduced form bi-variate ordered probit estimation of model (2.2.7) - (2.2.8). The value of  $\rho$  signals a negative and highly significant correlation between political trust and perceived corruption, implying a potential endogeneity issue. Both IMRs,  $\lambda_{irc}^1(j, m)$  and  $\lambda_{irc}^2(m, j)$ , are highly significant as shown in column (5) and (6). This illustrates that the specification (2.2.18) effectively corrects for both threads to identification discussed in Section 2.2.1. Note, however, that the significance of  $\lambda_{irc}^1(j, m)$  and  $\lambda_{irc}^2(m, j)$  estimates have no meaningful interpretation in this framework, it only validates the correction for endogeneity issues.

For brevity, I focus on analysing the results in columns (5) and (6) as they are the most appropriate specifications to consider. The estimated marginal effects for each political trust and perceived corruption level are compared to the previous level. For example, the estimate -1.75 in column (6) in Panel B indicates that an individual who believes that some government officers are corrupt demonstrates a 1.75 percentage points lower political participation index compared to an individual who assumes that no one in the government office is corrupt. The marginal effects for the political trust level 'Not at all' (Panel A) and the perceived corruption level 'None' (Panel B) are compared to the level 'A lot' and 'All of them', respectively. This allows comparing extreme outcomes, i.e., 'no trust' versus 'trust' and 'no corruption' versus 'corruption'.

Panel A in Table 2.1 indicates that no political trust level significantly impacts an individual's political participation index, regardless of the normalisation method used to compute the index. In general, marginal effects on the country level political participation index are larger compared to the global index, which might arise as political trust is relative to a country's president performance. Moreover, only slight and insignificant, heterogeneous effects between political trust levels are observed. In essence, these results illustrate a marginal increase of political participation if an individual

does not trust at all compared to an individual who trusts the president a lot, while political engagement marginally decreases by 0.26 percentage points for an individual who trusts the president a little compared to a citizen who does not trust the president at all. For example, an individual's country index decreases by roughly 0.1 percentage points and its global one decreases by 0.07 percentage points if he/she trusts the president somewhat compared to his/her peer who trusts the president just a little. Whilst the country and global indices increase by 0.79 and 0.41 percentage points, respectively, for a non-trusting individual compared to an individual who trusts the president a lot. This result aligns with the general assumption that individuals with tendencies to trust the president tend to place greater political confidence in the president's abilities and the government (see eg. Brehm and Rahn, 1997; Gamson, 1968b; Norris, 1999; Rosanvallon and Goldhammer, 2008). Due to higher levels of political confidence, individuals are content with the current political governance and might slightly reduce their political engagement. Analogously, citizens who do not trust at all tend to demonstrate lower levels of political confidence, which might activate their desire to change the political regime. This may be a source of citizens' decision to refrain from political activities despite higher trust levels in the sub-Saharan African region.

Alongside the effect of political trust on political participation, Panel B shows how the perception of corruption in the presidency office arouses individuals' participation in political activities. Like political trust levels, perceived corruption levels show heterogeneous effects, yet greater differences between levels are visible. Results clearly show that perceived corruption has a significant effect on political engagement if extreme values are compared, such as no corruption versus a lot of corruption, or if one compares the outcomes between no corruption and some extent of corruption. Similar to the estimated marginal effects of political trust, those of perceived corruption are smaller for the global index than the country level index. Estimates indicate that political activism not only increases when an individual believes none of the government officers are corrupt compared to an individual assuming everyone is corrupt, but also if an individual believes everyone is corrupt compared to perceiving most of them as corrupt. Comparing the estimates for the two extreme cases - no corruption and a lot of corruption - the estimate is significant and positive for the global index. However, insignificant but positive marginal effects are observed on the country index. Individuals who assume no one is corrupt in the government compared to individuals who perceive all officers as corrupt tend to be more politically active as their country and global indices increase by 1.4 and 1.26 percentage points, respectively. The largest significant effects on political participation are observed between individual who assume that some of the officers are corrupt and individuals who believe that no one is corrupt in the presidency office. The country and global indices decline by 2.38 and 1.75 percentage points, respectively, for an individual who perceives some of the officers in the government office as corrupt compared to an individual who assumes no one is corrupt. Estimates for intermediate perceived corruption levels (corruption levels 'Some of them' versus 'Most of them'), on the other hand, lead to a decline in political activism. Whereby, estimated marginal effects for individuals who perceive everyone as corrupt compared to individuals who see most of them as corrupt are insignificant yet positive inducing individuals to be more politically engaged. These findings align with previous studies (see eg. Giommoni, 2021b; E. Warren, 2004; Ecker, Glinitzer, and Meyer, 2016; De Vries and Solaz, 2017), that argue that corruption induces a withdrawal from political activities. This is because

perceived corruption erodes the effectiveness of and confidence in electoral processes and other political activities (Ansolabehere, Iyengar, and Simon, 1999). Particularly within the sub-Saharan African region, higher levels of perceived corruption might lead to greater abstinence from political activities compared to Western societies.

TABLE 2.1: Impact of Trust and Corruption on Political Participation

Dependent variable:	(1) OLS country PolI	(2) OLS global PolI	(3) BIO country PolI	(4) BIO global PolI	(5) BIO country PolI	(6) BIO global PolI
<b>Panel A</b>						
<i>Trust levels</i> <sup>1</sup>						
Not at all	-2.192*** [0.4674]	-1.542*** [0.2788]	1.304 [0.8716]	0.742* [0.4301]	0.791 [0.8090]	0.406 [0.4255]
Just a little	-0.951** [0.3810]	-0.454* [0.2301]	-0.972* [0.5464]	-0.497* [0.2548]	-0.595 [0.4501]	-0.263 [0.2219]
Somewhat	0.312 [0.3948]	0.256 [0.2517]	-0.322 [0.4628]	-0.222 [0.2633]	-0.099 [0.4896]	-0.067 [0.2767]
A lot	2.830*** [0.3345]	1.741*** [0.2107]	-0.01 [0.5616]	-0.024 [0.3256]	-0.097 [0.5917]	-0.076 [0.3495]
<b>Panel B</b>						
<i>Corruption levels</i> <sup>2</sup>						
None	-2.126*** [0.6287]	-1.184*** [0.3739]	2.005* [1.1016]	1.823*** [0.6306]	1.403 [1.0978]	1.263* [0.6494]
Some of them	-0.477 [0.4205]	-0.431 [0.2546]	-2.452*** [0.8346]	-1.935*** [0.4519]	-2.378*** [0.8508]	-1.748*** [0.4567]
Most of them	0.999*** [0.2458]	0.581*** [0.1207]	-0.516 [0.5790]	-0.378 [0.3027]	-0.066 [0.5360]	-0.081 [0.2874]
All of them	1.604*** [0.4062]	1.035*** [0.2526]	0.963 [0.6417]	0.491 [0.4047]	1.041 [0.6167]	0.567 [0.3923]
$\rho$						-0.262*** 0.0129
$\lambda_{irc}^1(j, m)$					0.821*** [0.1538]	0.554*** [0.0909]
$\lambda_{irc}^2(m, j)$					0.561*** [0.1798]	0.306*** [0.1042]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Individual covariates	Yes	Yes	Yes	Yes	Yes	Yes
Macro covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,144	80,144	80,468	80,468	73,480	73,480

The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005, 2012 and 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each trust level are relative to the base group "Not at all".<sup>2</sup> Marginal effects of each corruption level are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Overall, the estimates in Panels A and B in Table 2.1 show a common trend in sub-Saharan Africa in terms of political activism. No political trust and trusting the president to some extent increases political participation while trusting the president a lot and a little decreases potential active engagement in political affairs. While the extreme levels of perceived corruption increase political activism,

intermediate perceived corruption levels cause lower levels of political engagement. Analysing the cumulative marginal effects of political trust and perceived corruption on political participation with respect to a reference group (i.e., 'Not all' for political trust and 'None' for perceived corruption) yields similar findings to those presented in Table 2.1, as shown in Appendix B4.

#### 2.4.2 Individual Characteristics, Political Sentiment, Macro Environment and Political Activism in sub-Saharan Africa

Alongside the impact of political trust and perceived corruption on political engagement, many studies in the political literature focus on a variety of potential determinants that include but are not limited to gender inequality (see eg. Robinson and Gottlieb, 2021; Croke et al., 2016; Isaksson, Kotsadam, and Nerman, 2014; Coffé and Bolzendahl, 2010; Coffe and Bolzendahl, 2011), level of education (see eg. Kam and Palmer, 2008; Mayer, 2011; Persson, 2015) and religious beliefs (see eg. Driskell, Embry, and Lyon, 2008; Jones-Correa and Leal, 2001). In this study, I also focus on the impact of the political and the macro environment on political behaviour.

Table 2.2 presents the estimated marginal effects of these individual characteristics. As shown in this table, all covariates are highly significant for both the country and the global indices. However, their magnitude varies across the two indices. There is no clear tendency of whether the country or the global index is more affected by individual characteristics. As illustrated in Figure 10 in Section 5.3.3 of Chapter 1, men tend to express higher index values. Men's country and global index are, on average, 6.5 and 4.28 percentage points respectively, higher than that of women. These differences might arise as some political activities pose considerable personal costs to women (Coffe and Bolzendahl, 2011). Intuitively, it makes sense as some political activities require more time and effort such as demonstrating or attending a campaign rally. Also, there might be some cultural values or social expectations that discourage women to participate in more politically visible forms of activities. Furthermore, studies agree that women are subject to pervasive oppression in terms of resources to mobilise or unequal access to political activities (Bratton, 1999; Coffe and Bolzendahl, 2011).

In terms of educational attainment, all levels of education increase an individual's political participation index. In line with the literature which addresses the importance of higher education including a greater level of political participation (see e.g., Kam and Palmer, 2008; Kam and Palmer, 2011; Mayer, 2011; Persson, 2015; Henderson and Chatfield, 2011; Mayer, 2011), tertiary education increases the country and global indices by 7.5 and 4.94 percentage points respectively, compared to no school education. Similar positive and highly significant effects are observed for lower education levels, whereby the impact decreases with lower levels of education. These results for African countries support the assertion of Verba, Scholzman, and Brady, 1995 that the level of education is the single most potent predictor of an adult's political activism. With respect to the place of residence, individuals who live in urban areas or semi-urban areas are less likely to be involved in political affairs compared to individuals who live in rural areas. A lower level of political participation in urban areas might be linked to political contentment as the president might predominately focus on urban infrastructure and increasing living standards for citizens in urban areas rather than aiming at rural areas. This rural-urban cleavage supports Bratton, 1999 argument that overall, rural dwellers tend to be more politically active. Interestingly, unemployed citizens are less likely to engage in political activities. Perhaps, unemployed individuals are less integrated into the social system due to either

exclusivity to some political activities, such as party meetings, or community meetings, or due to social debarment. As observed in the literature see e.g., Melo and Stockemer, 2014; Flinders et al., 2009; Goerres, 2007; Jankowski and Strate, 1995, the age effect on political activism also prevails in sub-Saharan African countries. Younger people are, on average, more politically apathetic compared to older individuals. Also, black people tend to be more politically active compared to their white counterparts, however, these estimates need to be taken with care, as the sample consists of almost 90% black people.

TABLE 2.2: Impact of Covariates on Political Participation

Dependent variable:	OLS country PolI	OLS global PolI	BIO country PolI	BIO global PolI	BIO country PolI	BIO global PolI
Gender	6.484*** [0.5161]	4.263*** [0.3231]	6.467*** [0.5095]	4.260*** [0.3195]	6.502*** [0.5224]	4.278*** [0.3254]
<i>Education</i> <sup>1</sup>						
Primary	3.278*** [0.6370]	2.210*** [0.4029]	2.747*** [0.6552]	1.911*** [0.4318]	2.711*** [0.6846]	1.876*** [0.4525]
Secondary	5.380*** [0.5515]	3.545*** [0.3504]	4.777*** [0.5786]	3.225*** [0.3895]	4.787*** [0.6050]	3.197*** [0.4130]
Tertiary	8.358*** [0.5920]	5.457*** [0.3395]	7.559*** [0.6207]	5.005*** [0.3800]	7.503*** [0.6520]	4.938*** [0.4048]
<i>Area</i> <sup>2</sup>						
Semi-Urban	-2.321* [1.1426]	-1.657*** [0.4114]	-2.219* [1.2071]	-1.555*** [0.4095]	-1.655 [1.0800]	-1.303*** [0.3527]
Urban	-4.600*** [0.4914]	-3.024*** [0.3009]	-4.783*** [0.5145]	-3.152*** [0.3065]	-4.718*** [0.5165]	-3.098*** [0.3123]
Black	7.252*** [2.3581]	3.613** [1.5909]	7.545*** [2.3661]	3.755** [1.5561]	7.787*** [2.3096]	3.959** [1.5425]
Unemployed	-2.374*** [0.3768]	-1.741*** [0.1841]	-2.055*** [0.3930]	-1.520*** [0.1960]	-2.142*** [0.3992]	-1.596*** [0.1890]
Age	0.230*** [0.0196]	0.152*** [0.0112]	0.218*** [0.0185]	0.143*** [0.0107]	0.222*** [0.0188]	0.146*** [0.0108]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,144	80,144	80,468	80,468	73,480	73,480

The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005, 2012 and 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of education levels are relative to the base group "No schooling".<sup>2</sup> Marginal effects of area are relative to the base group "Rural". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Table 2.3 presents the impact of different religious groups on political participation. In line with political trust and corruption levels, the magnitude of the estimate for each religious group is larger for the country-level index. Each religious group is compared to individuals who do not associate themselves with any religious group (base group). Individuals who belong to religious groups such as Christianity, Islam and Folk religions differ significantly from individuals with no religious appurtenance for both, country and global indices. In particular, Christians, Muslims and worshipper of folk religions tend to be more politically active compared to non-religious citizens. Jews, on the other hand, are not significantly different from the base group.



