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LEGON CENTRE FOR INTERNATIONAL AFFAIRS AND DIPLOMACY
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TO WHAT EXTENT CAN INDIRECT ELECTIONS REDUCE THE FREQUENCY OF CONTESTED PRESIDENTIAL ELECTION RESULTS IN AFRICA?

BY

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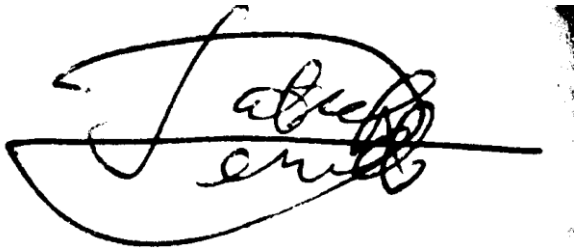
Declaration

I, Patrick Kwasi Bervell, do hereby declare that apart from documentary and other sources of material cited and acknowledged in the thesis, I am entirely responsible for the authorship and any errors which may be found in this work. I also declare that this work has never been submitted by me or any other person to any other University for the award of any degree.



October 26, 2023

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Dedication

I dedicate this emblem of sweat and toil to my darling wife Akua and adorable daughter Nana Akua.

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Abstract

A contested election result can undermine the progress of a state, including fueling lengthy and costly litigations and electoral violence. Given the rise in cases of contested election results despite some improvements in the quality of electoral processes in Africa over the years, this study investigates the extent to which the adoption of indirect elections by African states could reduce the frequency of contested presidential election results in these countries. Evidence was gathered by using non-probability stratified sampling to select 25 African countries and 6 non-African countries and collecting secondary data on the frequency of contested elections, choice of electoral system, median Gross Domestic Product per capita, quality of election processes and the extent of power sharing from 1989 to 2020. The dissertation regresses the frequency of contested elections (dependent variable) on the other variables. The choice of electoral system and the interaction between the electoral system and the quality of election processes are significant at p-levels of .003 and .029 respectively. This means that the correlation between electoral systems and the frequency of contested elections had only a 0.3 percent chance of being observed if the occurrence was due to mere chance. The probability was 2.9 percent for the correlation between the interaction term and the frequency of contested elections. For Senegal and Ghana, two African countries that use direct elections and possess the highest quality of electoral processes in the sample, the regression model predicts that the historical frequencies of contested elections in these countries are more than 5 times the mean frequency of contested elections of indirect election countries. As the quality of election processes decline among direct election countries within the sample, the gap between the predicted frequencies for direct election countries and the predicted frequencies for indirect countries widens, with the latter always being lower. This signals greater benefits for African countries with lower quality of election processes than those of Ghana and Senegal, if they do adopt indirect elections. It follows that African countries using direct elections are expected to report lower frequencies of contested election results if they adopt indirect elections. The policy implication is that African states relying on direct elections need to explore how they might transition to indirect elections in order to limit the frequency of contested presidential election results.

Keywords: Indirect elections, frequency of contested elections, electoral systems, power sharing, public goods, critical period advantage, distributive advantage, ethnicity, patronage, neopatrimonialism, primordialism, constructivism, head count, region count.

Contents

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List of Abbreviations

ANOVA	Analysis of Variance
CPA	Critical Period Advantage
CPSD	Constitutional Power-Sharing Dataset
DA	Distributive Advantage
EC	Election Cleanness
ES	Electoral System
FCE	Frequency of Contested Elections
GDP	Gross Domestic Product
GPC	Gross (domestic product) Per Capita
IDEA	Institute for Democracy and Electoral Assistance
MR	Multiple Regression
OLS	Ordinary Least Squares
POI	Population of interest
PS	Power Sharing

CHAPTER 1- INTRODUCTION

Background

The concept of multiparty democracy appears to be a simple and beautiful idea, given that voters indicate their preference in the political marketplace via the ballot box, followed by a declaration of the election results. The losers then give their concessional speech and walk away sulking but determined to make it up to their aggrieved patrons and supporters in the next round of elections (The American Presidency Project, n.d.). However, in real life, the democratic process is far more complex than how it is often perceived, for example, the losers sometimes reject the scores declared by the electoral commission, leading to costly litigations and electoral violence. Based on data sourced from the African Development Bank, the frequency of contested presidential elections in Africa between 1960 and 2010 was 26.8 percent (Hausken & Ncube, 2014, p. 614). This is marginally higher than the global rate of 25 percent of contested results between 1974 and 2012 (Huerta, 2014 as cited in Baah, 2018). Thus, electoral institutions in Africa usually face monumental challenges stemming from contested election results.

A contested election is one in which the legality or validity of an election results is challenged by the opposition (Merriam-Webster, 2022). For instance, in 2000, General Robert Guei was declared the winner of the Cote d'Ivoire elections, but the result was challenged by Laurent Gbagbo. The latter mobilized his supporters in a post-electoral protest alleging electoral fraud, and followed up with three days of street fighting in Abidjan (Birch, 2020, p. 114). This dissertation investigates whether African countries, which overwhelmingly use direct elections to select their presidents and experience relatively frequent contestation of election results, can lower the frequencies of contested presidential election results if they were to switch to indirect elections.

In a direct presidential election, the ballots of voters are collated to determine the president directly (POLYAS , n.d.). The presidential candidate who obtains the largest number of votes gets to win direct elections. As far as indirect elections are concerned, *the masses in administrative regions usually vote directly for electors during the first stage of voting. The latter, who represent the different regions, in turn vote directly for the president* (Kimberling, n.d.). It follows that indirect elections involve two stages of voting: a first stage where electors (who represent a particular presidential candidate) are voted for by the masses and a second stage, where the president is voted for by the electors.

In the United States of America (U.S.A.), which is notable for indirect elections, the political party that obtains majority of the popular votes of a state gets all the elector seats assigned to that state (Kimberling, n.d.). This marks the end of the first stage of voting. All the parties that lost the state-level mass voting get no elector seats for that state (Kimberling, n.d.). For instance, even if the Democrats got 1,000 popular votes in a particular state and the Republicans got just 1 vote less (999 votes), the Democrats will bag all the elector seats assigned to that state. Thus, at the end of the first stage of voting, some states will have the Democrats holding all the elector seats for particular states and the Republicans holding all the electoral seats for all other states. This system, where one party gets all the elector seats for a state is referred to as the winner-take-all system (Fon, 2004, p. 43, National Archives, 2020)

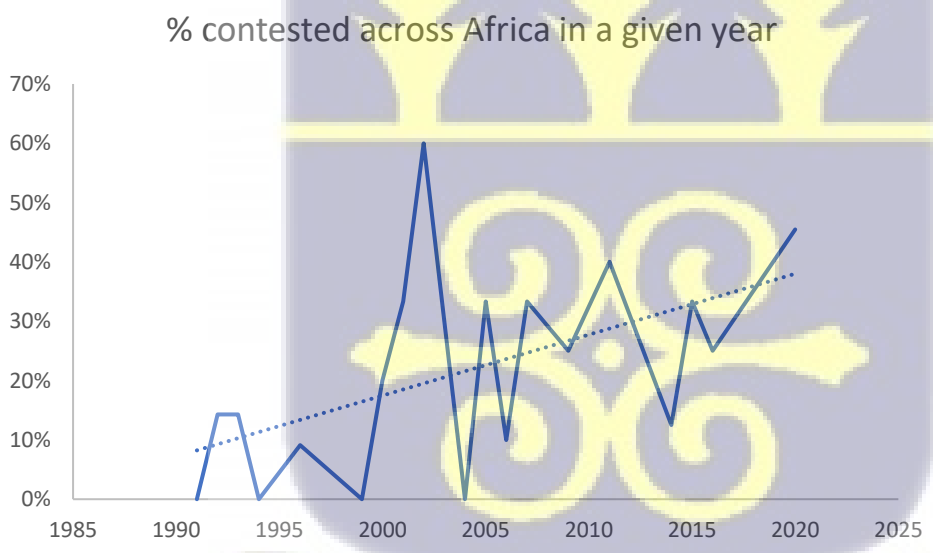
In the second stage of voting, party representatives who filled the elector seats assigned to each state (who will be referred to as electors subsequently) will vote for the president. It is expected

that an elector sponsored by Democrats to fill state-level electoral seats will vote for the presidential candidate of the Democrats. The presidential candidate who gets majority of the electors' votes, wins the presidential race. In a nutshell, the party that gets the majority votes in an administrative region (states in the U.S.) gets all the elector seats for that state. In the second round of voting, the party-affiliated electors are expected to vote for the presidential candidate who sponsored them. This formula imposes a simple logic for winning on party combatants – the party that gets most of the elector seats at the state level gets to win the presidential race (Thakur, 2018), assuming the electors faithfully vote for the party that sponsored them (Wheeler, 2020).

Since the objective of this study is investigate whether the adoption of indirect elections in Africa will significantly lower the frequency of contested elections, the dissertation deconstructs direct and indirect elections into 'digestible' pieces that can be linked to the occurrence of the contestation of election results. This deconstruction process is diffused throughout the dissertation including the literature review, conceptual framework, Chapter 2 and in the Findings section.

The frequency of contested elections in Africa is slightly higher than the global average (Hausken & Ncube, 2014, p. 614, Huerta, 2014 as cited in Baah, 2018). There are two characteristics of the frequency of contested elections (FCE) in Africa that are noteworthy. First, between 1990 and 2020, contested elections in Africa followed an upward trajectory (see Figure 1), which is disturbing given that the number of cases can still go up (Hausken & Ncube, 2014).

Figure 1: Frequency of contested elections in Africa, 1990-2020



Source: Author, based on frequencies computed from BBC Country Profiles

Second, the competitive nature of elections tends to aggravate tensions in deeply divided societies in Africa (Dreef & Wagner, 2013, p. 29). For example, existing tensions between people of different ethnicities such as the Niger Delta have escalated into full-blown fighting during elections. Could the observed upward trend in the frequency of contested elections (FCE) be due to rising cases of electoral fraud triggering protests among the losers? Attempts to link the rejection of election results to acts of electoral fraud have proven difficult because the concept of electoral

fraud is too broad to serve as a useful explanation for the post-election conduct of losers (Chernykh, When Do Poliical Parties Protest Election Results, 2014, p. 1360).

In an attempt to explain this weak linkage, Schedler , 2002 asserts that the incumbent may resort to such a wide range of manipulative tactics that it is difficult to trace which acts triggered the loser's decision to reject the results (Chernykh, 2014, p. 1360). Finally, Chernykh states that electoral fraud is difficult to observe and track empirically because it is an "illicit activity" (Chernykh, When Do Poliical Parties Protest Election Results, 2014, p. 1360). Most importantly, there are times when recounting and eliminating illegitimate vote counts will not change the initial election outcome (Kane & Haysom, 2016, p. 4)

It can be inferred from the arguments of Schedler and Chernykh that one of the principal reasons for a contested election result is that losers hold onto the **perception** that significant acts of electoral fraud may have been committed, whose reversal could swing the results in their favour. The shorthand I will adopt for this rather long expression is '**perception of reversible electoral fraud'**. Reversible electoral fraud is thus defined as fraudulent or erroneous vote counts whose reversal could swing election results in the favour of the loser.

The literature points to yet another major source of contested elections- "the **higher the stakes in an election**, the greater the possibility that results may be mistrusted or challenged (Halff, 2015, p. 12). According to Birch, 2020, p. 5, "*elections are high-stakes affairs in states with weak democratic institutions and strong informal institutions of clientelism, patronage, and corruption.*

In such contexts, the incumbents control political, economic and legal resources and tend to entertain fears of losing out on all these resources permanently to a rival who will not play by the rules (Birch, 2020, p. 5). Thus, the stakes in an election are related to issues outside the electoral process such as power sharing, allocation of civil service jobs and the distribution of public goods. The basis for public acceptance of election outcomes "*often lies broader political context in which elections take place, not just by the quality of the electoral process itself "* (Halff, 2015, p. 5).