TABLE 2.3: Religious Beliefs and Political Participation

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
<i>Religion</i> <sup>1</sup>						
Christian	2.663*** [0.5365]	1.915*** [0.3738]	2.296*** [0.5133]	1.658*** [0.3583]	2.406*** [0.5663]	1.721*** [0.3932]
Muslim	4.175*** [0.6353]	2.811*** [0.4132]	3.795*** [0.6829]	2.519*** [0.4510]	3.984*** [0.6981]	2.641*** [0.4561]
Hindu	2.550** [1.2200]	1.492* [0.7892]	1.951 [1.2057]	0.975 [0.8005]	2.275* [1.1958]	1.288 [0.7607]
Folk Religions	4.858*** [0.7531]	3.264*** [0.4883]	4.290*** [0.8292]	2.857*** [0.5381]	4.689*** [0.8323]	3.115*** [0.5345]
Others	2.383*** [0.8222]	1.802*** [0.6365]	2.075** [0.8026]	1.686*** [0.6107]	2.143** [0.8533]	1.626** [0.6692]
Jewish	1.816* [1.0297]	2.421*** [0.6584]	3.082 [3.1949]	2.159 [2.9148]	3.061 [2.8708]	2.125 [2.6038]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,144	80,144	80,468	80,468	73,480	73,480

The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005, 2012 and 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each religious group are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

Aside from individual characteristics, Table 2.4 presents the impact of the economic environment, the political system and stability on political participation. Estimates signal that most of the included political and economic environment covariates do not significantly impact an individual's tendency to actively participate in political affairs. Interestingly, experiencing a period of civil war positively and significantly influences the global political participation index. Thus, individuals who were exposed and witnessed war periods are more inclined to participate in political activities which aligns Blattman's (2009) findings for Uganda. Not only encountering war increases political participation, but citizens also tend to be less politically active if no tenure length is determined. This negative association between political participation and the lack of tenure length might arise as a consequence of a less flexible political setting. Interestingly, inflation has a slight significant positive impact in regards to the global index. Specifically, a 1% increase in CPI increases an individual's global Poll, on average, by 0.13 percentage points. This statistically significant increase might be observed as individuals might be sensitive to price changes, especially food prices.

Along with the macro perspective on the economy, the political stability and the political system, Table 2.5 presents the effects of individuals' sentiment towards the current political system. This table summarises covariates that elucidate on the president's competencies and individuals' perception of the political system in each African country. Reflecting on the president's abilities, individuals exhibiting higher levels of satisfaction with respect to the president's competencies tend to be more politically active. In general, each measurement demonstrates heterogeneous effects, especially manifesting that the degree of satisfaction matters as higher levels induce greater political involvement.

TABLE 2.4: Impact of Macroeconomic Environment on Political Participation

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
Election	-3.196 [2.0799]	-0.56 [0.4500]	-3.473 [2.0609]	-0.629 [0.4710]	-3.407 [2.0753]	-0.677 [0.4808]
No tenure length	1.197 [2.8914]	-1.865** [0.8959]	0.4 [2.8745]	-2.068** [0.9334]	0.445 [2.9471]	-2.021** [0.9255]
Compulsory change in governance	2.405 [4.2649]	-0.193 [1.7042]	2.159 [4.0402]	0.035 [1.4801]	2.276 [4.3852]	-0.192 [1.6692]
Civil violence	5.761** [2.5389]	1.228 [1.1044]	5.936** [2.5215]	0.833 [0.9996]	6.269** [2.6026]	1.004 [1.0993]
Civil war	0.937 [0.8674]	0.695** [0.3072]	0.92 [0.8825]	0.688** [0.3094]	0.89 [0.8662]	0.643** [0.3084]
Democracy index	-0.044 [3.4310]	1.598 [1.0071]	0.679 [3.5730]	1.524 [0.9512]	0.595 [3.5291]	1.474 [1.0267]
GDP %	-0.132 [0.1421]	-0.013 [0.0550]	-0.171 [0.1521]	-0.03 [0.0521]	-0.169 [0.1488]	-0.028 [0.0536]
Inflation	0.047 [0.1825]	0.130** [0.0568]	0.069 [0.1839]	0.140** [0.0521]	0.045 [0.1855]	0.125** [0.0570]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,144	80,144	80,468	80,468	73,480	73,480

The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005, 2012 and 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ . \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

The ability to create jobs has a positive, yet no significant, impact on the country political participation index, but it has a significant and positive effect on the global index. The global Poll increases by 0.82 percentage points if an individual thinks the president handles the job creation very well compared to an individual who believes the president handles job creation very badly. In terms of handling corruption, a similar pattern is observed. Estimates show that the global Poll is positively impacted by higher levels of satisfaction while the country Poll is not statistically impacted. For example, the global Poll increases by 1.19 percentage points if citizens are confident in the president's ability to annihilate corrupt behaviour compared to individuals who are not confident in the president's capabilities. The ability to handle food and crime has a statistically significant effect on both dependent variables, the country and the global Poll. For example, the country and the global Poll increase by 2.47 and 1.18 percentage points for individuals who assume the president handles food supplies very well compared to an individual who is not convinced of the president's ability to ensure food. A broader measure of an individual's sentiment towards the political system is the variable that measures individuals' satisfaction with democracy. Along with other political measurements, this measure also displays heterogeneous effects which increase as the degree of satisfaction increases. The estimate for the country Poll is larger compared to the estimate for the global Poll. Despite the difference in magnitude, all estimates show the same level of statistical significance. For example, the country and the global Poll increase by 3.33 and 2.14 percentage points if an individual is somewhat satisfied with the democracy compared to an individual who does not define the current political system as a democracy. Lastly, the measure of whether voters are bribed has a statistically significant effect on both the country and the global Poll. In line with all other measures,

results show heterogeneity between degrees, while the magnitude varies across dimensions in no particular pattern. In general, individuals are more politically active if they are aware that votes are bribed compared to someone who observes no bribery in terms of votes. These results distinctively show that an individual's perception of the president's ability, democracy and vote bribery impact an individual's decision to actively participate in political activities. Especially, higher levels of satisfaction induce greater tendencies towards political involvement as citizens most likely aim to retain the current governance.

TABLE 2.5: Impact of Political Sentiment on Political Participation

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
<i>Satisfaction with Democracy</i> <sup>1</sup>						
Very dissatisfied	1.336 [1.0262]	0.869 [0.6452]	1.005 [1.0968]	0.676 [0.6523]	1.505 [1.2425]	0.946 [0.7325]
Somewhat dissatisfied	1.73 [1.0540]	1.085 [0.6445]	1.503 [1.1228]	0.926 [0.6572]	1.958 [1.2691]	1.182 [0.7422]
Somewhat satisfied	2.927*** [1.0482]	1.939*** [0.6356]	2.867** [1.1805]	1.884** [0.6908]	3.329** [1.3203]	2.138*** [0.7692]
Very satisfied	5.207*** [1.1721]	3.390*** [0.6942]	5.362*** [1.3307]	3.484*** [0.7788]	5.805*** [1.4818]	3.715*** [0.8662]
<i>President's ability to handle</i> <sup>2</sup> :						
<u>Jobs</u>						
Fairly badly	-0.287 [0.3049]	-0.199 [0.1708]	-0.275 [0.3475]	-0.208 [0.1960]	-0.272 [0.3550]	-0.183 [0.1893]
Fairly well	0.431 [0.4790]	0.343 [0.2403]	0.541 [0.5081]	0.412* [0.2304]	0.564 [0.5224]	0.457* [0.2394]
Very well	0.959 [0.6754]	0.664 [0.4053]	1.207* [0.6941]	0.770* [0.3919]	1.166 [0.7526]	0.818* [0.4436]
<u>Food</u>						
Fairly badly	0.680** [0.3087]	0.359* [0.1979]	0.590* [0.3061]	0.294 [0.1948]	0.581* [0.3224]	0.303 [0.2034]
Fairly well	1.260*** [0.4550]	0.687** [0.2687]	1.257*** [0.4461]	0.699** [0.2658]	1.288** [0.4882]	0.730** [0.2877]
Very well	2.364*** [0.8256]	1.111** [0.5274]	2.265*** [0.7607]	1.046** [0.4916]	2.468*** [0.8662]	1.178** [0.5494]
<u>Crime</u>						
Fairly badly	0.005 [0.2911]	0.015 [0.1655]	-0.018 [0.3033]	-0.001 [0.1856]	0.074 [0.3036]	0.046 [0.1843]
Fairly well	0.398 [0.4037]	0.232 [0.2416]	0.569 [0.4454]	0.336 [0.2583]	0.602 [0.4363]	0.342 [0.2618]
Very well	1.416** [0.5832]	1.032*** [0.3546]	1.760*** [0.6138]	1.218*** [0.3762]	1.691** [0.6377]	1.175*** [0.3944]
<u>Corruption</u>						
Fairly badly	0.022 [0.2901]	0.009 [0.1606]	0.15 [0.3181]	0.07 [0.1831]	0.156 [0.3534]	0.082 [0.2028]
Fairly well	0.632 [0.4290]	0.525** [0.2080]	0.789 [0.4750]	0.581** [0.2470]	0.782 [0.5187]	0.576** [0.2710]
Very well	0.976 [0.7051]	1.149*** [0.3807]	1.065 [0.7381]	1.134*** [0.4082]	1.147 [0.7759]	1.188*** [0.4308]
<i>Bribe: votes</i> <sup>3</sup>						
Sometimes	4.548*** [0.8689]	3.044*** [0.4706]	4.455*** [0.8573]	3.009*** [0.4662]	4.494*** [0.9064]	3.017*** [0.4917]
Often	3.236*** [1.0525]	2.273*** [0.5332]	3.199*** [1.0374]	2.293*** [0.5181]	3.284*** [1.0893]	2.319*** [0.5449]
Always	4.005*** [0.9253]	2.487*** [0.5287]	4.184*** [0.9194]	2.669*** [0.5253]	4.166*** [0.9356]	2.636*** [0.5349]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,144	80,144	80,468	80,468	73,480	73,480

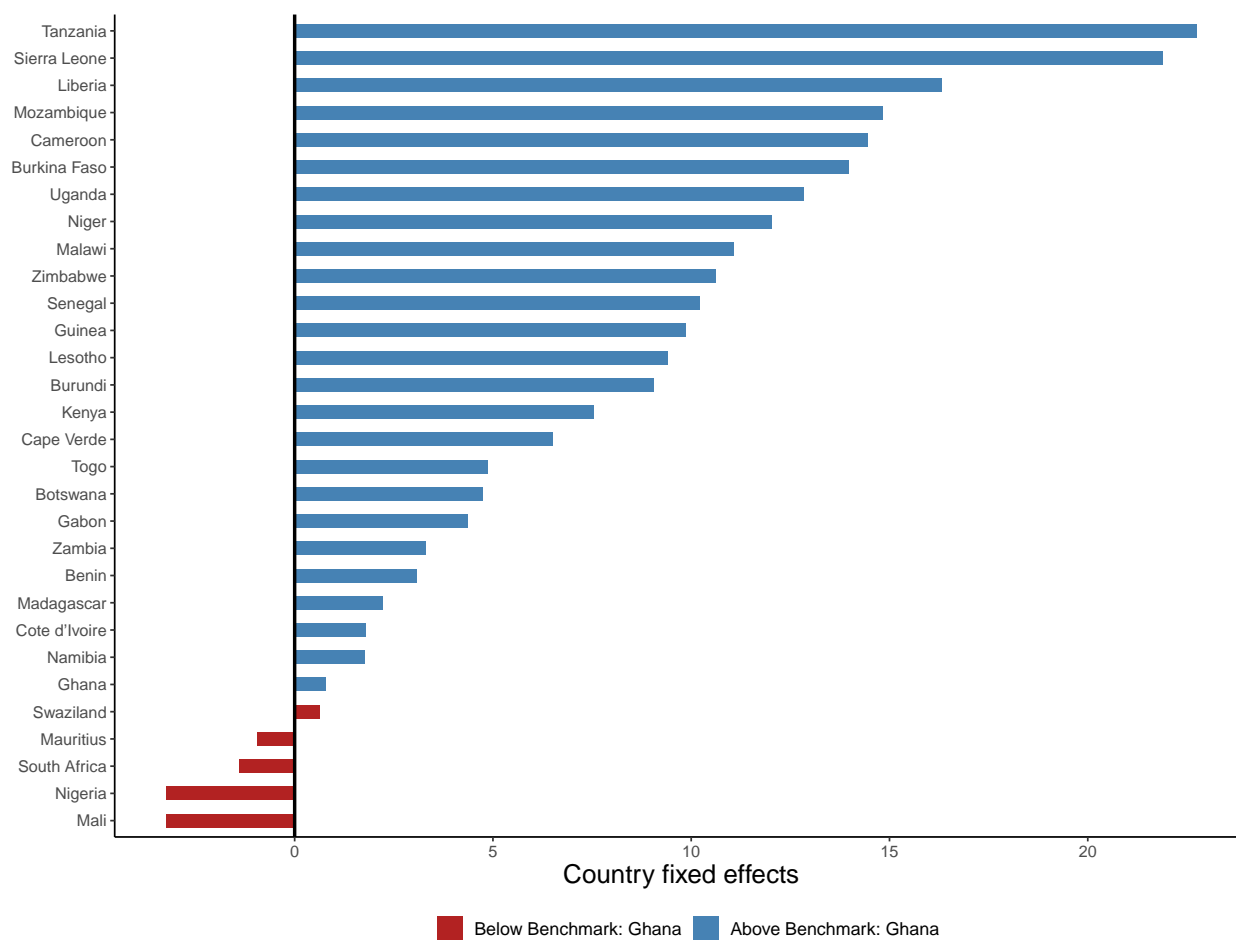
The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005, 2012 and 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each satisfaction level with democracy are relative to the base group "No democracy".<sup>2</sup> Marginal effects of each handling variable, e.g.: Handling jobs, handling food, handling crime and handling corruption, are relative to the base group "Very badly".<sup>3</sup> Marginal effects of bribing votes are relative to the base group "Never". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

### 2.4.3 Political Activism across sub-Saharan African countries

Despite the importance of covariates, differences between countries in terms of political activism is also of paramount interest as demonstrated in Figure 2.4a. Figure 2.5 shows the country fixed effects for the country-level political participation index (which by construction is more appropriate for cross-country comparison). The benchmark country for the graph is Ghana. Blue coloured bars include country fixed effects of countries above the reference group Ghana fixed effect, while red coloured bars signal countries with fixed effects below that of Ghana. The country fixed effect for Ghana is the constant of the regression (2.2.18). Each other country's fixed effects compose of the respective country fixed effect plus the constant. Figure 2.5 illustrates that citizens in Tanzania, Sierra Leone, Liberia, Mozambique and Cameroon tend to be more politically active compared to all other individuals which aligns with Figure 2.4a. Higher participation levels in Sierra Leone, Liberia, Mozambique and Cameroon might arise as most political regimes have no limit to their tenure. Also, some of these countries were exposed to inter-ethnic disputes which may justify why some country fixed effects are above, the more democratically stable country, Ghana. The country Poll increases by 22.74, 21.90, 16.32, 14.84 and 14.46 percentage points, respectively, compared to a citizen in Ghana. On the other hand, citizens in Mali, Nigeria, South Africa and Mauritius tend to exhibit lower political participation levels compared to individuals in Ghana. In particular, the country Poll decreases by 3.24, 3.24, 1.40 and 0.96 percentage points. Sources of lower political participation levels might be a lack of political freedom (Nigeria is classified as a federation state), exposure to wars (Mali), greater levels of development (South Africa, Mauritius), inherent effects of apartheid (South Africa) or more homogeneous ethnic groups (Mauritius).

In general, the results align with Figure 2.4a in Section 2.3.2. Figure 2.5 signals that, despite common trends, heterogeneity across countries exists and variations in political participation levels arise due to country-specific characteristics. Alongside, the differences across countries, Figure 2.5 adverts to potential geographic clusters. Predominately, countries in the Southern or the Western African region tend to record lower country fixed effects, compared to countries in East and Central Africa. Sources of heterogeneity across African regions can be derived from different approaches and stages of the democratisation process. Western African countries still experience periods of political turmoils and might have some formal democratic intuitions in place that yet have little substance (Zounmenou and Loua, 2011).

FIGURE 2.5: Cross-country Differences in Political Activism (base country is Ghana)



#### 2.4.4 Political Activism across African regions

The existence of geographical clusters in terms of political participation shown in Figure 2.4b gives rise to potential differences in how political trust and perceived corruption influence political behaviour patterns across sub-Saharan Africa. Given the classification from African Union (AU), 2020 discussed in Section 2.3.2, I analyse each region separately. Table 2.6 presents the impact of political trust (Panel A) and perceived corruption (Panel B) on political engagement for the four regions. For brevity, I only focus on the specification (2.2.18) for both the country and the global political participation index. Similar to Table 2.1, marginal effects are reported level-by-level. The political trust level 'Not at all' (Panel A) and perceived corruption level 'None' (Panel B) are compared to levels 'A lot' (Panel A) and 'All' (Panel B) respectively. According to Table 2.1, citizens in sub-Saharan Africa are on average more politically active if they either distrust the president, perceive no corruption or exhibit high levels of corruption. In line with the common trend in sub-Saharan Africa, mistrust in the president and no corruption induces citizens to participate more actively in political matters, while trusting the president a little compared to not at all causes a withdrawal from political activities. However, as in Table 2.1, political trust does not significantly impact political participation levels, except for East Africa, while perceived corruption has a significant impact in all four regions.

Not all common trends at the sub-Saharan African level generalise to the regional level, as shown in the slightly different patterns for each region in Panel A. In terms of political trust, citizens in Central and West Africa appear to have a different attitude compared to citizens in East and Southern Africa. For example, individuals in East and Southern Africa tend to be more politically active if they trust the president a lot, while in Central and West Africa political participation decreases if individuals trust the president. Perhaps, greater trust in East and Southern Africa might evoke an urge to support and maintain the current governance, while greater trust levels in Central and West Africa may create an environment full of contentment and comfort that induces a decline in political engagement as argued by Hibbing and Theiss-Morse, 2001 and Gamson, 1968a. Similar political attitudes in Central and West Africa might be observed as the sample countries are geographically close allowing for overlaps in ethnic groups. Intermediate trust levels reduce political activity in all African regions, however in Central and West Africa, individuals trusting the president somewhat are more politically active compared to individuals who trust the president just a little. Interestingly for the country-level political participation index, East Africa shows a statistical difference between mistrust and some degree of trust. The country-level political participation index increases by 2.05 percentage points if citizens do not trust the president at all compared to trusting the president a lot, while the index decreases by 2.18 percentage points if an individual trusts the president a little.

Given Panel B, all African regions record statistically significant marginal effects for some perceived corruption levels, yet differentiate themselves greatly. Despite similarities of geographically close regions in terms of political trust, Southern and West Africa now share similar political behaviour patterns and represent the common trend in sub-Saharan Africa. Similarly to Table 2.1, citizens who do not perceive any government officials as corrupt compared to assuming all of them are corrupt tend to be more politically active in Southern and West Africa. While individuals who perceive some level of corruption significantly subtract themselves from political activities. Central Africa, on the other hand, shows a clear trend. Citizens in Central Africa participate in political affairs until they perceive everyone in the presidency office as corrupt. The country and the global political participation index decreases by 2.02 and 1.06 percentage points, respectively, once citizens perceive all officers are corrupt. Meanwhile, in East Africa, citizens depict a more dynamic picture in particular as most levels of perceived corruption significantly impact political participation levels. As in all other regions, individuals in East Africa show greater political activism if they do not perceive the presidency office as corrupt. Yet, individuals refrain from political activities if some officers are perceived as corrupt. If most officers are perceived as corrupt, individuals increase political engagement. While similar to citizens in Central Africa, political participation decreases in East Africa if all officers are assumed to be corrupt.

Given Table 2.6, the marginal effect of political trust and perceived corruption on political participation varies across African regions. The estimated regional fixed effects are shown in Figure 2.6. The benchmark region for the graph is East Africa. In general, Central, West and Southern Africa show a propensity for lower political participation levels, while East Africa diverges from other African regions with a positive disposition towards political engagement.

West Africa and Central Africa share similar regional fixed effects, although sources vary. In general, the origin of lower embedded political participation in West Africa is the prolonged exposure to conflicts and coups, while a source of smaller intention to be politically active in Central African

TABLE 2.6: Impact of Trust and Corruption on Political Participation across African Regions

Dependent variable:	Central Africa		East Africa		Southern Africa		West Africa	
	(5) country Poll	(6) global Poll	(5) country Poll	(6) global Poll	(5) country Poll	(6) global Poll	(5) country Poll	(6) global Poll
<b>Panel A</b>								
<i>Trust levels</i> <sup>1</sup>								
Not at all	2.312 [1.2029]	1.003 [1.0199]	2.050** [0.5444]	0.448 [0.3689]	0.307 [0.7992]	0.302 [0.5101]	1.347 [1.4006]	0.890 [0.8442]
Just a little	-2.288 [1.7647]	-0.922 [1.2349]	-2.181** [0.5713]	-0.435 [0.2671]	-0.270 [0.7102]	-0.144 [0.4246]	-0.574 [0.5168]	-0.531* [0.2960]
Somewhat	2.985 [2.3151]	1.565 [1.5467]	-0.589 [0.9837]	-0.294 [0.5874]	-0.787 [0.6412]	-0.478 [0.4550]	0.037 [0.6711]	0.148 [0.3901]
A lot	-3.009 [3.1884]	-1.647 [2.2382]	0.721 [0.9013]	0.282 [0.4915]	0.750 [0.6476]	0.321 [0.4019]	-0.810 [1.1736]	-0.507 [0.7184]
<b>Panel B</b>								
<i>Corruption levels</i> <sup>2</sup>								
None	1.690 [2.7887]	0.104 [1.9216]	5.986** [1.9123]	2.780* [1.0422]	1.476 [2.0434]	1.156 [1.3238]	4.511* [2.2148]	3.070** [1.3223]
Some of them	0.658 [1.7211]	0.796 [1.3117]	-1.334 [0.8360]	-1.262* [0.5466]	-2.068** [0.7405]	-1.478** [0.5208]	-5.951*** [1.8670]	-3.508** [1.1502]
Most of them	-0.193 [1.4547]	0.162 [0.9190]	-0.276 [0.3796]	0.490 [0.3418]	-0.836 [0.9192]	-0.493 [0.5863]	0.366 [0.8178]	-0.078 [0.4836]
All of them	-2.156** [0.2714]	-1.062** [0.2292]	-4.376* [1.8422]	-2.009* [0.8853]	1.429 [1.4364]	0.815 [0.8377]	1.074 [0.8794]	0.516 [0.4927]
$\lambda_{irc}^1(j, m)$	0.840 [0.6489]	0.501 [0.4295]	0.506 [0.2998]	0.386* [0.1770]	1.166*** [0.2731]	0.741*** [0.1574]	0.648** [0.2230]	0.468*** [0.1229]
$\lambda_{irc}^2(m, j)$	-0.238 [0.2223]	-0.148 [0.1706]	0.308** [0.1080]	0.116 [0.0729]	0.216 [0.3256]	0.195 [0.2148]	0.993*** [0.1791]	0.513*** [0.1059]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Individual covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Macro covariates	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4,103	4,103	16,288	16,288	23,558	23,558	29,531	29,531

The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005 and 2021 - 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each trust level are relative to the base group "Not at all".<sup>2</sup> Marginal effects of each corruption level are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

countries might be the existing one-party political system or state-planned economies. The spectrum of governance in Central Africa ranges from pure authoritarianism to complex pseudo-democracies (Donnenfeld and Akum, 2017). Most countries in Central Africa maintained power through patronage networks which are predominately sustained by elite bargaining and collusion with traditional leaders (Donnenfeld and Akum, 2017). Consequently, to attain political transitions most countries, except Cameroon, resort to military coups and violent conflicts (Mehler, 2019). Similar to Central Africa, West Africa has experienced a long period of tragedy and upheaval in almost six decades of independence. For example, in 2002 Côte d'Ivoire was susceptible to destabilising ethno-military conflicts, which resulted in the first Ivorian war. Despite being historically commonly known as a volatile region, today most countries manifest credible signs of recovery and stability (Bauer and Taylor, 2005). Some success stories are Benin, Ghana, Senegal and Liberia (after 2003). Even though some extent of stability exists in West Africa, most countries still face numerous serious threats to political and economic stability but are innervated to eliminate the absence of politicians' will and demand more enforcement and regulations (Zounmenou and Loua, 2011).