It can be inferred from the discussions above that the two principal sources of contested elections are:

- Perceptions of reversible electoral fraud (Chernykh, 2014, p. 1360, Schedler , 2002)
- High stakes in elections (Halff, 2015, p. 12).

Based on the stakes argument, it may be inferred that losers who contest election results because of the high stakes of elections cannot be appeased with improvements in the quality of elections and greater accuracy of results. Despite the prevalence of this paradox, most countries practicing multiparty elections typically make only minor improvements to their electoral processes, such as "tinkering with the rules and regulations concerning the administration of elections, including amendments to the laws governing election broadcasts, financial disclosure, or constituency redistricting" (Norris, 1997). Moreover, much of the scholarship on elections has focused on "election quality and monitors' assessment in an attempt to explain electoral outcomes" (Chernykh, 2014, p. 1360).

The policy options path investigated in this study is an attempt to exploit a yawning gap in the literature about the possibility that African countries which make the switch from direct to indirect elections could reap significant political and social benefits in the form of significantly lower

frequency of contested elections (FCE) over the long haul. The benefits from this switch are expected to exceed the gains from incremental improvements in the quality of direct elections.

The hunch that led to a desire to investigate whether indirect elections could potentially generate lower FCE than direct elections was derived from two phenomena in the literature:

- The adverse effect of delayed election announcements;
- The effects of various electoral systems on the distribution of public goods.

A regards the first point, the 2018 presidential elections in Zimbabwe turned bloody just three days after the elections management body failed to announce the results after collation ceased (Dwyer, 2018). Second, an 18-hour halt in the tabulation of the 2019 election results by the elections management body of Nigeria expedited the propagation of rumours that the delays signaled electoral fraud attempts by the incumbent. The delay fomented the loss of lives (Searcey, 2019). Delays in the announcement of the winner of presidential elections in Kenya fomented suspicions about the incumbent attempting to rig elections (Kane & Haysom, 2016, p. 4).

It can be inferred from these incidents that the period between the cessation of polling and the announcement of election results is a critical period in the elections process. Subsequently, this period will be referred to as the **Critical Period** in the rest of this paper. What advantages do indirect elections have over direct elections with regards to the Critical Period?

Both direct and indirect elections have a mass voting stage which involves the voting of the populace and the collation of their votes. Most of the allegations of fraud and errors in tabulation occur at this stage. For direct elections, the end of the mass voting stage is followed by the Critical Period where any delays in announcing election results or failure to deal with allegations of fraud tend to stoke suspicions. These suspicions could motivate losers to reject election results, as was the case in Nigeria, Zimbabwe and Kenya, referred to above.

On the contrary, the critical period for indirect elections occurs after the electors' vote (the second stage of voting). After the mass voting stage (first stage) of an indirect election- there is an officially designated period for collation and rectifying allegations of fraud or tabulation errors (National Archives, 2020).

The officially designated period is not a critical one because voters know that collation of the mass votes does not determine the next president. Moreover, the second stage of voting (electors' voting) cannot proceed unless the results of the first stage are all tidied up. For example, in the U.S. 2020 elections, mass voting (first-stage) occurred on November 3, and electors' voting (second stage) occurred on December 14 (Congressional Research Service, 2022). The mass voting stage of the U.S. indirect elections in 2020 was followed by a non-critical period of forty-one (41) days! It is highly unlikely that a direct election can end peacefully with a 41-day delay after polling ends. All Zimbabwe needed was 3 days! (Dwyer, 2018).

Furthermore, the critical period of an indirect election is not likely to be plagued with delays following the electors' voting for a simple reason- there are relatively few electors' votes to count or recount compared to mass voting. For example in the 2020 U.S. election, only 538 electors voted in the second stage whilst 158.4 million people voted in the mass voting stage (Federal Election Commission, 2022). Because the time, effort and costs associated with recount of the few electors' votes is not significant, would-be cheaters at the electors' voting would be deterred and even if they did cheat, it is not likely that recounting would result in delays in announcing the U.S.

presidential elections. Thus, most of the allegations of fraud, errors in tabulation and other discrepancies occur during the mass voting stage. This is not to say cheating does not occur with electors' voting. However, because of the reasons stated above, it is likely to be minimal.

There is yet another huge difference between the non-critical period that follows the popular voting stage of an indirect and the critical period that follows a direct elections- with the former, the legitimacy of the incumbent is unquestionable. The incumbent will remain in power during the non-critical period and right through the electors' voting stage.

On the contrary, for each additional day of delayed election result announcements in a direct election, the legitimacy of the incumbent becomes more questionable and fuels the suspicion that the incumbent could be up to no good. As eloquently stated by Ellen Johnson in the Zimbabwe saga:

"The more the presidential vote is delayed, the more it calls into question the population's confidence in the election process," said former Liberian leader Ellen Johnson Sirleaf, the lead observer of a U.S. monitoring mission" (Torchia & Mutsaka, 2018).

In a nutshell, the non-critical period of an indirect election provides more tension-free time for sorting out electoral discrepancies that occurred during the mass voting stage and the small number of elector votes virtually eliminates possibility of fraud during the electors' voting and the possibility of delays in the announcement of the results of electors' voting. These two factors could potentially empower indirect elections to generate lower frequencies of contested presidential elections.

On the other hand the tension-packed critical period following the end of polling is fraught with opportunities for suspicions to mount over unresolved electoral discrepancies and allegations of fraud. This factor could potentially weaken the capacity of direct elections to mitigate contested elections.

This gap in the literature about the potential advantage of indirect elections to provide tension-free time for resolving electoral discrepancies will be referred to as the **Critical Period Advantage** of indirect elections. The history of U.S. indirect elections amply demonstrates that any delays associated with collation of popular votes hardly leads to the opposition denouncing the electoral process as occurred in the occasional 2020 Trump versus Biden case in 2020.

The 1876 U.S. election, which is regarded as one of the most controversial in the history of the United States demonstrates the Critical Period Advantage of indirect elections. That election resulted in a **four-month delay** after the mass voting stage due to an allegation of fraud raised by the Republicans concerning 20 votes from the state of Florida (Lindsay C. , 2020). The finality associated with the collation of popular votes in a direct election will not permit such a generous waiting time. Enough for the first hunch that led me down this rabbit hole.

The second hunch that led to this investigation was gleaned from the research of Moya Chin. According to Chin, 2020, "people respond to incentives, and politicians are no different". The way elections are structured influences the policies that politicians put out. When elections are designed to motivate politicians to appeal to a wide group of voters rather than a targeted narrow group, politicians are incentivized to provide public goods that benefit the broader constituencies (Chin, 2020). As discussed in earlier paragraphs, a wider distribution of public goods will lower the stakes in elections and thus reduce the potential for losers to contest election results. In short, indirect

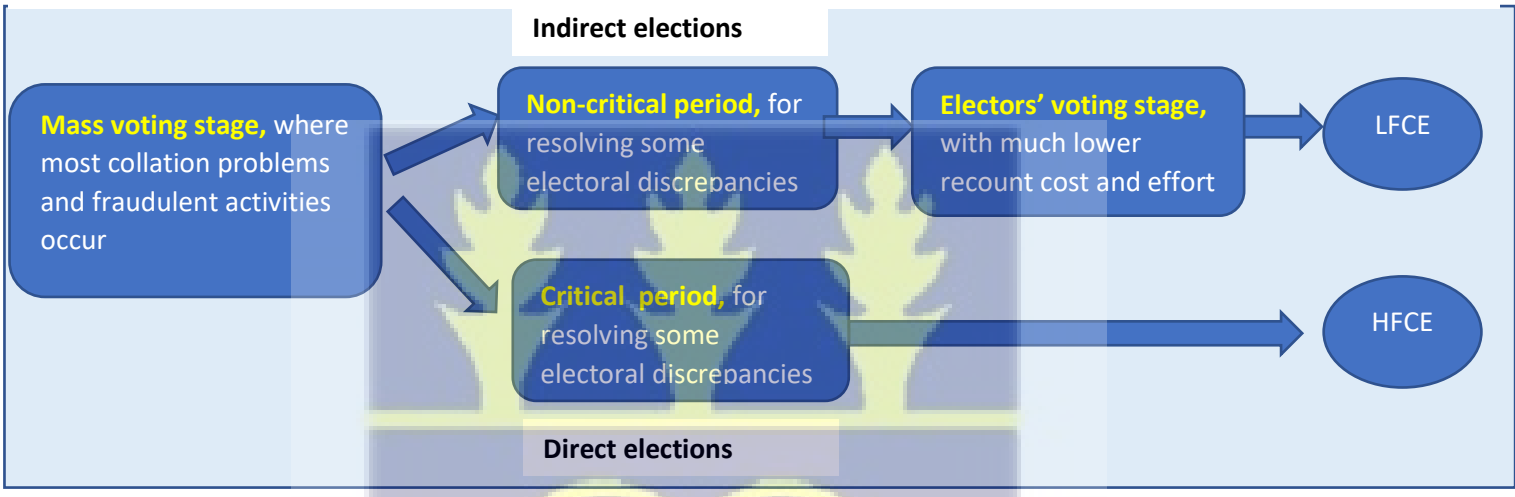
elections are expected to generate lower frequencies of contested elections (FCE) via their ability to incentivize politicians to lower the stakes of elections by distributing public goods on a broader scale. The potential capacity of indirect elections to encourage a wider distribution of public goods will be subsequently referred to as the **Distributive Advantage (DA)** of indirect elections.

In summary, indirect elections are expected to have two advantages over direct elections with respect to mitigating the contestation of election results:

- The Critical Period Advantage (CPA)
- The Distributive Advantage (DA)

Figure 2 below summaries the comparison of direct and indirect elections via the CPA and DA:

Figure 2: Illustration of the Critical Path Advantage of indirect elections



Source: Author

*Note: **LFCE**-Lower frequency of contested elections, **HFCE**-Higher frequency of contested elections*

The CPA of indirect elections is not expected to completely insulate them from contested election results. Occasionally, the David-Biden saga that occurred at the closure of the U.S. 2020 elections could occur. However, over the long-term the CPA is expected to empower indirect elections to report lower frequencies of contested elections.

Even though Chin, 2019 identifies one form of direct elections (Two-Round System) and indirect elections as the electoral systems that motivate politicians to distribute public goods widely, I exploit another gap in her work in Chapter 2 by using a simulation to demonstrate that indirect elections have a greater capacity to deliver broader distributions of public goods than two-round systems.