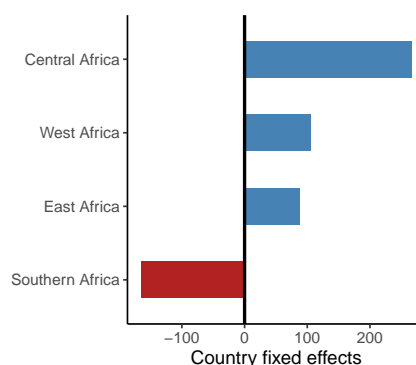
South Africa is prone to lower political participation levels compared to East Africa, yet not to the same extent as Central and West Africa. Southern Africa, countries in Southern Africa seem to be less receptive to political participation. Among sub-Saharan African countries, the Southern countries were the last to gain independence. Mozambique, Namibia, South Africa and Zimbabwe were even forced to resort to war. Despite attaining independence, most regimes in Southern Africa countries<sup>8</sup> remained white ruled, which, paradoxically, raised development prospects as it provided a strong infrastructure and allowed for greater international access (Legum, 1999). Inheriting past structures and the rare occurrence of coup attempts insinuates greater levels of political stability and social contentment. Especially after undergoing political transitions, countries claim to be democratic, yet the degree of democracy varies widely (Bauer and Taylor, 2005). Greater political stability, the existence of appropriate political systems and a greater degree of democracy result in lower initial political participation levels.

On the other spectrum is East Africa. Countries in this region inherently present a greater tendency towards higher political participation levels. A source of greater intention to be politically active in East African countries could root in the prolonged existence of centralised governance systems. After independence, East African countries such as Kenya, Uganda and Tanzania reverted to centralised governance systems (Oyugi and Ochieng, 2019). Despite seeking to diffuse power, the centralised system creates perpetual incumbency (Warioba, 2006) and controls the democratisation process which induces higher levels of political participation to restrain the power of political parties (Booth et al., 2014). To date, Uganda remains under a movementocracy, while Kenya and Tanzania adopt a multi-party system (Bakari, 2006).

<sup>8</sup> Zimbabwe, Namibia and South Africa were ruled by a white regime until 1980, 1990 and 1994, respectively.



FIGURE 2.6: Cross-region Differences in Political Activism (base region is East Africa)



## 2.5 Robustness Checks

### 2.5.1 First-stage Bi-variate Ordered Probit Estimates

As discussed in Section 2.2.1, in order to consistently identify the impact of political trust and perceived corruption on political activism, the first-stage bi-variate ordered probit model (2.2.7) - (2.2.8) must provide enough exogenous variations to correct for the endogeneity of political trust and perceived corruption in (2.2.1). Thus, assessing the strength of excluded covariates in (2.2.7) - (2.2.8) is of paramount interest.

Table 2.7 reports the first-stage results for political trust and perceived corruption in the bi-variate ordered probit estimation. To shorten the presentation, I only show the covariates excluded from the political trust/perceived corruption equation in the first-stage ordered probit. The exogenous covariates included in the political trust equation are 'Elections are fair and free' and 'President's ability to handle water supply'. Both covariates are highly significant and are positively related to political trust. In terms of perceived corruption, the exogenous covariate, 'President's performance', is highly significant and shows a negative association with perceived corruption. The statistical significance of these excluded covariates in the first-stage bi-variate ordered is necessary to achieve identification of model (2.2.1). Although this is not a proper test of identification strength, the fact that all these excluded covariates are statistically significant in (2.2.7) - (2.2.8) supports my identification strategy.

TABLE 2.7: First stage of the Bi-variate Ordered Probit Estimation

Excluded covariates from:	Corruption equation	Trust equation
Elections are fair and free	0.132*** (-5.68)	
President's ability to handle water	0.033** (-3.17)	
President's performance		-0.168*** (-10.14)

The estimation comprises of survey rounds 3, 5 and 6 covering the time period 2005 and 2021 - 2014. Standard errors are in parentheses (cluster at country level) and \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

### 2.5.2 Robustness to Alternative Specifications

In addition to the strength of exogenous covariates, I perform supplementary robustness checks. The analysis in Section 2.4 only covers the survey period 2005, 2012 and 2014. This is because a key covariate, *bribe votes* was not part of round 4 (2008) survey questionnaire. However, Figures 2.1 and 2.2 indicate that political activism was particularly high in 2008 in sub-Saharan Africa. Thus, excluding data for survey round 4 in 2008 in the analysis might impact the consistency of the estimates in Section 2.4.1. To cover the entire survey period (i.e., 2005-2014), I use *vote freedom* as the proxy for *bribe votes* in 2008<sup>9</sup>. Table 2.8 shows the marginal effect of political trust (Panel A) and perceived corruption (Panel B) on political participation with the expanded data. As in Table 2.1, marginal effects are reported on a level-by-level basis. As seen in columns (5) and (6) of this table, both IMRs,  $\lambda_{irc}^1(j, m)$  and  $\lambda_{irc}^2(m, j)$ , are highly significant, thus corroborating the previous results in Table 2.1.

The results in Table 2.8 confirms the common trends in terms of political activism among sub-Saharan African countries observed in Table 2.1. A heterogeneous impact is also evidenced across both political trust and perceived corruption levels. In general, Panel A suggests that no level of political trust has a significant marginal effect on the level of political participation. As expected, the magnitude of these marginal effects is smaller for the global level index compared to the country-level one. Similarly to previous findings, mistrust is positively associated with political participation, while individuals with intermediate political trust levels tend to, on average, participate less. In contrast, individuals are more inclined to actively participate if they trust the president a lot, compared to political trust level ‘Somewhat’. In terms of the marginal effects of perceived corruption, Panel B also supports earlier findings. Like Table 2.1, citizens who perceive some extent of corruption in the presidency office tend to be less politically active (reduction in country and global level political participation indices by 0.96 and 1.28 percentage points, respectively). Unlike marginal effects in Table 2.1, all other marginal effects indicate a greater tendency towards political activism. Perceiving corruption to some extent in the presidency office induces lower political participation levels. However, when individuals perceive higher corruption levels in the presidency office, they tend to increase their political engagement, on average, to fight corrupt behaviour in governmental institutions. Overall, these findings substantiate the analysis in Section 2.4. Further robustness checks of controls and summary statistics are presented in Appendix C and Appendix B3, respectively.

Moreover, Figure 2.7 presents the country fixed effects for the country-level index. As in Figure 2.5, Ghana is the reference group and other countries are classified in two groups, below (red coloured bars) and above (blue coloured bars) the benchmark country, Ghana. In line with earlier findings, citizens of Tanzania, Sierra Leone, Cameroon and Mozambique remain, on average, the most politically active, while those of Nigeria and Madagascar still show lower political participation levels. Extending the sample period and using a proxy for bribe votes results in findings that support previous results in Table 2.1 and Figure 2.5.

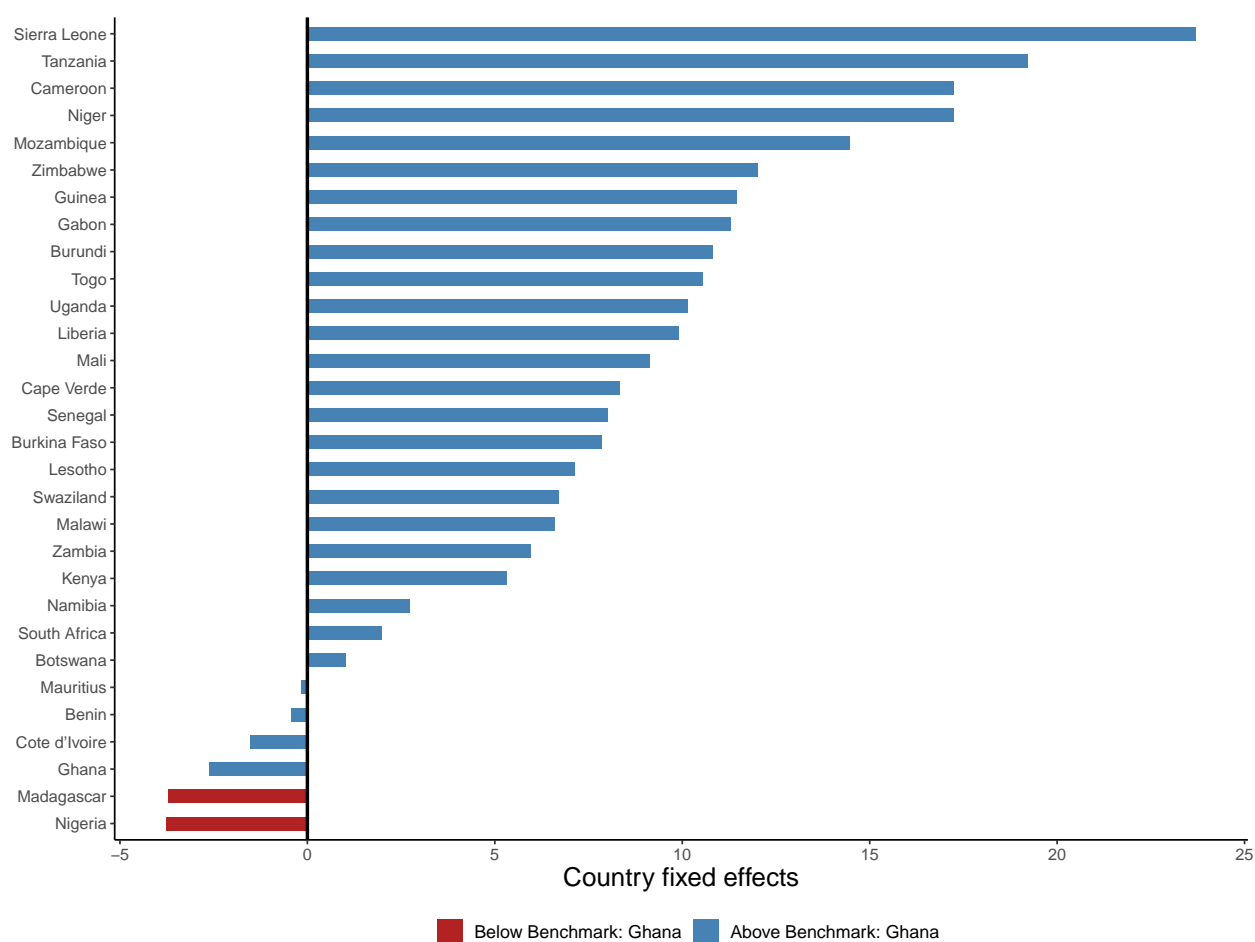
<sup>9</sup> Inherently, the intention of both survey questions is the same. The survey question for bribe vote and vote freedom respectively are the following: ‘In this country, how free are you: To choose whom to vote for without feeling pressured?’ (Afrobarometer, 2018 Codebooks - Round 4) and ‘And during the [20xx] election, how often (if ever) did a candidate or someone from a political party offer you something, like food or a gift, in return for your vote?’ (Afrobarometer, 2018 Codebooks - Round 3)

TABLE 2.8: Robustness Check: Impact of Trust and Corruption on Political Participation

Dependent variable:	(1) OLS country Poll	(2) OLS global Poll	(3) BIO country Poll	(4) BIO global Poll	(5) BIO country Poll	(6) BIO global Poll
<b>Panel A</b>						
<i>Trust levels</i> <sup>1</sup>						
Not at all	-1.919*** [0.5069]	-1.494*** [0.2864]	1.213* [0.7134]	0.651 [0.4114]	0.789 [0.6828]	0.446 [0.3997]
Just a little	-0.654 [0.3942]	-0.335 [0.2457]	-0.764 [0.4678]	-0.403 [0.2659]	-0.535 [0.4324]	-0.314 [0.2331]
Somewhat	0.296 [0.3470]	0.314 [0.2168]	-0.804* [0.4280]	-0.514** [0.2488]	-0.495 [0.4347]	-0.308 [0.2711]
A lot	2.277*** [0.3883]	1.516*** [0.2042]	0.356 [0.5652]	0.266 [0.3290]	0.240 [0.5477]	0.177 [0.3379]
<b>Panel B</b>						
<i>Corruption levels</i> <sup>2</sup>						
None	-1.172 [0.8664]	-0.969*** [0.3313]	1.061 [1.3580]	1.361* [0.6792]	0.387 [1.3426]	0.910 [0.6769]
Some of them	-0.962 [0.6675]	-0.418 [0.2523]	-1.104 [1.2222]	-1.427*** [0.4564]	-0.962 [1.2152]	-1.278** [0.4655]
Most of them	0.914*** [0.2850]	0.578*** [0.1116]	-0.327 [0.6741]	-0.023 [0.3736]	0.143 [0.6880]	0.228 [0.3921]
All of them	1.219*** [0.3588]	0.809*** [0.2171]	0.369 [0.6910]	0.090 [0.4158]	0.431 [0.6925]	0.140 [0.4167]
$\rho$						-0.265*** [0.0137]
$\lambda_{irc}^1(j, m)$					0.729*** [0.1637]	0.536*** [0.0883]
$\lambda_{irc}^2(m, j)$					0.329 [0.2462]	0.253** [0.0995]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Individual covariates	Yes	Yes	Yes	Yes	Yes	Yes
Macro covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	97,389	97,389	98,966	98,966	89,419	89,419

The estimation comprises of survey rounds 3, 4, 5 and 6 covering the time period 2005 - 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each trust level are relative to the base group "Not at all".<sup>2</sup> Marginal effects of each corruption level are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

FIGURE 2.7: Robustness Check: Cross-country Differences in Political Activism (base country is Ghana)



## 2.6 Conclusion

Political mistrust and corruption are often deeply rooted in political processes, especially in developing countries. First and foremost, a lack of political trust and the presence of corruption undermines political legitimacy and accountability to a great extent, which in turn affects the effectiveness of political participation. Previous research illuminates the complexity of political trust and corruption, separately, to explain political participation levels. Some scholars argue that political motivation is derived from mistrust and corruption, while others strongly oppose and assert that corruption and distrust lead to political apathy. Aside from the intricacy of determining the effect of corruption and political trust on political activism, recent literature found that corruption simultaneously breeds an environment of mistrust (Püllbeck and Doko Tchatoka, 2020; della Porta, 2000; Seligson, 2002; Anderson and Tverdova, 2003). As high levels of political participation is a desirable democratic ideal especially in less developed countries, this paper addresses simultaneously the impact of political trust and corruption on political participation in the sub-Saharan African region and draws attention to different levels of political trust and corruption.

Using cross-country survey data from Afrobarometer, 2018 for 30 sub-Saharan African countries over the period 2005 - 2014, the results show heterogeneous effects across political trust and perceived corruption levels. In general, perceived corruption influences political participation when extreme outcomes are compared, such as no corruption versus a lot of corruption, or if one compares the outcomes between no corruption and some extent of corruption. On average, citizens tend to be more politically active if they do not perceive corruption in the presidency office while perceiving corrupt behaviour engenders a contraction in active political participation in sub-Saharan Africa. These findings support Della Porta and Vannucci's (1999) and E. Warren's (2004) view that the existence of corruption in political processes reduces their effectiveness and subverts citizens' power to have a bearing on political matters. Interestingly, perceiving every officer as corrupt induces individuals to be more politically engaged which substantiates Inman and Andrews's (2015) argument of a mobilisation effect to remove corrupt governments in Senegal.

Unlike perceived corruption, political trust has no significant impact on political participation. Moreover, only slight heterogeneous effects between political trust levels are observed. Estimated marginal estimates indicate that mistrusting the president leads to greater political engagement, while any other political trust level creates tendencies to neglect political activities. In contrast to perceived corruption, the higher the level of political trust, the lower the level of political activism. This substantiates the general assumption that greater political trust levels are associated with higher confidence in the president's ability and the government. Higher levels of political confidence often foster an environment of contentment that induces individuals' absence in political activities.

Furthermore, the results reveal differences in political engagement across countries which suggest the existence of geographical clusters. The analysis distinguishes between four African regions (Central, East, Southern and West Africa). Similarly to the pooled sub-Saharan African countries common trend, regional estimates show that perceived corruption significantly impacts political participation while the marginal effects of political trust are insignificant. Also, heterogeneous marginal effects are observed for both political trust and perceived corruption levels. In contrast to Central and West Africa who align with the overall sub-Saharan African trend, East and Southern Africa indicate that political engagement increases once citizens trust the president a lot. Possibly, in East and Southern Africa, greater trust levels evoke an urge to support and maintain the current governance, while higher trust in Central and West Africa creates an environment full of contentment and comfort that induces a decline in political engagement. In terms of perceived corruption, the findings for Southern and West Africa match the results for the overall sub-Saharan African region. Yet, Central and East Africa diverge from the general trend. In Central Africa, citizens, on average, tend to be politically active unless they perceive everyone in the presidency office as corrupt. Meanwhile, in East Africa, citizens, on average, reduce political engagement when they either perceive some extent of corruption or assume all officers are corrupt.

In essence, citizens who perceive no corruption tend to be, on average, more politically active, while observing some extent of corruption induces citizens to detract themselves from political activities in sub-Saharan Africa. Political trust, on the other hand, has little influence on political behaviours, however, mistrust mobilises citizens to greater political engagement. Despite the common trend in sub-Saharan Africa, the analysis reveals not only important heterogeneity across levels of

political trust and corruption but also substantial regional differences in terms of political participation. Similar attitudes towards the impact of political trust are demonstrated in Central and West Africa, while East and Southern Africa also share commonalities. In terms of perceived corruption, more dispersion is evidenced. Findings for Central and East Africa suggest that higher corruption levels lower political participation.

## Appendix A

# Chapter 1

## A.1 Descriptive Statistics

### A.1.1 Data Description

TABLE A.1: Democracy Index

Regime	2006		2014	
Full democracy	Mauritius		Mauritius	
Flawed democracy	Benin	Mali	Botswana	
	Botswana	Mozambique	Cape Verde	
	Cape Verde	Namibia	Ghana	
	Ghana	Senegal	Lesotho	
	Kenya	South Africa	Namibia	
	Lesotho	Tanzania	Senegal	
	Liberia	Uganda	South Africa	
	Madagascar	Zambia	Zambia	
Hybrid regime	Burundi		Benin	Mali
	Malawi		Burkina Faso	Mozambique
			Kenya	Niger
			Liberia	Sierra Leone
			Madagascar	Tanzania
			Malawi	
Authoritarian regime	Burkina Faso	Nigeria	Burundi	Swaziland
	Cameroon	Sierra Leone	Cameroon	Togo
	Côte d'Ivoire	Swaziland	Côte d'Ivoire	Zimbabwe
	Gabon	Togo	Gabon	
	Guinea	Zimbabwe	Guinea	
	Niger		Nigeria	

TABLE A.2: Summary Statistics for African regions (1999 &amp; 2002)

Variable	East			South			West		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
<b>Round 1 - 1999</b>									
<i>Soft measures:</i>									
Interest in public affairs	4,406	2.10	1.01	9,069	1.45	1.07	7,621	1.38	1.22
Close to political party	4,362	0.55	0.50	9,243	0.57	0.49	7,696	0.50	0.50
<i>Semi-hard measures:</i>									
Discuss politics	4,432	1.13	0.73	9,190	0.74	0.72	7,617	0.78	0.72
Voted	4,469	0.83	0.38	9,366	0.66	0.47	7,696	0.73	0.44
<i>Hard measures:</i>									
Work for a candidate /party	4,452	0.32	0.47	9,147	0.12	0.33	7,696	0.15	0.36
Attend a campaign rally	4,445	0.66	0.47	9,200	0.43	0.50	7,693	0.28	0.45
Attend a community meeting	4,447	2.63	1.51	9,256	1.03	1.51	7,696	1.67	1.67
Attend a demonstration /protest march	2,198	0.35	1.00	9,193	0.68	1.02	7,694	0.21	0.75
Join others to raise an issue	2,198	1.92	1.70	9,201	1.57	1.37	7,696	1.47	1.61
Contact an official of a government agency	4,460	0.30	0.74	9,274	0.28	0.73	7,695	0.17	0.57
<b>Round 2 - 2002</b>									
<i>Soft measures:</i>									
Interest in public affairs	5,940	2.10	0.99	10,647	2.03	1.10	7,253	1.97	1.09
Close to political party	5,946	0.61	0.49	10,159	0.63	0.48	7,088	0.55	0.50
<i>Semi-hard measures:</i>									
Discuss politics	5,985	1.27	0.85	10,805	0.97	0.92	7,312	1.07	0.92
<i>Hard measures:</i>									
Attend a community meeting	5,992	2.53	1.07	10,832	2.23	1.37	7,321	1.77	1.37
Attend a demonstration /protest march	5,962	0.65	0.96	10,671	0.64	0.98	7,271	0.58	0.93
Join others to raise an issue	5,982	2.08	1.19	10,775	1.75	1.38	7,294	1.52	1.33
Contact a local government councilor	6,000	1.03	1.17	10,043	0.43	0.88	7,341	0.35	0.78
Contact a political party official	5,988	0.43	0.85	10,758	0.22	0.65	7,344	0.17	0.55
Contact an official of a government agency	5,994	0.31	0.75	10,779	0.31	0.76	7,343	0.33	0.75

Note: East African countries are Mauritius, Madagascar, Kenya, Sudan, Uganda and Tanzania. Southern African countries are Swaziland, Namibia, Zambia, Botswana, Lesotho, Zimbabwe, Malawi, Mozambique and South Africa. West African countries are Mali, Nigeria, Ghana, Senegal, Côte d'Ivoire, Benin, Togo, Cape Verde, Guinea, Sierra Leone, Niger, Burkina Faso and Liberia.



TABLE A.3: Summary Statistics for African regions (2005 &amp; 2008)

Variable	East			South			West		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
<b>Round 3 - 2005</b>									
<i>Soft measures:</i>									
Interest in public affairs	6,264	1.93	1.03	10,469	1.94	1.04	8,381	1.80	1.13
Degree of closeness to party	3,713	2.39	0.67	7,233	2.46	0.70	4,253	2.24	0.78
Close to political party	5,875	0.64	0.48	10,129	0.73	0.45	8,266	0.53	0.50
<i>Semi-hard measures:</i>									
Discuss politics	6,257	0.99	0.73	10,467	0.88	0.72	8,361	0.94	0.73
Voted	6,332	0.75	0.43	10,607	0.74	0.44	8,458	0.75	0.44
<i>Hard measures:</i>									
Attend a community meeting	6,311	2.61	1.15	10,545	2.29	1.28	8,372	2.00	1.34
Attend a demonstration/protest march	6,153	0.64	0.91	10,327	0.78	0.98	8,212	0.69	0.91
Join others to raise an issue	6,283	2.16	1.22	10,514	1.78	1.25	8,336	1.65	1.30
Contact a local government councilor	6,324	0.78	1.07	9,448	0.36	0.79	8,435	0.39	0.85
Contact a political party official	6,319	0.23	0.65	9,469	0.22	0.63	8,417	0.16	0.55
Contact an official of a government agency	6,321	0.23	0.67	9,493	0.29	0.72	8,428	0.31	0.76
<b>Round 4 - 2008</b>									
<i>Soft measures:</i>									
Interest in public affairs	6,045	1.84	1.03	10,687	1.78	1.12	10,714	1.75	1.12
Local government councilors listen	5,856	1.65	0.98	10,082	1.78	1.12	10,189	1.59	1.13
Close to political party	5,447	0.70	0.46	10,190	0.67	0.47	10,346	0.55	0.50
<i>Semi-hard measures:</i>									
Discuss politics	6,057	0.92	0.71	10,717	0.91	0.73	10,718	0.91	0.72
Voted	6,093	0.74	0.44	10,800	0.63	0.48	10,820	0.75	0.43
<i>Hard measures:</i>									
Attend a community meeting	6,059	2.48	1.19	10,714	2.18	1.28	10,748	2.08	1.35
Attend a demonstration/protest march	5,845	0.57	0.87	10,481	0.70	0.89	10,454	0.75	0.97
Join others to raise an issue	6,020	1.95	1.23	10,688	1.86	1.27	10,713	1.94	1.35
Contact a local government councilor	6,075	0.57	0.93	10,722	0.49	0.91	10,721	0.52	0.93
Contact a political party official	6,048	0.28	0.71	10,695	0.23	0.66	10,692	0.21	0.63

Note: East African countries are Mauritius, Madagascar, Kenya, Sudan, Uganda and Tanzania. Southern African countries are Swaziland, Namibia, Zambia, Botswana, Lesotho, Zimbabwe, Malawi, Mozambique and South Africa. West African countries are Mali, Nigeria, Ghana, Senegal, Côte d'Ivoire, Benin, Togo, Cape Verde, Guinea, Sierra Leone, Niger, Burkina Faso and Liberia.