A very interesting relation is that the CPA and DA features of indirect elections directly mirror the two principal sources of contested elections as shown in Table 1 below:

Table 1: Matching the CPA and DA of indirect elections with the two primary sources of contested elections

Source of contested elections	Remedy from indirect election
Perceptions of reversible electoral fraud	The CPA of indirect elections generates more tension-free time than direct elections, thus guaranteeing that fewer electoral discrepancies remain unresolved during the critical period
High stake elections	The DA of indirect elections lower the stakes of elections

Source: Author

(In Chapter 2 it will be pointed out that different country's indirect election systems have different extents of distributive advantages)

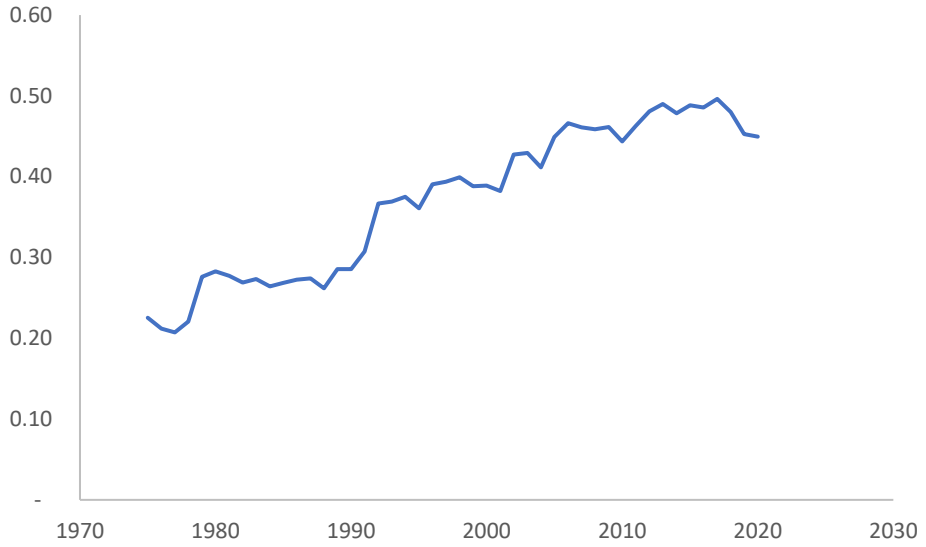
Currently, the only African states that utilize indirect elections for choosing the president are Botswana and South Africa. Barkan et al. (2006) have argued that the choice of electoral systems in developing countries has often been based on what is familiar or convenient, not on a rigorous scholarly enquiry. Modern African countries have largely inherited electoral systems, direct elections in particular, as part of colonial legacies, duplicated neighbouring countries' systems, and without empirical evidence highlighting the benefits and demerits of electoral democracy (Reilly 2001: 14; Norris 1995: 4, as cited in (Dreef & Wagner, 2013). This study seeks to fill this gap, by providing some evidence about the relative advantages of direct and indirect elections as regards the frequency of contested elections.

Research problem

The context of the problem

Despite African countries' accumulation of years of experience in organizing elections and practicing democracy, the frequency of contested election results has exhibited an upward trend (see Figure 1) based on annual continental contested election counts computed from BBC Country Profiles. This trend is corroborated by Hausken and Ncube (2014). Paradoxically, the upward trend has been accompanied by improvement in election quality as measured by IDEA's election cleanness index (see Figure 3).

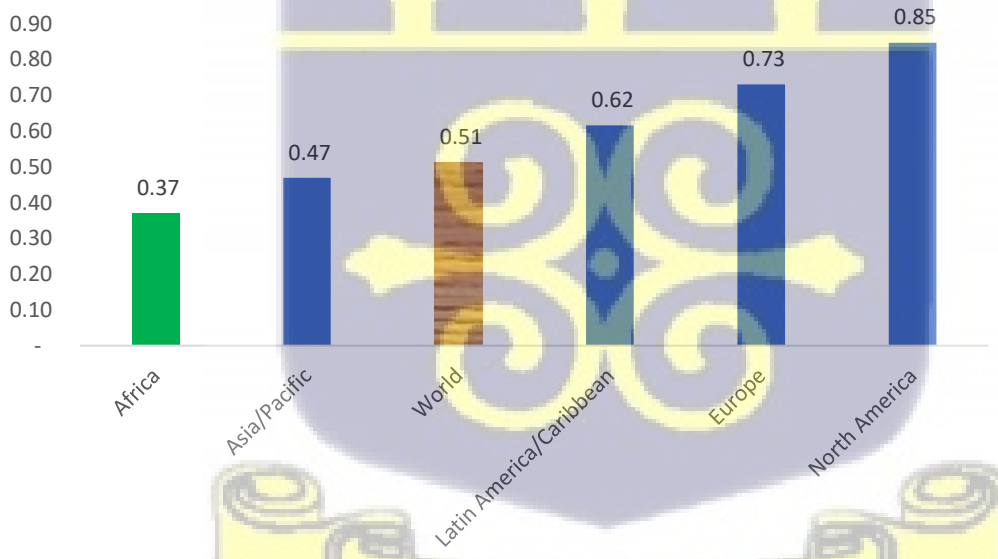
Figure 3: Trend in Africa's Election Cleanness scores from 1960 to 2020



Source of data: International IDEA

Despite the obvious improvements in the average continental quality of elections over time, Figure 4 below indicates that on the average, Africa's scores are way below those of other continents.

Figure 4: Mean continental Election Cleanness scores for 1975 to 2020

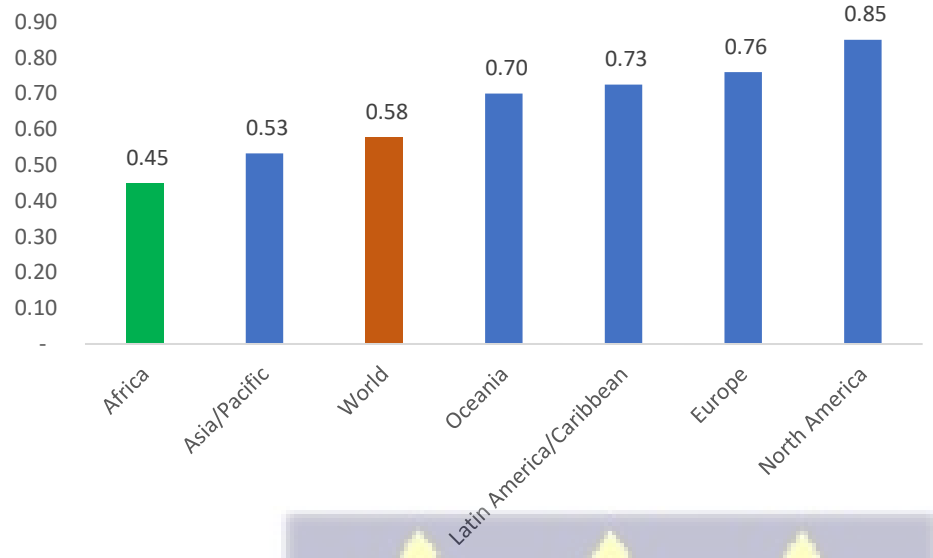


Source of data: International IDEA

Africa has the lowest average clean election scores, whilst North America and Europe had the highest.

The situation for 2020 reflects the same ranks as the averages as depicted in Figure 5 below:

Figure 5: Election Cleanness scores for continents in 2020



Source of data: International IDEA

The two-fold conundrum about Africa's elections is that whilst the quality has been improving over time, it has been accompanied by an increase in the frequency of contested elections and the improvements in election quality has always lagged behind those of other continents.

The ultimate question to be answered is this- given that the election quality of Africa may never catch up with those of other continents, could another strategy to elections be adopted to arrest the increasing rate of continental frequency of contested elections? The predominant electoral strategy undergirding these historical results from Africa is the use of direct elections by all African countries with the exception of Botswana and South Africa.

Given that most African countries currently use direct elections, this study seeks to garner evidence that either confirms or refutes the possibility that a switch from direct elections to indirect elections could derail the rising rate of frequency of contested elections. As explained in the background to the study, the critical period advantage and distributive advantage of indirect elections are expected to facilitate the generation of lower FCE. There is currently no study that has endeavoured to quantify the relative strengths of direct and indirect elections in preempting or mitigating contested election results.

The statement of the problem

Given that improvements in the quality of elections in Africa over the years have not resolved the upward trend of the frequency of contested election results, this study investigates whether a shift from direct elections currently employed by most African countries to indirect elections might significantly lower the frequency of contested elections.

Research questions

1. To what extent can indirect elections, as opposed to direct elections, generate a lower frequency of contested presidential election results in African democracies?
2. To what extent does the quality of election procedures predict the frequency of contested presidential elections in African democracies?
3. To what extent does power sharing predict the frequency of contested presidential elections in African democracies?
4. To what extent does the median per capita income predict the frequency of contested presidential elections for presidential democracies that conducted elections within the period, 1989 to 2020?

Research objectives

1. To determine whether indirect elections can significantly reduce the frequency of contested presidential election results compared to the frequency obtained for direct elections in Africa.
2. To determine if there is a significant correlation between the extent to which free and fair elections are conducted in a country and the frequency of contested presidential elections
3. To determine if there is a significant correlation between the extent of power sharing and the frequency of contested presidential elections.
4. To determine if there is any significant correlation between median per capita income and the frequency of contested results for all countries

Hypothesis

Countries which use indirect elections to determine the president are more likely to have significantly less frequent contested presidential election results than countries whose presidents are elected through direct elections.

Scope of the study

The sample for the study includes African countries which have conducted a minimum of five direct or indirect elections between 1989 and 2020 as well as any non-African countries which have conducted indirect elections for a minimum of five times during the period. The IDEA database will be used to select countries with democratic regimes.

Given that new democracies are exposed to higher risks of contested election results, civil unrest and relapses to autocratic rule, countries selected for the study must have practiced democracy for a minimum of five consecutive elections without relapsing to military rule. Another practical benefit of using such a benchmark is that the frequency of contested elections are computed using sufficient data points. For instance, it is impossible to compute the frequency of contested elections for a country that has held only one election and the frequency of contested elections for a country that has held only two or three elections are not meaningful. The higher the number of elections a country has held, the more meaningful the frequency of contested elections. Countries whose recent history is marred by military interventions will be excluded from the study because military interventions interrupt democracy and election cycles and make measures such as the frequency of contested elections less meaningful.

Shortlisted countries that use indirect elections are those in which the electors are elected through mass voting and not selected by some committee. The study seeks to compare electoral systems where popular votes are involved but in different ways. Including systems where the votes of the masses are totally excluded will create an outlier from the typical practice of most democracies and mar the outcomes of the study.

Significance of the research

Significance to the academic community

The outcome of this study will add to knowledge garnered from the study conducted by Lago & Coma, 2016 to investigate the factors that influence losers of elections to either accept or reject election results. Their study found statistical significance for the loser-friendly argument and opportunity cost argument as a basis for which losers tend to accept elections results. Their study excluded the choice of electoral system as an independent variable. Another difference between this study and theirs is that whilst this study focuses on long-term factors, their study had a short-term horizon-based on elections that occurred between 2012 and 2013.

Another gap filled by this study hinges on the work of Chin, 2019 which established a relationship between politicians' willingness to allocate public goods widely and the electoral system. Her work indicates that the two-round system (a type of direct election) and indirect elections promote the widest allocation of public goods. In other words her research established that these two types of electoral systems lower the stakes of elections. However, her study did not indicate the following:

- Whether indirect elections were more or less effetive than two-round sytems (a form of direct election) in compelling politicians to distribute public goods more broadly:
- The effect of the choice of electoral system-especially between direcct and indirect elecions- on the frequency of contested elections.

This study will test the statistical signfiance of the implied relationship between the choice of electoral system and the frequency of contested elections, via the moderatoring factor of the distribution of public goods.

Practical significance

This study will foster benefits on the real world in the following ways:

1. It may provide the empirical justification needed for African countries which largely use direct elections to switch to indirect elections in a bid to curtail the high social and economic costs associated with the rising continental frequency of contested elections
2. The capacity of indirect elections to motivate politicians to establish institutions that foster broader allocations of public goods will improve economic welfare
3. The survival of a future political union of African states depends on an electoral system that compels the central government to distribute public goods across all the ethnic groups in Africa. Indirect elections will be able to deliver that functionality. The future political union of African states could thus mirror the United States of America in one sense.