TABLE A.4: Summary Statistics for African regions (2012 &amp; 2014)

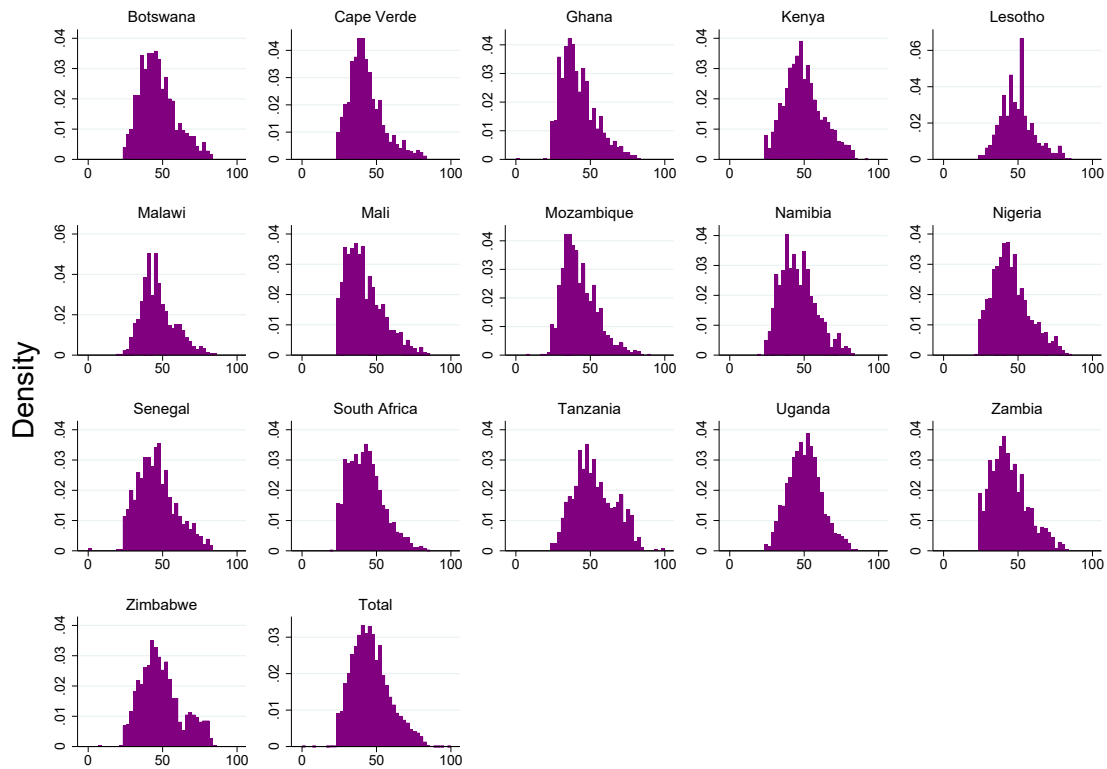
Variable	Central			East			South			West		
	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.	Obs.	Mean	Std. Dev.
<i>Round 5 - 2012</i>												
<i>Soft measures:</i>												
Interest in public affairs	2,366	1.60	1.15	10,700	1.73	1.04	15,397	1.74	1.10	17,828	1.60	1.13
Degree of closeness to party	2,303	0.68	0.87	10,481	0.81	0.83	12,231	0.93	0.91	17,273	0.67	0.92
Close to political party	2,288	0.57	0.50	9,783	0.65	0.48	13,626	0.67	0.47	17,320	0.58	0.49
<i>Semi-hard measures:</i>												
Discuss politics	2,378	0.76	0.75	10,696	0.90	0.72	15,446	0.91	0.72	17,884	0.87	0.72
Voted	2,400	0.68	0.47	10,799	0.75	0.43	15,605	0.70	0.46	17,997	0.77	0.42
<i>Hard measures:</i>												
Work for a candidate/party	2,386	0.37	0.48	10,752	0.48	0.50	15,548	0.41	0.49	17,936	0.39	0.49
Attend a campaign rally	2,385	0.17	0.38	10,735	0.15	0.35	15,522	0.14	0.34	17,925	0.20	0.40
Attend a community meeting	2,381	2.45	1.39	10,684	2.13	1.34	15,558	2.33	1.30	17,919	2.07	1.33
Attend a demonstration/protest march	2,326	0.33	0.72	10,483	0.47	0.88	15,330	0.43	0.76	17,751	0.46	0.85
Join others to raise an issue	2,378	2.44	1.34	10,685	1.97	1.33	15,533	2.08	1.37	17,898	1.91	1.33
Contact a local government councilor	2,392	0.41	0.86	10,717	0.51	0.89	13,102	0.44	0.84	17,898	0.44	0.87
Contact a political party official	2,392	0.17	0.58	10,662	0.46	0.87	15,463	0.19	0.59	17,858	0.17	0.56
Contact an official of a government agency	2,392	0.27	0.73	10,656	0.30	0.73	15,479	0.25	0.68	17,873	0.28	0.73
<i>Round 6 - 2014</i>												
<i>Soft measures:</i>												
Interest in public affairs	4,738	1.41	1.14	10,724	1.58	1.04	15,436	1.70	1.10	17,823	1.57	1.11
Local government councilors listen	4,516	0.86	0.93	10,464	0.91	0.81	10,192	1.02	0.93	17,213	0.89	0.95
Close to political party	4,492	0.55	0.50	10,183	0.64	0.48	13,362	0.72	0.45	17,156	0.61	0.49
<i>Semi-hard measures:</i>												
Discuss politics	4,733	0.89	0.72	10,695	0.81	0.69	15,428	0.90	0.72	17,749	0.91	0.72
Voted	4,776	0.63	0.48	10,783	0.70	0.46	15,589	0.70	0.46	17,989	0.66	0.47
<i>Hard measures:</i>												
Attend a campaign meeting	4,752	0.39	0.49	10,763	0.29	0.45	15,518	0.21	0.41	17,920	0.31	0.46
Attend a campaign rally	4,755	0.42	0.49	10,772	0.42	0.49	15,529	0.38	0.48	17,926	0.35	0.48
Work for a candidate/party	4,726	0.20	0.40	10,741	0.13	0.33	15,503	0.10	0.31	17,912	0.20	0.40
Attend a community meeting	4,735	1.94	1.32	10,749	1.95	1.26	15,486	2.16	1.28	17,896	2.04	1.33
Attend a demonstration/protest march	4,628	0.66	0.91	10,605	0.46	0.72	15,265	0.59	0.79	17,708	0.66	0.85
Join others to raise an issue	4,730	1.99	1.31	10,732	1.56	1.15	15,441	1.82	1.30	17,858	1.85	1.32
Contact a local government councilor	4,756	0.35	0.80	10,744	0.39	0.80	12,987	0.45	0.86	17,938	0.43	0.87
Contact a political party official	4,755	0.17	0.58	10,743	0.35	0.76	15,446	0.21	0.61	17,931	0.20	0.61
Contact an official of a government agency	4,754	0.33	0.80	10,735	0.25	0.67	14,269	0.27	0.69	17,935	0.30	0.74

Note: East African countries are Mauritius, Madagascar, Kenya, Sudan, Uganda and Tanzania. Southern African countries are Swaziland, Namibia, Zambia, Botswana, Lesotho, Zimbabwe, Malawi, Mozambique and South Africa. West African countries are Mali, Nigeria, Ghana, Senegal, Côte d'Ivoire, Benin, Togo, Cape Verde, Guinea, Sierra Leone, Niger, Burkina Faso and Liberia.

## A.2 Additional Results

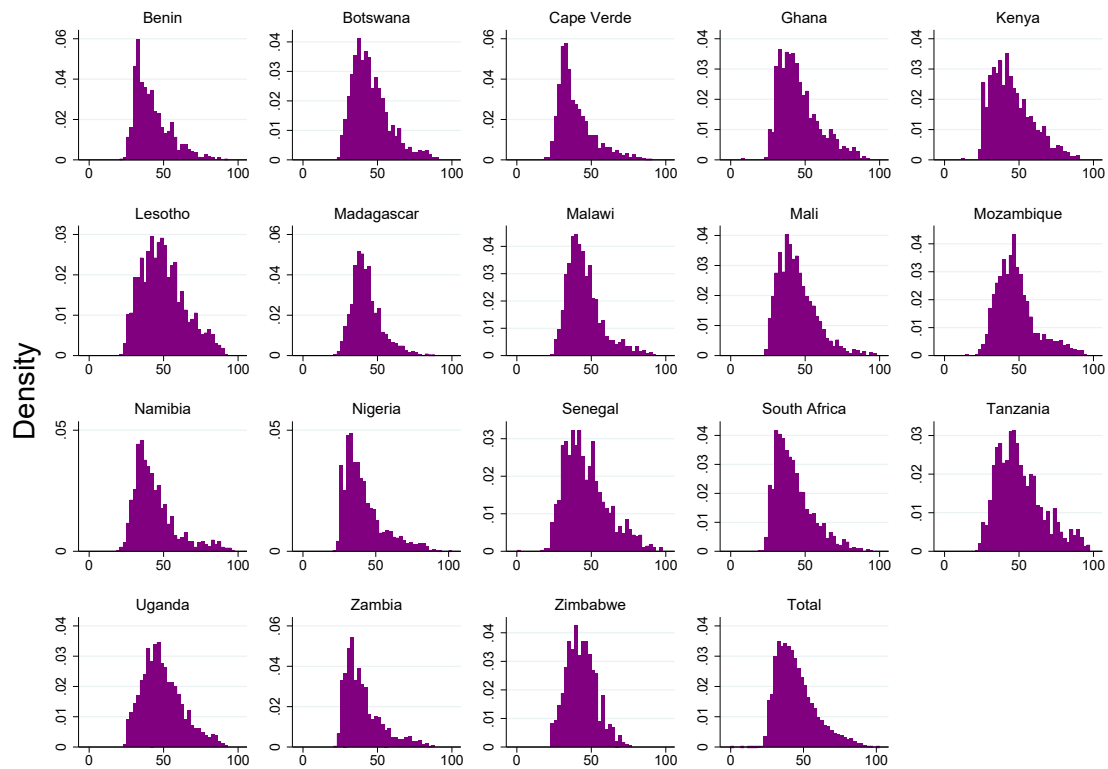
### A.2.1 Additional Results: Index based on Global Normalisation

FIGURE B1: Distribution of PolI in 2002



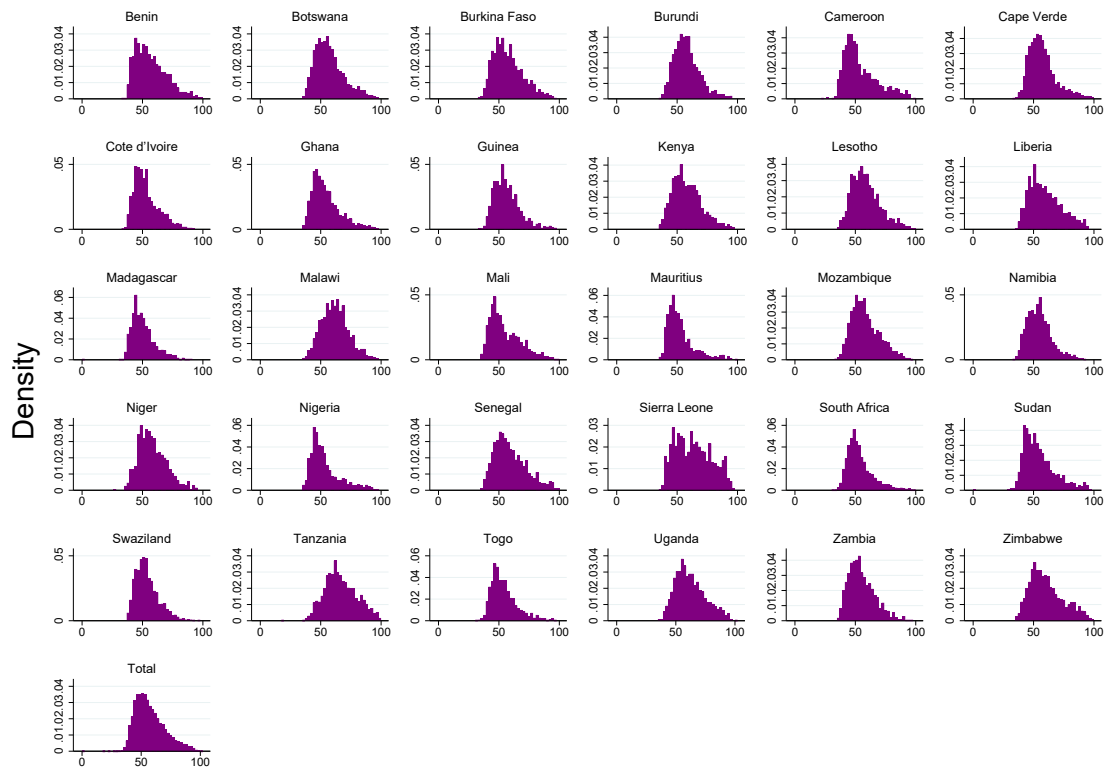
Note: The PolI for round 2 (2002) was computed based on 9 variables: Interest in public affairs, Discuss politics, Contact party official, Close to political party, Attend a demonstration or protest march, Attend a community meeting, Join the others to raise an issue, Contact local government councilor and Contact official of a government agency.