Literature Review

The goal of the study is to determine whether indirect elections have the capacity to generate lower frequencies of contested elections than direct elections with a focus on African countries. A regression model will be used to determine the relative strength of direct and indirect elections in this regard. However, in order to obtain a valid measure of the relative strength of the influence of direct and indirect elections on the frequency of contested elections, all factors that could possibly influence the frequency of contested elections will have to be identified and included in the regression model for the study.

The literature review will focus on factors that pertain to Africa's unique political climate. In all the reviews, the focus will be on how salient factors in the African political and economic environment affect the frequency of contested elections and the relative strengths of direct and indirect elections in mitigating the frequency of contested elections. As stated in the background to the research, the comparison between direct and indirect elections will be paper-wide and confined to their ability to mitigate or preempt contestation of presidential results.

Therefore, the literature review will be organized along the following themes:

- Discussions about the appropriate definition of contested elections
- The dynamics of African elections, politics and democracy and their bearing on how the choice of electoral system could influence the frequency of contested elections

What it means to challenge and accept election results

Given that the dependent variable of the study is the frequency of contested elections, it is important to define what contested elections are. The Merriam-Webster dictionary defines a contested election as one in which the legality or validity of an election results is challenged by the opposition (Merriam-Webster, 2022). A contrasting view is as follows:

"*a party complies with the results of an election when it explicitly announces that it accepts the outcome and/or refrains from taking actions that question or seek to overturn the outcome*" (Chernykh, 2014, p. 1362). Chernykh further highlight how it is important to distinguish between claims of fraud and the actual rejection of results. In her view, parties that concede defeat whilst making allegations of fraud have not actually rejected the results. They surmise that verbal denunciation is not strong enough to count as a rejection of election results and that an official rejection must result in legal action, taking to the streets or failing to recognize the new legislature by not accepting seats or not taking part in the second round of elections.

However, such a restrictive view of what counts as a rejected election results is problematic on several fronts:

- It fails to recognize how fragile political distrust is and its long-term effect on the effectiveness of democratic institutions. The consistent verbal denunciation of election results by members and supporters of political parties adversely impacts political trust over the long-term (Kane & Haysom, 2016, p. 2) and must thus be considered as bona fide rejection of election results even it is not followed up with street protests the filing a petition at court.
- Chernykh (2014) admits that taking to the streets or filing a petition at court require both financial and organizational resources. He recognizes that the post-electoral protest option

is not always available to a political party due to logistical, communication or other problems. The party may not be able to gather enough protestors or the incumbent may successfully crack down on any such attempts or issue credible threats.

- Official publications by international observers or media about contested election results should be regarded as credible because such media houses rely on official publications and usually interview experts on the ground. The frequency of contested election results used for this study is based on BBC Country Profiles. BBC is a public diplomacy tool of Britain and thus relies on the opinion of both government officials and non-government officials for news about the countries they report on.

- Finally, to admit only mass protests or court petitions as authentic rejections of election results is akin to economists' distinction between a consumer's desire for goods and his or her effective demand for a good (desire backed by the ability to purchase). Organizing effective street campaigns or filing court cases can drain a party's purse. A political party's cry for electoral justice should not be financialized into an effective demand for electoral justice in the form of street protests or court petitions.

Therefore, for the purposes of this study, any public conduct of the losing parties in the aftermath of declared election results short of declaration of acceptance of the results and commitment to uphold the legitimacy of the party declared as the winner counts as a contested presidential election.

Finally, the word 'contestation' denotes a disagreement between two or more parties. However, on a practical level, it is losers who challenge results declared by an electoral body, not winners. Thus it is the reaction of losers that determines the frequency of contested election results in a country. It follows that a theoretical understanding of losers' conduct will provide some explanatory power to the frequency of contested elections much in the same way a theoretical understanding of consumer behaviour provides some explanatory power to consumer market statistics.

Dynamics of African elections, politics and democracy

Contested elections in Africa

Hausken & Ncube (2014) captured 95 contested presidential elections occurring in Africa between 1960 and 2010 out of a total of 354 elections (amounts to 26.8% of elections contested). They did not provide a definition of contested elections in their article. Limitations of time and space make it unfeasible to examine the literature on all of these 95 contested election results. Fortunately, Hausken & Ncube (2014) observed some general cause and effect relationships in their data. They discovered that contestation of incumbents' victories increased "with the more educated populations since the population obtains a better understanding of the political, social and economic situation of their country". This could partially explain why the frequency of contested elections on the continent has been increasing gradually in Africa, as depicted in Figure 1. The lower continental frequency of contested elections in the past was due to a lack of political awareness (Hausken & Ncube, 2014, p. 623). However as more Africans get educated it is likely that their enhanced political awareness empowers them to protest against electoral fraud and unfair distribution of public goods and skewed power sharing schemes.

The study also revealed that contestation of election results was more likely in former British colonies than in former Belgian colonies, corroborating the work of Acemoglu and Robinson (2006) which posits that "colonial origins of a country impact the subsequent institutions that emerge in the country" (Hausken & Ncube, 2014, p. 628). With respect to colonial origins of an African country's institutions, Hausken and Ncube, 2014 made the following interesting discoveries "*Winning without contestation is more likely in former Belgium colonies. Winning with contestation is more likely in former British colonies, while losing and clinging to power is more likely in former French and Portuguese colonies*" (Hausken & Ncube, 2014, p. 628). Their principal inference from these observations was that there was a need for establishing more inclusive and effective institutions "that allow for more democratic expression".

Their research begs two important questions:

- Given that more educated are needed for greater productivity and governance in Africa, how can the observed strong correlation between the number of educated people in a country and the frequency of contested elections be transformed into a trend where the number of educated people increases without an accompanying rise in the frequency of contested elections in Africa?
- How can African countries which inherited political institutions that do not encourage inclusiveness be transformed?

The major institutional factor that Hausken and Ncube overlooked in their study may be the solution to these questions. Most of the African countries they studied used direct elections. Could a switch from direct elections to indirect selections resolve these two questions? The distributive effect of indirect elections refers to their capacity to incentivize politicians to distribute public goods to broad constituencies, thus lowering the stakes of elections. Lower stakes of elections reduce the tendency of losers to reject technically accurate elections (Halff, 2015, p. 12). Specifically, the distribute effect of indirect elections could reduce the willingness of educated people who rejected elections as a protest against unequal allocation of public goods.

Ethnicity and African elections

The purpose of this section is to review the literature addressing how ethnicity affects elections and how indirect elections can influence the effect of ethnicity on the frequency of contested elections. The fulcrum of the arguments in this section with respect to the contestation of election results is that "the competitive nature of elections tends to aggravate tensions in deeply divided societies such as Africa" (Dreef & Wagner, 2013, p. 29). Thus the more divided the society is along ethnic lines, the more likely that election results will be challenged by marginalized groups in high stake elections and perceptions about electoral fraud are likely to be magnified by any allegations of fraud. If the literature indicates that ethnicity is salient in African elections, then a measure of ethnic diversity will have to be included in the conceptual framework and its effect isolated in the regression analysis. If ethnicity is not salient in African elections, then there will be no need to include a measure of ethnic diversity in the conceptual framework.

Africa is "significantly much more heterogeneous" than other regions in the world (Englebert & Dunn, 2019, p. 70). However because there are different theoretical approaches to defining ethnicity, different scholars fragment Africa in different ways.

The variations in Africa's ethnic topography is not just a matter of different labels from different scholars but has serious policy implications (Englebert & Dunn, 2019, p. 72). The most relevant policy choice as regards ethnicity in Africa is the choice of electoral system because it can determine whether minorities are marginalized or adequately represented (Englebert & Dunn, 2019, p. 72).

Primordialism is one of the main theoretical approaches to ethnicity. It is a view of ethnicity as a "deep-rooted, ancestral, irreducible, and nonnegotiable part of one's identity" (Englebert & Dunn, 2019, p. 73). According to this school of thought, primordialism is the source of political conflicts and poor functioning of the African state because this type of ethnicity requires a greater allegiance to one's ethic group or tribe more than to the nation. Peter Ekeh's (1975) seminal work places emphasis on the fact that the African is more committed to his primordial public than the civic public (Englebert & Dunn, 2019, p. 73). His theory provides a moral explanation for corruption in Africa- in that-African politicians and civil servants are willing to steal from the state (civic public) to meet needs in the primordial public. (Englebert & Dunn, 2019, p. 73). For the purposes of this study, the primordial approach to ethnicity anticipates high stake elections because winning elections gives the winning party access to state resources which can be redistributed to the primordial public.

Because indirect elections have a distributive advantage (DA) over direct elections, the primordial approach to ethnicity leads to the conclusion that switching from direct elections to indirect elections will compel the government to distribute public goods to as many primordial publics as possible. This could lower the stake of elections and reduce the incidences of rejected election results (Halff, 2015, p. 12).

However, the evolution of the debate on ethnicity in Africa continues push the significance of the primordial mode of ethnicity further into the shadows and attaches more salience to the constructivist mode (Basedau & Stroh, 2011, p. 6). According to the constructivist approach to ethnicity, "ethnic groups are not natural or inherent; they are just a human creation, which people use to make sense of their social worlds" (Ondigi, 2021, p. 29). Constructivism helps to explain why the Hutu-Tutsi cleavage was so salient in the 1990s, paving the way for the genocide of the Tutsis in 1994, but did not carry any political significance prior to the 1950s (Lemarchand 1970 as cited in Englebert & Dunn, 2019, p. 78).

Ethnicity is gauged using markers such as language, religion and culture. Even though the constructivist mode suggests that ethnicity is subject to change and manipulation, in reality ethnicity tends to be stable over time (Basedau & Stroh, 2011, p. 6).

I examined the literature for evidence on two mirror facets of ethnicity, guided by two questions:

- Do voters select parties based on perceived ethnic affiliations?
- Do politicians form parties based on ethnic affiliations?

A 'yes' to both questions will indicate the salience of ethnicity in African elections and the need to include a measure of ethnic diversity in the conceptual framework on the basis that greater ethnic fragmentation leads to a greater likelihood of election results being challenged (Dreef & Wagner, 2013, p. 29).

Scholars claim that ethnicity is a good predictor of votes in multiethnic societies. According to these studies, strong assertions of identity and expectations of patronage are the two channels through which ethnicity and voting behaviour are linked (Hoffman & Long, 2013, p. 129).

The first channel has to do with voters selecting a co-ethnic candidate just because voters have a uniform positive evaluation of in-group members and vote to express solidarity. These in-group attachments are "reinforced by negative evaluations of out-group members, resulting in ethnic fear, animosity and a desire to avoid the negative consequences of being governed by another ethnic group" (Hoffman & Long, 2013, p. 129).

The second channel has to do with voters selecting co-ethnics in order to receive patronage at the individual level or club goods at the community level. Politicians are expected to use favouritism in choosing where schools and roads are constructed. (Hoffman & Long, 2013, p. 129)

Even though patronage is not exclusive to Africa, a different set of factors is usually attributed to voting behaviour of more mature democracies (Hoffman & Long, 2013, p. 129). Preference for party ideology is the main factor that influences voting behaviour on the average. However, in a single election, party ideology may not account for all voters' behaviour in mature democracies because some voters will make ballot choices based on how the incumbent performed (retrospective voting) whilst others will evaluate the policies that potential rivals are proposing (prospective voting) (Hoffman & Long, 2013, p. 130).

The literature supports the view that few African voters engage in retrospective and prospective voting. Three main reasons are offered for this pattern (Hoffman & Long, 2013, p. 130):

- Scarcity of public information makes it difficult for voters to objectively assess the performance of incumbents
- African parties rarely differentiate any supposed ideology they have
- In countries where a few parties have dominated, the remaining parties' promises ring hollow because they have never ruled before

However, these views have been challenged by other scholars. For instance, Jeremy Youde published a survey in the Afrobarometer which indicates that economic performance is a good predictor of voting behaviour in Ghana (Hoffman & Long, 2013, p. 130). Staffan Lindberg and K.C. Morrison assert that performance matters to Ghanaians more than ethnicity and patronage (Hoffman & Long, 2013, p. 130). The ethnic composition of Ghana's populace is typical for Sub-Saharan Africa- characterized by smaller ethnic groups which cannot govern alone. Such ethnic structures compel politicians to appeal to constituencies beyond their own ethnicity in order to garner sufficient votes and to secure future chances of winning by performing well whilst in office (Hoffman & Long, 2013, p. 144). Clark Gibson and James Long came to the conclusion that performance and candidate characteristics were the drivers of voting behaviour in Kenya's elections in 2007 (Hoffman & Long, 2013, p. 130).

After scouting the literature for evidence pointing to voters' conduct along ethnic fault lines, I further examined the literature for the second facet- whether political parties are forged along ethnic boundaries. Horowitz's (1985) seminal work on ethnic groups reinforced the notion that African political parties were essentially ethnic parties (Basedau & Stroh, 2011). However, in the 1990s the emergence of dominant parties in highly ethnically heterogeneous countries could not be reconciled with concept that African party systems were a function of ethnic demography. This

was mainly due to the ability of such dominant parties' ability to gain absolute majorities which defied the ethnic composition of the countries (Erdmann, 2004 as cited in Basedau & Stroh, 2011).

Gunther and Diamond (2003) as cited by Basedau & Stroh (2011) distinguish between mono-ethnic parties which draw support from a single ethnic group and the congress ethnic party which draws on different ethnic groups to form a winning coalition which nevertheless divide into disjointed ethnically disjoint alliances.

Basedau & Stroh (2011), conclude their study with the discovery that region had greater salience than ethnicity in explaining the support bases of parties. This meant that parties and voters were tied through geographical proximity, thus allowing political candidates to exploit personal networks in their region of origin rather than shared ethnic identities. Moreover, regional residents could benefit from "locally determined clientelistic distributions"

The discussions about the salience of ethnicity in African elections leads to three conclusions:

- Primordial ethnic diversity has a weaker influence on the choice of political party than economic performance.
- Primordial ethnic diversity has a weaker influence on the choice of political party than constructivist regional or geographical proximity because of the importance of access to community patronage goods. Based on these two observations, there is no need to include a measure of ethnic diversity in the conceptual framework.
- The salience of constructivist geographic proximity and access to public goods through patronage reinforces the importance of the findings of Chin (2019). An electoral system that compels political parties to distribute public goods across wider geographical areas will satisfy many more constructivist ethnic identities formed to take advantage of community public goods and thus reduce the tendencies of losers to reject election results for fear of losing out on the economic front.

Chin, 2019 also recognized that the two round electoral formula required a wider geographical coverage for a political party to win (Chin, 2019). Since both two round system (a type of direct election) and indirect elections require a wider geographical coverage to win a majority, the two types of electoral formulas may be optimal for deeply divided communities such as Africa. However, in Chapter 2, I will use simulations to demonstrate the superiority of indirect elections that promote region count over two round systems as regards its capacity to compel political parties to covering wider geographical areas in their campaigning exploits. The simulation will demonstrate that indirect elections that promote region count have a distributive advantage (DA) over all forms of direct elections.

Building the Conceptual Framework

Introduction

In this section an attempt will be made to select the most robust concepts that explain the occurrence of contested elections. The independent variable of interest is the choice of the electoral system -between direct and indirect elections. However, in order to avoid omission bias in the

regression model, it is important to include all variables which could significantly influence the frequency of contested elections.

Even though there may be ties in the first stage of a two-round election, every election produces a winner and losers at the close or electoral proceedings. Three important actors determine post-election outcomes:

- The election management body which declares who the winners and losers are;
- The declared winner;
- The declared losers;

The response of winners to the declared results is quite predictable- they will accept the results 100 percent of the time.

However, the response of losers is not. They are faced with two options:

- Accept the results
- Reject the results

Thus, even though the election management body exercises its authority to declare the winner and winners always accept the results, it is losers who have the power to determine whether a particular election will go down in history as one whose results was contested or not.

When losers reject an election outcome, it increases the frequency of contested results for that country. Most of the countries in the sample used for the study had a frequency of contested elections of less than 100 percent. This must be characteristic of most countries in the world. If a country has a frequency of contested elections of less than 100 percent, it means that losers reject some of the election results but accept others. For instance, a country with a frequency of contested elections of 20 percent indicates that losers reject 1 out 5 election outcomes and accept 4 out 5 election outcomes.

Hence the key to explaining the frequency of contested elections lies in understanding why and when losers reject some results and but accept others. In pursuing this course, it would be erroneous to assume that all losers are the same and have the same motivations in every country. The aim is to construct a general anatomy of the mind of the loser where election results are concerned.

In the background to the study, the literature discussed indicated two reasons why principal reasons why losers reject election results:

- Perceptions of reversible electoral fraud (Chernykh, 2014, p. 1360, Schedler , 2002)
- High stakes in elections (Halff, 2015, p. 12).

However, it is not sufficient to understand why losers reject election results. In order to build a model that can predict loser's responses under certain conditions, it is also important to know the conditions under which losers are likely to accept election results.

For the purpose of building a reliable conceptual framework that provides explanatory power for the frequency of contested elections, cognizance of the reasons losers either accept or reject election results will point to the relevant independent variables to include in the conceptual framework.

In developing the conceptual framework, I had to avoid a gaping trap- the temptation to describe a loser who is unique to Africa (i.e., an African who loses elections) and to endeavor to explain and predict his response to indirect elections, measured as the frequency of contested elections. That approach would have sufficed for describing the African's participation in African elections, which are predominantly direct elections. However, this study seeks to point the African voter in another direction- indirect elections. This type of electoral system has largely been untested in Africa, with the exception of South Africa and Botswana.

In order to both explain the effect of a virtually untried system and to predict the likely FCE in the aftermath of its adoption, there is the need for a conceptual framework built on a general anatomy of a loser who may find himself or herself in Africa, Europe or Asia. The response of such a generalized loser in any country will then largely depend on how the unique political and economic context of that country affects the motivations of a generalized loser (Halff, 2015, p. 44).

In line with this approach, an attempt was made to understand the uniqueness of the African political and economic contexts and find logical explanations for losers' behaviour that are generalizable. Many revered theories or concepts in social science follow this dictum. For instance, the theories of consumer behaviour and production are applicable to both European and American individuals/firms but can be used to explain the economic situation of African countries characterized by high levels of imports (international demand) and low levels of exports (international supply). Similarly, whilst many scholars tread the stereotypical path of describing African politicians as morally deficient creatures who just cannot do away with corruption, patronage and neopatrimonialism, Peter Ekeh provided a logic to these behaviours by presenting the African individual as an entity facing two institutions -the primordial and the civic. Finally, Douglas North's theory of institutions goes further than Ekeh's and attempts to explain why different institutions have evolved in Western and African nations-he provides the logic for the choice of institutions.

In a similar vein, conceptual framework for this study is designed to unearth the logic of a loser anywhere on this planet and to discover which of their motivations plays out given country's unique political or economic context.

The search for logical explanations at the individual to explain general political or economic situations was adhered to in the literature review. This thought process was adhered to in the background to the study by identifying the primary causes of rejected elections in any country or continent as follows:

- Perceptions of reversible electoral fraud (Chernykh, 2014, p. 1360, Schedler , 2002)
- High stakes in elections (Halff, 2015, p. 12).

These are not 'Africanized' explanations. They are general concepts that can be used to explain why losers in any country or under any type of electoral system is likely to reject election results. However, these general explanations are still one sided- they focus on why a generalized loser could reject results.

For a complete picture of the generalized loser, it is also important to understand the conditions under which a loser accepts results.

In the next section, the conceptual framework of Lago & Coma (2016) elucidates why losers (anywhere at any time) are likely to accept election outcomes will be reviewed.

Why losers accept election results

Using data from Electoral Integrity Project for sixty-six (66) democratic and non-democratic countries in 2012 and 2013, Lago and Coma, 2016 discovered that acceptance of election results increased in tandem with elections being perceived to be free and fair and greater economic development. Income inequality was found to be statistically insignificant (Lago & Coma, 2016, p. 19).

Lago and Coma, 2016 found empirical support for the following arguments that explain why losers accept election results (Lago & Coma, 2016, p. 2):

- The loser-friendly argument
- The opportunity cost argument.

The loser-friendly argument

According to the loser-friendly argument, losers accept election results because they believe that elections are free and fair and that future elections will provide many opportunities for them to win. According to Przeworski, fair elections must be held regularly for losers to entertain the hope of winning in the future Przeworski (1991) as cited in Lago & Coma (2016).

The generalizable logic here is that losers in any country are more likely to accept the fact they have lost the elections if the elections management body has consistently proven itself to be professional in its conduct, fair in its decision making and demonstrated its independence from incumbents. In terms of the search for an appropriate variable, what is needed is an index that captures the extent to which the electoral processes of a country are free and fair.

The opportunity cost argument

According to the opportunity cost argument, losers accept the results even if the elections are not perceived to be free and fair because they consider that a return to authoritarianism will cost them economically. This argument is based on observed significant differences between the democracies and dictatorships (Lago & Coma, 2016, p. 2). Again, Przeworski argues that even if elections are free and fair, it becomes more bearable for losers to endure an electoral cycle if the economic conditions are favourable (Przeworski, 1991: 33 as cited in (Lago & Coma, 2016)). He further argues that above a certain income level, measured by income per capita, losers will accept defeat irrespective of whether they believe they can win elections in the future, because they have too much to lose from a return to autocracy (Przeworski ,2005, 2006 as cited in (Lago & Coma, 2016)).

Lago and Coma, 2016 used per capita income as a measure of the opportunity cost of losing. The higher the per capita of a country, the higher the cost of destabilizing the peace by contesting elections. The generalizable logic is that, the higher the per capita income of a country, the less likely elites are to endanger their business investments in the private sector for the sake of righting the wrongs of an election.

The measure Lago and Coma chose has shortcomings in that it excludes income inequality and the distribution of public goods in estimating the opportunity cost of contesting election results. However, they found low statistical significance for income inequality.

In this study, the use of per capita income as a measure of opportunity cost will be replicated. The extent of the distribution of public goods is yet to be quantified in the literature (there is no index

for measuring that). However, in Chapter 2, a simulation will be used to establish the fact that indirect elections have a distributive advantage over direct elections. This will be incorporated in the conceptual framework.

In summary, the work of Lago and Coma, 2016 points us in the direction of two measures- one that quantifies the quality of elections processes and another that quantifies economic prosperity or development.

Winner-take-all politics and the frequency of contested elections

Thus far, most of the discussions about high-stake elections has focused on the distribution of public goods and the distributive advantage of indirect elections. However, high-stake elections also involve how much political power is at stake. The concept of winner-takes all politics addresses the distribution of power and how it could influence the frequency of contested elections.

The term 'winner-take-all' politics has two connotations. In some instances, it refers to the allocation of all the seats or electors assigned to a district or region to the candidate which obtained the highest number of votes (Fon, 2004, p. 43). In other instances, it refers to the disproportionate allocation political and economic benefits to the winners of an election (Halff, 2015, p. 12) . The first occurs during voting whilst the latter occurs after the declaration of presidential election results.