FIGURE B2: Distribution of Poll in 2005



Note: The Poll for round 3 (2005) was computed based on 12 variables: Interest in public affairs, Discuss politics, Contact party official, Close to political party, Vote, Attend a demonstration or protest march, Attend a community meeting, Join the others to raise an issue, Contact local government councilor, Contact official of a government agency, Local government councilors listen and How close to this political party.

FIGURE B3: Distribution of Poll in 2012



Note: The Poll for round 5 (2012) contains 13 variables: Interest in public affairs, Discuss politics, Contact party official, Close to political party, Vote, Attend a demonstration or protest march, Attend a community meeting, Join the others to raise an issue, Attend a campaign rally, Worked for a candidate or party, Contact local government councilor, Contact official of a government agency and Local government councilors listen.

## Appendix B

# Chapter 2

## B.1 Descriptive Statistics

### B.1.1 Data Description

TABLE B1: Country List

Country	African Region
Benin	West
Botswana	South
Burkina Faso	West
Burundi	Central
Cameroon	Central
Cape Verde	West
Côte d'Ivoire	West
Gabon	Central
Ghana	West
Guinea	West
Kenya	East
Lesotho	South
Liberia	West
Madagascar	East
Malawi	South
Mali	West
Mauritius	East
Mozambique	South
Namibia	South
Niger	West
Nigeria	West
Senegal	West
Sierra Leone	West
South Africa	South
Swaziland	South
Tanzania	East
Togo	West
Uganda	East
Zambia	South
Zimbabwe	South

## B.2 Estimation

### B.2.1 Cumulative Effects of Political Trust and Perceived Corruption

TABLE B2: Summary Statistics of Key Covariates

	Round 3 -2005				Round 5 - 2012				Round 6 - 2014						
	Obs.	Mean	Lin SE	Max	Obs.	Mean	Lin SE	Max	Obs.	Mean	Lin SE	Max			
Country Poll	12,896	35.21	20.65	0	100	30,017	38.35	21.78	0	100	30,888	34.30	21.64	0	100
Global Poll	12,896	46.63	14.05	21	100	30,017	59.21	12.91	35	100	30,888	41.19	13.47	15	85
<i>Variables of interest</i>															
Trust in the president	12,896	2.86	1.13	1	4	30,017	2.83	1.09	1	4	30,888	2.67	1.17	1	4
Perceived Corruption in the presidency office	12,896	2.22	0.92	1	4	30,017	2.23	0.84	1	4	30,888	2.38	0.92	1	4
<i>Individual Covariates</i>															
Gender	12,896	0.55	0.50	0	1	30,017	0.53	0.50	0	1	30,888	0.54	0.50	0	1
Education	12,896	1.60	0.86	0	3	30,017	1.53	0.87	0	3	30,888	1.61	0.89	0	3
Area	12,896	0.85	0.99	0	2	30,017	0.80	0.97	0	2	30,888	0.83	0.98	0	2
Black	12,896	0.91	0.29	0	1	30,017	0.94	0.24	0	1	30,888	0.95	0.22	0	1
Employment status	12,896	0.58	0.49	0	1	30,017	0.65	0.48	0	1	30,888	0.60	0.49	0	1
Age	12,896	35.75	14.12	18	115	30,017	36.79	14.06	18	100	30,888	36.85	13.90	18	101
Religion	12,896	1.26	0.71	0	5	30,017	1.37	0.75	0	5	30,888	1.36	0.80	0	6
<i>Political sentiment Covariates</i>															
Satisfaction with Democracy	12,896	2.53	1.04	0	4	30,017	2.53	1.01	0	4	30,888	2.40	1.04	0	4
Bribe votes	12,896	2.05	1.03	0	3	30,017	0.22	0.49	0	2	30,888	1.47	1.10	0	3
<i>President's ability to handle</i>															
Job creation	12,896	1.92	0.88	1	4	30,017	1.88	0.88	1	4	30,888	1.94	0.89	1	4
Food supplies	12,896	2.12	0.93	1	4	30,017	1.99	0.89	1	4	30,888	2.02	0.91	1	4
Crime	12,896	2.43	0.95	1	4	30,017	2.38	0.97	1	4	30,888	2.27	0.98	1	4
Corruption	12,896	2.31	0.99	1	4	30,017	2.10	0.97	1	4	30,888	1.96	0.95	1	4
<i>Macroeconomic Covariates</i>															
Civil violence	12,896	0.00	0.00	0	0	30,017	0.03	0.17	0	1	30,888	0.04	0.19	0	1
Civil war	12,896	0.00	0.00	0	0	30,017	0.22	0.78	0	3	30,888	0.20	0.74	0	3
Democracy index	12,896	5.70	1.33	3.52	7.91	30,017	5.17	1.54	2.67	8.17	30,888	5.14	1.52	2.78	8.17
GDP %	12,896	6.00	2.73	1.56	12.27	30,017	6.34	3.88	-4.39	14.19	30,888	5.47	3.07	0.80	20.72
Inflation	12,896	7.05	6.53	-3.10	17.97	30,017	8.25	4.51	2.70	21.35	30,888	6.28	5.93	-0.61	27.28
Election	12,896	0.58	0.49	0	1	30,017	0.56	0.50	0	1	30,888	0.36	0.48	0	1
No tenure length	12,896	0.26	0.44	0	1	30,017	0.20	0.40	0	1	30,888	0.28	0.45	0	1
Compulsory change in governance	12,896	0.08	0.28	0	1	30,017	0.01	0.11	0	1	30,888	0.08	0.27	0	1

Each variable is pooled over all countries within each survey round. Each variable excludes missing, refused and "do not know" observations. The sample is weighted with country specific probability weights, correcting the distribution of each survey sample based on individual selection probabilities for a particular country. Standard errors are calculated by the "Delta" method.

TABLE B3: Robustness Checks: Summary Statistics of Key Covariates

	Round 3 -2005				Round 4 - 2012				Round 5 -2012				Round 6 -2014								
	Obs.	Mean	SE	Min	Max	Obs.	Mean	SE	Min	Max	Obs.	Mean	SE	Min	Max	Obs.	Mean	SE	Min	Max	
Country Poil	13,423	35.34	20.58	0	100	16,600	47.78	20.30	0	100	29,993	38.35	21.78	0	100	30,878	34.30	21.64	0	100	
Global Poil	13,423	46.82	14.08	20.84	100	16,600	66.59	11.10	37.65	100	29,993	59.20	12.91	35.49	100	30,878	41.19	13.47	15.26	85.35	
<i>Variables of interest</i>																					
Trust in the president	13,423	2.88	1.13	1	4	16,600	2.82	1.11	1	4	29,993	2.84	1.09	1	4	30,878	2.67	1.17	1	4	
Perceived Corruption in the presidency office	13,423	2.20	0.92	1	4	16,600	2.23	0.87	1	4	29,993	2.23	0.84	1	4	30,878	2.37	0.92	1	4	
<i>Individual Covariates</i>																					
Gender	13,423	0.55	0.50	0	1	16,600	0.54	0.50	0	1	29,993	0.53	0.50	0	1	30,878	0.54	0.50	0	1	
Education	13,423	1.58	0.86	0	3	16,600	1.53	0.88	0	3	29,993	1.53	0.87	0	3	30,878	1.61	0.89	0	3	
Area	13,423	0.85	0.99	0	2	16,600	0.78	0.98	0	2	29,993	0.80	0.97	0	2	30,878	0.83	0.98	0	2	
Black	13,423	0.91	0.29	0	1	16,600	0.97	0.17	0	1	29,993	0.94	0.24	0	1	30,878	0.95	0.22	0	1	
Employment status	13,423	0.59	0.49	0	1	16,600	0.64	0.48	0	1	29,993	0.65	0.48	0	1	30,878	0.60	0.49	0	1	
Age	13,423	35.71	14.09	18	115	16,600	35.39	13.67	18	110	29,993	36.79	14.06	18	100	30,878	36.85	13.90	18	101	
Religion	13,423	1.26	0.71	0	5	16,600	1.31	0.79	0	5	29,993	1.37	0.75	0	5	30,878	1.36	0.80	0	6	
<i>Political sentiment Covariates</i>																					
Satisfaction with Democracy	13,423	2.55	1.05	0	4	16,600	2.51	1.08	0	4	29,993	2.53	1.01	0	4	30,878	2.40	1.04	0	4	
Bribe votes <sup>1</sup>	13,423	2.05	1.03	0	3	16,600	0.40	0.77	0	3	29,993	0.22	0.49	0	2	30,878	1.47	1.10	0	3	
<i>President's ability to handle</i>																					
Job creation	13,423	1.93	0.89	1	4	16,600	1.93	0.92	1	4	29,993	1.88	0.88	1	4	30,878	1.94	0.89	1	4	
Food supplies	13,423	2.14	0.94	1	4	16,600	1.99	0.95	1	4	29,993	1.99	0.89	1	4	30,878	2.02	0.91	1	4	
Crime	13,423	2.45	0.95	1	4	16,600	2.39	0.98	1	4	29,993	2.38	0.97	1	4	30,878	2.27	0.98	1	4	
Corruption	13,423	2.33	0.99	1	4	16,600	2.26	1.01	1	4	29,993	2.10	0.97	1	4	30,878	1.96	0.95	1	4	
<i>Macroeconomic Covariates</i>																					
Civil violence	13,423	0.00	0.00	0	0	16,600	0.00	0.00	0	0	29,993	0.03	0.16	0	1	30,878	0.04	0.19	0	1	
Civil war	13,423	0.00	0.00	0	0	16,600	0.00	0.00	0	0	29,993	0.22	0.78	0	3	30,878	0.20	0.74	0	3	
Democracy index	13,423	5.68	1.31	3.52	7.91	16,600	5.34	1.28	2.53	7.91	29,993	5.17	1.54	2.67	8.17	30,878	5.14	1.52	2.78	8.17	
GDP %	13,423	6.08	2.70	1.56	12.27	16,600	6.23	2.63	-3.65	9.60	29,993	6.34	3.88	-4.39	14.19	30,878	5.47	3.07	0.80	20.72	
Inflation	12,885	7.05	6.53	-3.10	17.97	15,973	6.63	3.15	-0.23	11.39	29,993	8.25	4.50	2.70	21.35	30,878	6.28	5.93	-0.61	27.28	
Election	13,423	0.60	0.49	0	1	16,600	0.62	0.48	0	1	29,993	0.56	0.50	0	1	30,878	0.36	0.48	0	1	
No tenure length	13,423	0.25	0.43	0	1	16,600	0.27	0.44	0	1	29,993	0.20	0.40	0	1	30,878	0.28	0.45	0	1	
Compulsory change in governance	13,423	0.12	0.32	0	1	16,600	0.21	0.41	0	1	29,993	0.01	0.11	0	1	30,878	0.08	0.27	0	1	

<sup>1</sup> Bribe votes is a proxy which combines vote freedom for round 4 and vote bribes for remaining survey rounds. Each variable is pooled over all countries within each survey round. Each variable excludes missing, refused and "do not know" observations. The sample is weighted with country specific probability weights, correcting the distribution of each survey sample based on individual selection probabilities for a particular country. Standard errors are calculated by the "Delta" method.