The second definition will be incorporated in this study as an independent variable. The primary reason for this choice is based on the fact that the winner-take-all phenomenon, according to the second definition, raises the stakes of an election, which further reduces the willingness of losers to accept or trust election results (Halff, 2015, p. 12). Thus, the greater the extent of winner-take-all politics the greater the expected frequency of contested elections.

In this study, the term 'winner-take all politics' is confined to the distribution of government jobs among various political groupings and ethnic groups. On the other hand, the term 'distributive effect' is confined to the narrowness or broadness of the distribution of public goods. For the purpose of the conceptual framework, we need a measure of the extent of power sharing in a country.

The choice of electoral system

This is the variable of interest for the study. The goal of the regression analysis is to statistically control the effect of the previously discussed variables on the frequency of contested elections in order to isolate the effect of the choice of electoral system on the dependent variable.

Indirect elections are expected to generate lower frequencies of contested elections based on their critical period advantage (CPA) and distributive advantage (DA). As discussed extensively in the background to the study the CPA thrives on the fact that many of the electoral discrepancies that occur during the mass voting stage of indirect elections are first resolved during the non-critical period between the mass voting stage and the electors' voting stage. On the contrary, electoral discrepancies that occur during the mass voting of direct elections and are not resolved promptly enough can only be attended to during the critical period that follows the end of polling, a period where suspicions about the incumbent attempting to rig escalate with each additional day of delayed election announcements.

The distributive effect has to do with an electoral system's capacity to motivate politicians to distribute public goods widely. Indirect elections are generally expected to have a distributive advantage over various forms direct presidential elections. This assertion will be fully explored in Chapter 2.

The conceptual framework

The integrative approach was adopted for the purpose of creating a new theoretical model that has a high explanatory power for the frequency of contested elections. The essence of the approach is to "*assess, critique, and synthesize the literature on a research topic in a way that enables new theoretical frameworks and perspectives to emerge"* (Snyder, 2019).

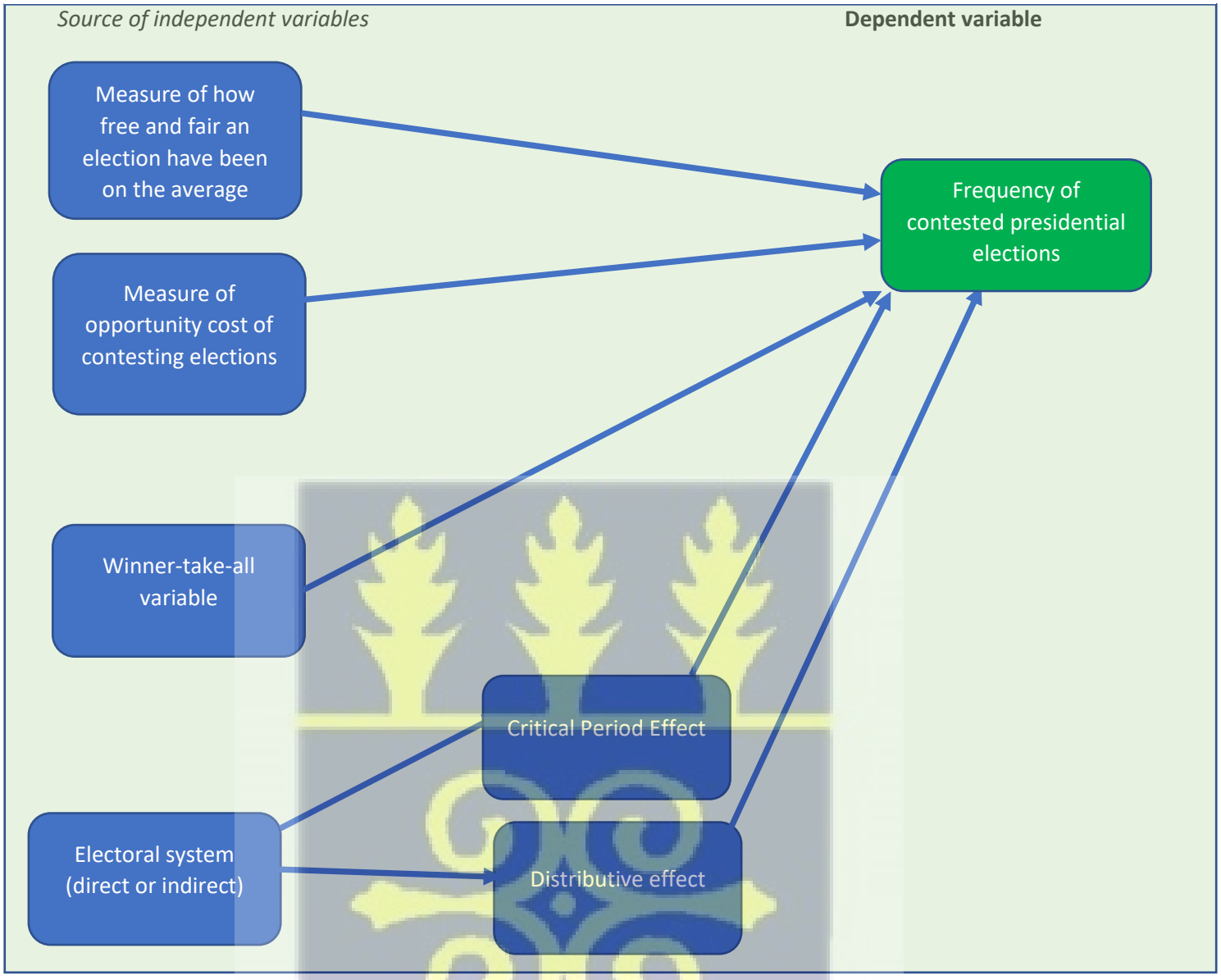
After consulting the literature for clues as to conditions in which losers anywhere and at any time choose to accept or reject elections results, the next step was to combine them into a conceptual framework.

Based on the literature, there was the need for the following type of measures that capture all possible influence on the frequency of contested elections:

- A measure of how free and fair a country's elections are, based on the loser friendly argument of Lago and Coma, 2016;
- A measure of economic prosperity based on the opportunity cost argument of Lago and Coma, 2016;
- A measure of the extent of power sharing;
- A variable denoting the choice of electoral system.

Figure 6 below reflects the various conditions that affect losers' willingness to accept or reject election results.

Figure 6: Conceptual Framework showing sources of independent variables



Source: Author

The framework that links independent variables to dependent variable

In this section, the various parameters in the crude conceptual framework will be operationalized by appropriate independent and dependent variables.

Operationalizing the independent variables

Operationalizing free and fair elections

The IDEA clean election composite index, published by International IDEA (Institute for Democracy and Electoral Assistance) will be used to operationalize the extent to which elections are free and fair. The indexes capture the following aspects of the formal electoral process:

- autonomy of the EMB;
- resource adequacy (human and material) and
- extent of repression, harassment suffered by opposition

A value of the index is supplied for every election conducted by a democratic country. Hence, it was possible to compute an average for each country for the years in which a country held elections between 1989 and 2020. The index takes on values between 0 and 1. The more a country's elections are deemed free and fair, the higher the value of the index. The higher a nation's average clean election score is for the years in which elections were held between 1989 and 2020, the lower the frequency of contested elections are expected to be according to the loser-friendly argument.

Operationalizing opportunity cost of contesting elections

The median gross domestic product (GDP) per capita between 1989 and 2020 will be used as the measure of economic development. It is a crude measure of how much output each person in country generates on the average. It has the following limitations:

- It is not sensitive to the level of income inequality
- It is not a guarantee of future economic growth
- It is a partial measure of human development
- It fails to capture non-market transactions in the informal sector
- It ignores the value of natural resources and other assets a country has

Despite its limitations it is still an appropriate measure for the study because the level of household income determines the economic welfare of the members of a household, which ultimately determines the level of political trust citizens have in governments. The level of political trust with respect to economic performance varies inversely with the frequency of contested elections as losers who perceive that they will suffer economic decline from the aftermath of subversion (such as driving foreign investors from their firms after the onset of political instability) will rather accept electoral defeat even if they believe the election was rigged. Moreover, irrespective of the value of the natural resources of a nation, it is the income flows through households that determines their purchasing power and ability to save. A country may have a large store of natural resources (such as gold, crude oil and uranium) however if the government mismanages these resources, their market value will not translate into higher average household incomes. Household income is a function of gross domestic product, the value of output generated in a nation in a given year, including revenues generated from natural resources, rather than the market value of those natural resources. The higher the median GDP per capita income of a country, the higher the opportunity cost of contesting election results and thus the lower the frequency of contested elections according to the opportunity cost argument.

The electoral system variable

The effect of the choice of electoral system (specifically, between direct and indirect elections) on the frequency of contested elections is the subject of enquiry in this study. This will be the only categorical variable in the conceptual framework. The choice of electoral system and the extent to which elections are free and fair capture the effect of all the formal electoral systems on the

frequency of contested elections. For each country practicing multiparty democracy, the electoral system will be classified as direct or indirect and represented with a categorical independent variable. Indirect elections are expected to generate short-term and long-term effects on the frequency of contested elections. In the short-term or specifically, during the conduct of elections, indirect elections are expected to generate lower frequencies of contested elections because of their critical period advantage. Over the long-term, indirect elections are expected to generate lower frequencies of contested elections because of their distributive advantage. However the critical period effect and distributive effect of direct are not quantified in the conceptual framework. They are captured as mediating variables in the conceptual framework. Whereas a mediating variable explains the process through which an independent variable influences the dependent variable, a moderating variable influences the strength and direction of relationship between the independent and dependent variables. (Bhandari, 2022)

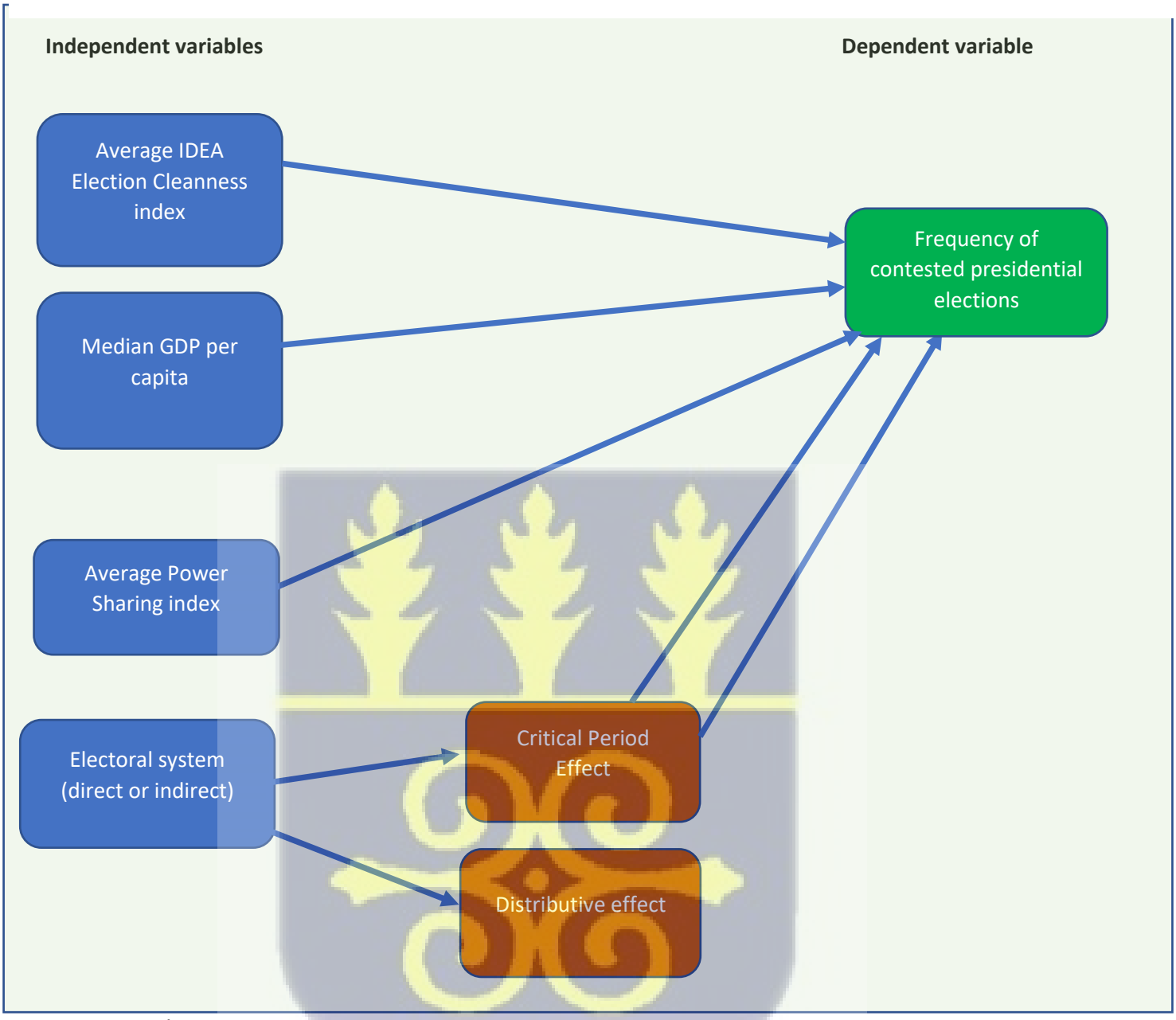
The winner-take all or power sharing variable

In this study winner-take-all is confined to the distribution of government jobs among various political and/or ethnic groups in a country. The Constitutional Power-Sharing Dataset (CPSD) is a set of comprehensive indexes published by Harvard University to measure the extent of power sharing for each country in the world on a yearly basis. Among the many indexes published under the CPSD, an overall power sharing index was selected for the study. For each country shortlisted for the study, the average power sharing index was computed for the period encompassing the elections conducted by the country. The index ranges from 0 (lowest extent of power sharing) to 1 (highest extent of power sharing) (Juon, 2020, p. 95)

The complete conceptual framework

The complete conceptual framework takes the form depicted in Figure 7 below:

Figure 7: Conceptual Framework with independent and dependent variables



Source: Author

The chart illustrates in pictorial form the theoretical basis found in the literature undergirding the inclusion of the following in the conceptual framework and the regression model:

1. **A measure of the extent to which a country's elections have been free and fair over the long haul** : the higher the IDEA election clean index, the lower the frequency of contested elections;
2. **A measure of the opportunity cost of contesting elections**: The higher the opportunity cost of contesting elections, the lower the expected frequency of contested elections;

3. **A measure of power sharing:** the higher the power sharing index value, the lower the expected frequency of contested elections.
4. **Categorical variables to represent the choice of electoral system:** indirect elections are expected to generate lower frequencies of contested elections

Methodology

Introduction

The aim of the study is to determine whether indirect elections have the capacity to generate lower frequencies of contested elections as compared to direct elections with Africa in focus. The literature was reviewed for the purpose of identifying factors that were likely to influence losers' willingness to accept election results. The strength of the influence of these factors on losers' willingness to accept election results would ultimately determine the frequency of contested elections for a particular country over the long haul. Given that the factor of interest is the choice of electoral system, it was important to isolate all other influential factors.

Multiple regression was used as the tool for isolating the influence of other factors on the frequency of contested elections. Generally multiple regression is used for either predicting or explaining phenomena (Keith, 2019, p. 197). Research designs that are optimal for prediction only are not suitable for explaining phenomena. However, research designs optimal for explaining phenomena also have predictive capacities (Keith, 2019, p. 197). In this study, the overarching goals are: 1) to explain why losers contest election results and 2) to explain why and how indirect elections are better suited to mitigating or preempting such occurrences than direct elections with Africa in focus.

Multiple regression analysis will be used to determine the most statistically significant independent variables that explain the frequency of contested elections. If the choice of electoral system is found to be significant and indirect elections are determined to have a greater capacity to mitigate the contestation of election results, the regression model can be used to make predictive statements about whether the future frequency of contested elections will increase or decrease for African countries which switch from direct elections to indirect elections. This is made possible by the fact that a regression model designed to explain phenomena but also has predictive capabilities. The coefficients of a regression model designed to primarily explain phenomena can be used for "making predictions concerning what would happen if interventions or policy changes were made and the standardized coefficients can provide information concerning the relative importance of various influence" (Keith, 2019, p. 81).

The predictive capacity from the regression model generated from this study will be deployed in answering the first research question- whether African countries that switch from direct elections to indirect elections are likely to generate lower frequencies of contested elections.

The other research questions border generally on determining the strength of relationship between the other independent variables and the frequency of contested presidential elections. The results of the analysis should help academics and governments to know which factors have the greatest or weakest effect on the frequency of contested presidential elections.

The principal components of the methodology section are as follows:

- Research design

- Limitations of research design

Research Design

The elements of the research design are as follows:

1. Inferential basis for arriving at conclusion
2. Generic approach to data collection and analysis
3. Research strategy
4. Time horizon
5. Sampling strategy

Inferential basis for arriving at conclusion

The deductive approach was used as the inferential basis for arriving at the conclusion of the study rather than an inductive approach because a strong correlation between two variables does not indicate that causation exists in the form of an economic or political relationship.

In this study, the choices losers make to reduce uncertainty associated with elections and the aftermath is the essence of the theoretical framework. Thus, any strong correlation identified through the analysis of the appropriate data collected serves the purpose of confirming the theoretically established economic and political relationships. Economic and political decisions are so nuanced and contextual that they cannot be derived solely from data, hence the need for a theory that precedes the collection of data that either confirms or disavows the hypothesis.

Generic approach to data collection and analysis

The *quantitative approach* was used for data collection, data processing and data analysis. The quantitative approach is based on objective epistemology and relies on quantitative measures for data collection and data analysis for the purpose of making predictions and generalizations (Yilmaz, 2013). Thus, one of the criteria for choosing independent variables was their measurability. The choice of electoral system is a categorical variable that can be represented as a dummy variable with the numbers 0 and 1. All other variables were measurable on a ratio scale. **Ultimately the research should generate a quantitative answer**- how much the mean frequency of contested elections is expected to increase or decrease following a switch from direct to indirect elections.

Research strategy

The non-experimental research strategy was deployed for this study. A non-experimental design involves measuring desired traits of objects without attempting to change any attribute of the object. They are categorized as causal-comparative studies when outcomes are observed in current situations and attempts are made to unearth their causes in the past. (Galvan & Galvan, 2017, p. 68). The study attempts to trace cause-and-effect patterns based on the past conduct of losers and thus it is impossible to manipulate the attributes of losers. Using non-experimental designs for cause-and-effect enquiries amounts performing causal-comparative studies where current observations are assumed to be caused by previous events. Causal-comparative studies are more prone to error than true experiments where subjects can be controlled (Galvan & Galvan, 2017, p. 68). Even though it was not possible to control the past actions of losers, an attempt was made to

minimize the errors in determining the best cause-and-effect patterns by choosing the relevant independent variables according to the theoretical framework and collecting data from the appropriate sample units. It is interesting to note that many scientific laws are derived from non-experimental research and correlational data. For example, the law of gravity was not based on experimental research where movements of the earth or sun were manipulated (Keith, 2019, p. 19).

Time horizon

A longitudinal study (collecting data across multiple points in time) was considered more appropriate than a cross-sectional one (collecting data in one point in time). The objective of the study was to determine whether the frequency of contested elections for a given country could be reduced by switching from direct to indirect elections. The frequency of contested elections can only be computed across multiple points in time for a given country. Therefore, the explanatory variables had to be measured across multiple points in time. The observed variation in the frequencies across countries could either be due to chance or the effect of political and economic institutions. In order to capture the effect of institutions, a long-term perspective had to be adopted. Thus, the population from which countries were selected for the sample were democratic countries that had held at least five consecutive elections between 1989 and 2020. The year 1989 was chosen as the starting cut-off point because most African countries entered the third wave of democratization in the 1990s. Five elections conducted over four--year cycles amounts to twenty years of democratic practice and five is sufficiently large as a denominator for computing frequencies.

Sampling strategy

For the purpose of sampling, the ideal sampling unit would be a democratic country. This begs the question about what a democratic country is. For a regime to be democratic, "*both the chief executive office and the legislative body must be filled by elections".* Contestation is characterized by the existence of at least one political party that has reasonable chance of winning. It has three features (Cheibub, 2007) :

- *Ex ante uncertainty*: the outcome of each election must be unknown prior to electoral proceedings
- *Ex post irreversibility*- the winner of a free and fair election must be the one who occupies the contested office
- *Repeatability*- elections that satisfy the first two criteria must occur at known regular intervals.

A number of considerations were relevant to formulating the sampling strategy. First, in order to calculate meaningful frequencies for contested elections, the sampling unit must have conducted at least five consecutive elections between 1989 and 2020. One hundred and fifteen (115) democratic countries satisfied this condition.

These qualifying democratic countries were expected to exhibit a wide variation in median GDP per capita, average election cleanness and the extent of power sharing. The independent variable for which low variability occurred was the electoral system. Only twelve of these democratic countries used indirect elections to select the president. Details of these countries are presented in Table 2 below:

Table 2: Countries that held at least five indirect elections between 1989 and 2020

Country	Continent
Botswana	Africa
Estonia	Europe
India	Asia
Marshall Islands	Oceania
Micronesia, Federated States of	Oceania
Nauru	Oceania
Nepal	Asia
South Africa	Africa
Suriname	Americas
Trinidad and Tobago	Americas
United States	Americas
Vanuatu	Oceania

Source: Author

The 12 countries that use indirect elections represent just a measly 10 percent of the 115 democratic countries. Using a sample of 115 countries would mean that the electoral system variable would have too many incidences of direct election countries (103) and too few 'occurrences' of indirect election countries (12). The almost homogeneous electoral system variable would reduce the power of any statistical test performed on the sample of 115 democratic countries.

Moreover, simple random sampling from the population of 115 democratic countries would most likely yield many samples that contain only direct election countries. One way to ensure that the sample contains both direct election and indirect election countries was to use stratified sampling. Stratified sampling entails dividing a population into groups and randomly selecting elements from each group (Narayan, 2015). There are two types of stratified sampling- proportionate and disproportionate (Narayan, 2015). Proportionate stratified sampling should result in a sample that contains the proportion of direct election and indirect election countries in the population of 115 democratic countries- thus it should have 10.4 % (12/115) representation of indirect election countries and 89.6% of direct election countries. Proportional stratified sampling would have proliferated samples dominated by direct election countries. The only way of guaranteeing a proportion of at least 10.4% indirect election countries was to resort to disproportionate stratified sampling. For example, one could create a sample of 40 countries, containing all 12 indirect election countries and 28 direct election countries. Such a sample contains 30% indirect election countries (12/40) and 70% direct election countries. The 28 direct election countries could be selected from the pool of 103 direct election countries via simple random sampling. However, such an approach would hardly generate the data required to answer the first research question since a simple random samples could generate many non-African countries.

In order to ensure that the direct election country component contains a significant number of African countries, the selection of direct countries should be non-probabilistic to guarantee the selection of all African countries that use direct elections.