TABLE B4: Political Trust, Perceived Corruption and Political Activism

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
<i>Trust levels</i> <sup>1</sup>						
Just a little	-0.906** [0.4047]	-0.449* [0.2365]	-1.164** [0.5148]	-0.624** [0.2489]	-0.764* [0.4288]	-0.371 [0.2219]
Somewhat	-0.532 [0.4323]	-0.172 [0.2648]	-1.147 [0.8244]	-0.671 [0.4181]	-0.637 [0.7260]	-0.369 [0.3689]
A lot	2.269*** [0.5044]	1.569*** [0.2867]	-1.504* [0.8682]	-0.888** [0.4323]	-0.955 [0.8292]	-0.533 [0.4394]
<i>Corruption levels</i> <sup>2</sup>						
Some of them	-0.585 [0.4086]	-0.456* [0.2518]	-2.513*** [0.7693]	-2.021*** [0.4251]	-2.392*** [0.7737]	-1.813*** [0.4373]
Most of them	0.426 [0.4736]	0.128 [0.2986]	-3.122*** [0.7954]	-2.449*** [0.4261]	-2.509*** [0.8123]	-1.925*** [0.4688]
All of them	2.057*** [0.6212]	1.164*** [0.3782]	-2.132* [1.1481]	-2.002*** [0.6469]	-1.474 [1.1348]	-1.416** [0.6754]
$\rho$						-0.262*** 0.0129
$\lambda_{irc}^1(j, m)$					0.861*** [0.1668]	0.570*** [0.0947]
$\lambda_{irc}^2(m, j)$					0.541*** [0.1740]	0.303*** [0.1034]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Individual covariates	Yes	Yes	Yes	Yes	Yes	Yes
Macro covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	80,144	80,144	80,468	80,468	73,480	73,480

Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ . <sup>1</sup> Marginal effects of each trust level are relative to the base group "Not at all". <sup>2</sup> Marginal effects of each corruption level are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

### B.3 Sensitivity Checks

TABLE B5: Robustness Check: Political Trust, Perceived Corruption and Political Activism

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
<i>Trust levels</i> <sup>1</sup>						
Just a little	-0.654 [0.3942]	-0.335 [0.2457]	-0.764 [0.4678]	-0.403 [0.2659]	-0.535 [0.4324]	-0.314 [0.2331]
Somewhat	-0.358 [0.4018]	-0.021 [0.2628]	-1.568* [0.7731]	-0.917** [0.4292]	-1.030 [0.7391]	-0.623 [0.4137]
A lot	1.919*** [0.5069]	1.494*** [0.2864]	-1.213* [0.7134]	-0.651 [0.4114]	-0.789 [0.6828]	-0.446 [0.3997]
<i>Corruption levels</i> <sup>2</sup>						
Some of them	-0.962 [0.6675]	-0.418 [0.2523]	-1.104 [1.2222]	-1.427*** [0.4564]	-0.962 [1.2152]	-1.278** [0.4655]
Most of them	-0.047 [0.8411]	0.160 [0.3020]	-1.430 [1.1351]	-1.450*** [0.4776]	-0.818 [1.1379]	-1.050** [0.5088]
All of them	1.172 [0.8664]	0.969*** [0.3313]	-1.061 [1.3580]	-1.361* [0.6792]	-0.387 [1.3426]	-0.910 [0.6769]
$\rho$						-0.265*** [0.0137]
$\lambda_{irc}^1(j, m)$					0.729*** [0.1637]	0.536*** [0.0883]
$\lambda_{irc}^2(m, j)$					0.329 [0.2462]	0.253** [0.0995]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Individual covariates	Yes	Yes	Yes	Yes	Yes	Yes
Macro covariates	Yes	Yes	Yes	Yes	Yes	Yes
Observations	97,389	97,389	98,966	98,966	89,419	89,419

Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each trust level are relative to the base group "Not at all".<sup>2</sup> Marginal effects of each corruption level are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

TABLE B6: Robustness Check: Impact of Covariates on Political Participation

Dependent variable:	OLS country PolI	OLS global PolI	BIO country PolI	BIO global PolI	BIO country PolI	BIO global PolI
Gender	6.446*** [0.5585]	4.155*** [0.3394]	6.347*** [0.5535]	4.112*** [0.3316]	6.419*** [0.5632]	4.154*** [0.3367]
<i>Education</i> <sup>1</sup>						
Primary	3.282*** [0.5071]	2.191*** [0.3300]	2.844*** [0.5237]	1.936*** [0.3551]	2.765*** [0.5315]	1.892*** [0.3643]
Secondary	5.249*** [0.4654]	3.483*** [0.2886]	4.766*** [0.5057]	3.219*** [0.3320]	4.723*** [0.5126]	3.186*** [0.3405]
Tertiary	8.458*** [0.6091]	5.520*** [0.3252]	7.774*** [0.6231]	5.131*** [0.3523]	7.709*** [0.6500]	5.056*** [0.3714]
<i>Area</i> <sup>2</sup>						
Semi-Urban	-2.598 [1.8109]	-2.253*** [0.6780]	-2.454 [1.8418]	-2.029*** [0.6464]	-2.06 [1.7440]	-1.852*** [0.6054]
Urban	-4.637*** [0.4604]	-2.963*** [0.2821]	-4.768*** [0.4810]	-3.040*** [0.2872]	-4.769*** [0.4750]	-3.045*** [0.2888]
Black	7.616*** [2.1269]	3.358* [1.6683]	7.765*** [2.0353]	3.523** [1.5906]	7.978*** [2.1751]	3.646** [1.6193]
Unemployed	-2.697*** [0.3915]	-1.791*** [0.1894]	-2.485*** [0.4078]	-1.629*** [0.1968]	-2.519*** [0.4213]	-1.682*** [0.1955]
Age	0.240*** [0.0188]	0.154*** [0.0103]	0.229*** [0.0181]	0.145*** [0.0100]	0.235*** [0.0186]	0.149*** [0.0102]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	97,389	97,389	98,966	98,966	89,419	89,419

The estimation comprises of survey rounds 3, 4, 5 and 6 covering the time period 2005 - 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of education levels are relative to the base group "No schooling".<sup>2</sup> Marginal effects of area are relative to the base group "Rural". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

TABLE B7: Robustness Check: Religious Beliefs and Political Participation

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
<i>Religion</i> <sup>1</sup>						
Christian	2.979*** [0.5040]	1.985*** [0.2689]	2.476*** [0.4500]	1.750*** [0.2857]	2.655*** [0.5165]	1.794*** [0.2843]
Muslim	4.366*** [0.6012]	2.725*** [0.3254]	3.887*** [0.5923]	2.481*** [0.3869]	4.095*** [0.6554]	2.554*** [0.3684]
Hindu	2.949** [1.2776]	1.339* [0.7854]	2.299* [1.1395]	0.925 [0.7785]	2.701** [1.2286]	1.195 [0.7377]
Folk Religions	5.241*** [0.7610]	3.081*** [0.3477]	4.577*** [0.9373]	2.723*** [0.4560]	4.961*** [0.8351]	2.966*** [0.4119]
Others	3.182*** [0.7955]	2.181*** [0.5627]	3.004*** [0.7719]	2.087*** [0.5306]	2.935*** [0.8256]	2.047*** [0.5672]
Jewish	1.503 [1.1038]	2.418*** [0.6531]	1.582 [4.4700]	2.154 [3.0786]	1.92 [4.0341]	2.067 [2.8420]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	97,389	97,389	98,966	98,966	89,419	89,419

The estimation comprises of survey rounds 3, 4, 5 and 6 covering the time period 2005 - 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each religious group are relative to the base group "None". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

TABLE B8: Robustness Check: Impact of Macroeconomic Environment on Political Participation

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
Election	-1.859 [1.9878]	-0.134 [0.4646]	-2.093 [2.0035]	-0.18 [0.4679]	-1.931 [1.9929]	-0.194 [0.4918]
No tenure length	3.206 [4.0975]	0.459 [1.6327]	3.243 [4.1577]	0.473 [1.6890]	3.464 [4.1944]	0.612 [1.6619]
Compulsory change in governance	2.06 [2.8690]	0.857 [1.1309]	2.236 [2.8559]	0.992 [1.0169]	2.205 [2.9269]	0.798 [1.1321]
Civil violence	-5.288 [3.1594]	-3.079*** [1.0026]	-5.478* [3.1802]	-3.331*** [0.9533]	-5.517* [3.1988]	-3.350*** [1.0376]
Civil war	-0.454 [0.7453]	0.235 [0.3010]	-0.554 [0.7226]	0.233 [0.2726]	-0.589 [0.7506]	0.179 [0.3063]
Democracy index	0.422 [3.5298]	0.401 [1.0070]	1.063 [3.6300]	0.478 [0.9694]	0.883 [3.5696]	0.294 [1.0355]
GDP %	-0.062 [0.1938]	0.051 [0.0794]	-0.081 [0.2151]	0.038 [0.0803]	-0.054 [0.2065]	0.05 [0.0814]
Inflation	0.2 [0.1902]	0.135** [0.0586]	0.222 [0.1905]	0.145** [0.0548]	0.219 [0.1936]	0.146** [0.0601]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	97,389	97,389	98,966	98,966	89,419	89,419

The estimation comprises of survey rounds 3, 4, 5 and 6 covering the time period 2005 - 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ . \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

TABLE B9: Robustness Check: Impact of Political Sentiment on Political Participation

Dependent variable:	OLS country Poll	OLS global Poll	BIO country Poll	BIO global Poll	BIO country Poll	BIO global Poll
<i>Satisfaction with Democracy</i> <sup>1</sup>						
Very dissatisfied	0.646 [0.9814]	0.575 [0.5852]	0.362 [1.0424]	0.412 [0.5778]	0.789 [1.1912]	0.653 [0.6572]
Somewhat dissatisfied	1.388 [0.9880]	0.974 [0.5890]	1.213 [1.0328]	0.878 [0.5752]	1.621 [1.1734]	1.123* [0.6535]
Somewhat satisfied	2.604** [1.0050]	1.818*** [0.6004]	2.610** [1.0622]	1.820*** [0.5885]	3.018** [1.2087]	2.081*** [0.6654]
Very satisfied	4.534*** [1.0967]	3.091*** [0.6391]	4.867*** [1.2236]	3.230*** [0.6617]	5.257*** [1.3694]	3.482*** [0.7481]
<i>President's ability to handle</i> <sup>2</sup> :						
<u>Jobs</u>						
Fairly badly	-0.079 [0.3010]	-0.15 [0.1459]	-0.025 [0.3353]	-0.117 [0.1701]	-0.038 [0.3345]	-0.111 [0.1679]
Fairly well	0.723 [0.4496]	0.405** [0.1962]	0.949* [0.4874]	0.517** [0.1933]	0.927* [0.4897]	0.546** [0.2043]
Very well	1.367* [0.6923]	0.614* [0.3474]	1.699** [0.7057]	0.738** [0.3354]	1.639** [0.7342]	0.781** [0.3786]
<u>Food</u>						
Fairly badly	0.373 [0.3050]	0.261 [0.1704]	0.334 [0.3000]	0.215 [0.1660]	0.325 [0.3142]	0.235 [0.1768]
Fairly well	0.853* [0.4954]	0.600** [0.2309]	0.844* [0.4848]	0.616*** [0.2200]	0.868 [0.5328]	0.639** [0.2496]
Very well	1.687** [0.7560]	0.851* [0.4251]	1.752** [0.6887]	0.881** [0.3896]	1.922** [0.7632]	0.968** [0.4397]
<u>Crime</u>						
Fairly badly	-0.092 [0.3026]	-0.077 [0.1621]	-0.061 [0.3000]	-0.064 [0.1729]	-0.013 [0.3064]	-0.039 [0.1749]
Fairly well	0.279 [0.3713]	0.195 [0.2079]	0.503 [0.3984]	0.324 [0.2231]	0.543 [0.4036]	0.332 [0.2329]
Very well	1.390** [0.5407]	0.996*** [0.3000]	1.846*** [0.5440]	1.197*** [0.3010]	1.806*** [0.5771]	1.182*** [0.3230]
<u>Corruption</u>						
Fairly badly	-0.087 [0.2690]	-0.007 [0.1435]	-0.006 [0.2691]	0.073 [0.1509]	0.004 [0.2889]	0.07 [0.1584]
Fairly well	0.287 [0.4911]	0.478** [0.2129]	0.456 [0.4759]	0.545** [0.2224]	0.477 [0.5217]	0.557** [0.2440]
Very well	0.543 [0.5510]	0.929*** [0.2726]	0.776 [0.5650]	0.977*** [0.3081]	0.842 [0.5812]	1.004*** [0.3144]
<i>Bribe: votes</i> <sup>3</sup>						
Sometimes	3.768*** [0.7001]	2.222*** [0.3699]	3.530*** [0.6883]	2.054*** [0.3679]	3.625*** [0.7196]	2.154*** [0.3746]
Often	2.831*** [0.7470]	1.561*** [0.4159]	2.680*** [0.7134]	1.463*** [0.4025]	2.745*** [0.7579]	1.528*** [0.4021]
Always	3.134*** [0.6731]	1.614*** [0.4785]	3.066*** [0.6752]	1.615*** [0.4892]	3.108*** [0.6719]	1.666*** [0.4705]
Country fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Round fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	97,389	97,389	98,966	98,966	89,419	89,419

The estimation comprises of survey rounds 3, 4, 5 and 6 covering the time period 2005 - 2014. Standard errors are in parentheses (cluster at country level); Model (1) and (2) represent OLS estimate. Model (3) and (4) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values. Model (5) and (6) represent estimates of fitted probabilities from the bi-variate ordered probit estimation which were transformed into discrete values and additionally include the correct errors,  $\lambda_{irc}^1$  and  $\lambda_{irc}^2$ .<sup>1</sup> Marginal effects of each satisfaction level with democracy are relative to the base group "No democracy".<sup>2</sup> Marginal effects of each handling variable, e.g.: Handling jobs, handling food, handling crime and handling corruption, are relative to the base group "Very badly".<sup>3</sup> Marginal effects of bribing votes are relative to the base group "Never". \*  $p < 0.1$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ .

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