Thus, the ideal stratified sample for answering the research questions had to contain all direct election countries (including African countries) and all African countries that used direct elections selected in a non-probabilistic fashion. The number of direct election African countries that have held at least five consecutive elections between 1989 and 2020 is twenty-three (23).

Hence, the stratified sample had to contain 12 indirect election countries from across the world (Including two African countries) and twenty-three (23) direct election countries from Africa.

A general weakness of non-probability samples is that they are unsuitable for statistical inference techniques that facilitate predictions about the unknown population

"A sample is a subset of a population and we survey the units from the sample with the aim to learn about the entire population. However, the sampling theory was basically developed for probability sampling, where all units in the population have known and positive probabilities of inclusion". Due to the fact that the probabilities of elements included in the non-probability sample are unknown, it is next to impossible to make any statistical inference calculations such as estimates, variances, hypothesis (Vehovar, Toepoel, & Steinmetz, 2016).

Nonetheless, statistical inference procedures are routinely applied to non-probability samples, such as the computation of confidence intervals which are inherently designed for probability samples. There is no guarantee that the confidence intervals constructed for non-probability samples could actually contain the population parameter of interest (Vehovar, Toepoel, & Steinmetz, 2016). However, Vehovar et al conclude that the situation is not all doom and gloom for applying statistical inference procedures to non-probability samples due to the following factors:

- Almost all non-probability samples accommodate some natural 'randomization' which varies from sample to sample
- The natural randomization can be further be enhanced by measures the researcher undertakes to improve the sampling design involving randomization, quotas, spread, matching
- Powerful techniques in post-survey adjustments involving complex statistical techniques

Hence, a major hurdle to surmount was how to obtain a suitable tradeoff between the benefit of obtaining data relevant for answering the research questions from a non-probabilistic stratified sample and the drawback of not being able to generate reliable or meaningful statistical inference from non-probabilistic samples.

In a sense, applying statistical inferences to this non-representative sample for the purpose of predicting population parameters would amount to making predictions about a population which does not exist. The real population of democratic countries in the world comprises 10 percent indirect election countries (12) and 90 percent direct election countries (103). The non-representative sample has 35 percent indirect election countries (12) and 65 percent direct election counties (23).

The simple way of resolving the problem of non-representativeness was to consider the newly created sample as the population of interest. In other words, instead of using the sample of 35 countries to attempt to make predictions about a non-existing population, the sample was regarded as a newly created population of interest. This means that the cause and effect relationships

established through data analysis would strictly be applicable to this population of 12 indirect election countries across the globe and 23 direct election countries from Africa. How then would the results help to answer the first research question?

The sample of 35 countries contains 25 African countries- 2 indirect (South Africa and Botswana) and 23 direct election countries. These 25 African countries are the only countries that have had at least five consecutive elections and therefore would be the only ones that any statistical analysis would apply to. This is because the frequencies of contested elections would be less meaningful for countries that have conducted less than five elections.

Moreover, the 25 African countries constitute almost half of the countries on the continent.

Finally, three (3) of the indirect election countries -Marshall Islands, Micronesia and Nauru had to be removed from the sample because IDEA clean election scores were not available for those countries. A fourth indirect election country- Nepal- had to be removed from the sample because of interplays between democracy and monarchy in recent history.

Thus, the population of interest reduces to a group of 31 countries as illustrated in Table 3 below:

Table 3: Population of interest

	Country	Electoral System	Continent	Number of elections held between 1989 and 2020
1	Botswana	Indirect	Africa	7
2	Estonia	Indirect	Europe	7
3	India	Indirect	Asia	8
4	South Africa	Indirect	Africa	6
5	Suriname	Indirect	Americas	7
6	Trinidad and Tobago	Indirect	Americas	9
7	United States	Indirect	Americas	8
8	Vanuatu	Indirect	Oceania	7
9	Algeria	Direct	Africa	5
10	Benin	Direct	Africa	5
11	Central African Republic	Direct	Africa	6
12	Cote d'Ivoire	Direct	Africa	5
13	Gambia	Direct	Africa	5
14	Ghana	Direct	Africa	8
15	Guinea-Bissau	Direct	Africa	6
16	Kenya	Direct	Africa	6
17	Madagascar	Direct	Africa	6

18	Malawi	Direct	Africa	6
19	Mali	Direct	Africa	6
20	Mauritania	Direct	Africa	6
21	Mozambique	Direct	Africa	6
22	Namibia	Direct	Africa	6
23	Niger	Direct	Africa	7
24	Nigeria	Direct	Africa	7
25	Senegal	Direct	Africa	5
26	Sierra Leone	Direct	Africa	5
27	Togo	Direct	Africa	6
28	Tunisia	Direct	Africa	5
29	Uganda	Direct	Africa	5
30	Zambia	Direct	Africa	6
31	Zimbabwe	Direct	Africa	5

Source: Author

The outcomes of the study will be applicable to only the population of 31 countries (containing 25 African countries which have held at least five elections between 1989 and 2020). Nevertheless, statistical inference is applied to the population of interest in order to make predictions about the frequency of contested elections from the 31 countries chosen as the population of interest (25 of these being African countries).

Data collection

The details about how data was compiled for the dependent and independent variables is outlined as follows:

- *Frequency of contested election results :* The frequency of contested presidential election results was be compiled mainly by studying BBC country profiles, tallying the number of elections that were contested for each country between 1989 and 2022 and computing the frequency for each country.
- *IDEA election cleanness index:* International IDEA computes clean election scores for each election conducted by a country, with values ranging from 0% to 100%. The higher the score the higher the cleanness of the election. The independent variable for each country was computed as the mean election cleanness score for all the scores obtained for elections held between 1989 and 2020. The mean rather than the median was used in order to incorporate all the data.
- *Electoral System:* Each country's electoral system was indicated as a categorical variable, 1-for direct elections and 0-for indirect elections.
- *Median GDP:* GDP per capita was obtained from World Bank databases. The median GDP per capita was preferred to the average GDP in order to eliminate the effect of outliers such as the sudden discovery of oil.
- *Power sharing index:* The average Power Sharing index for each country was computed from data in the Constitutional Power-Sharing Dataset (CPSD) generated by Harvard University.

Even though secondary sources of data were used, the values of the independent and dependent variables were obtained after subjecting the raw data obtained from these secondary data sources to different degrees of processing such as computing counts and averages.

Data analysis

Multiple Regression (MR) was preferred to Analysis of Variance (ANOVA) as a data analysis tool for the following reasons (Keith, 2019, p. 19):

- "MR can use both categorical and continuous variables"
- "MR incorporated multiple independent variables"
- "MR is suitable for both experimental and non-experimental research"

The four independent variables identified in the theoretical framework are expected to influence the frequency of contested presidential elections to different extents.

The four independent variables will be represented by the following symbols:

- **EC**: election cleanness index (average for each country)
- **GPC**: GDP per capital (median for each country)
- **ES:** electoral system (direct or indirect)
- **PS:** power sharing index (average for each country)

The dependent variable- frequency of contested elections will be represented by **FCE.**

The hypothetical quantitative relationships between the independent variables and the dependent variable will be represented by the following multiple regression mode:

FCE = **a** + **b.** EC + **c.** GPC +**d**. PS + **m**. ES + **e**

where a, b , c , d and m are the regression coefficients and e the error term.

'a' is the constant term. It is the mean value of FCE when all the independent variables and the error term are set to zero (Frost, 2019, p. 75).

'b' is the amount by which the mean of FCE is expected to change in response to a unit change in EC whilst holding all other independent variables constant (Frost, 2019, p. 52).

'c' is the amount by which the mean of FCE is expected to change in response to a unit change in GPC whilst holding all other independent variables constant.

'd' is the amount by which the mean of FCE is expected to change in response to a unit change in PS whilst holding all other independent variables constant.

The error term, e, captures the effect of any influential independent variable that was not included in the model.

'm' is a categorical variable and thus cannot be interpreted the same way as the other continuous variables which can be varied by 1 unit. The interpretation of 'm' requires manipulating the regression equation in order to gain an intuitive understanding of the term. This is done in the following paragraphs.

The main purpose of including the independent variables EC, GPC and PS is to statistically control their effect on the dependent variable FCE, so that the effect of the electoral system, ES, on the dependent variable can be isolated.

ES is a dichotomous categorical variable that can take on the values of 0 or 1.

It is assigned a value of **1 for a country that uses direct elections** and **0 for a country that uses indirect elections**. Hence, whilst the explanatory variable is the choice of electoral system, the regressor is the dummy variable that takes on a value of 0 or 1 (Fox, 2016, p. 130).

Let FCE_{direct} be the frequency of contested elections for a country that uses direct elections.

Let $FCE_{indirect}$ be the frequency of contested elections for a country that uses indirect elections

For direct elections, ES =1, and so the model becomes:

$FCE_{direct} = \mathbf{a} + \mathbf{b}.\ EC + \mathbf{c}.\ GPC + \mathbf{d}.\ PS + \mathbf{m}.(1) + \mathbf{e}$

$FCE_{direct} = \mathbf{a} + \mathbf{b}.\ EC + \mathbf{c}.\ GPC + \mathbf{d}.\ PS + \mathbf{m} + \mathbf{e}$ (1)

For indirect elections, ES =0, and so the model becomes:

$FCE_{indirect} = \mathbf{a} + \mathbf{b}.\ EC + \mathbf{c}.\ GPC + \mathbf{d}.\ PS + \mathbf{m}.(0) + \mathbf{e}$

$FCE_{indirect} = \mathbf{a} + \mathbf{b}.\ EC + \mathbf{c}.\ GPC + \mathbf{d}.\ PS + \mathbf{e}$ (2)

Equation (1) minus Equation (2):

$FCE_{direct} - FCE_{indirect} = (m+e) - e = m$ (3)

Hence, according to Equation 3, '**m**', is the difference between the mean frequency of contested elections for direct election countries (FCE_{direct}) and the mean frequency of the contested elections for indirect election countries ($FCE_{indirect}$).

If m turns out to be positive, then $FCE_{direct} - FCE_{indirect} > 0$

And thus, $FCE_{direct} > FCE_{indirect}$, implying that the mean frequency of contested election results for direct election countries is greater than the frequency of contested election results for indirect election countries in the population of interest.

On the other hand, if m turns out to be negative, then $FCE_{direct} - FCE_{indirect} < 0$

And thus, $FCE_{direct} < FCE_{indirect}$, implying that the frequency of contested election results for direct election countries is less than the frequency of contested election results for indirect election countries in the population of interest.

Given the fact that the regression model is based on data from a 'population' of 31 countries and that the coefficients will only be generalizable for the population of 31 countries, is the need for performing statistical inference obviated? John Fox provides an insightful answer to this question.

He first cites an example where no sampling is involved: "**Suppose, for example, that we examine data on population density and crime rates for all large U.S. cities and find only a weak association between the two variables. Suppose further that a standard test of statistical significance indicates that this association is so weak that it easily could have been the product of ''chance.'' Is there any sense in which this information is interpretable? After all, we have before us data on the entire population of large U.S. cities at a particular historical juncture:"** (Fox, 2016, p. 9)

He answers his own question by stating that the researcher's interest goes beyond the cities themselves (the population) to the "complex social processes by which density and crime are determined". A replay of history would not yield exactly the same density and crime rates as these are contingent on a plethora of chance events (Fox, 2016, p. 9). Fox concludes that it is "reasonable to apply statistical inference to process that produced the currently existing population of cities".

In transposing his ideas to the current study, one may consider it appropriate to apply statistical inference in a narrow sense. The current distribution of direct and indirect elections within African countries and the non-African countries in the population of interest can be considered as one instance of the possible distributions of direct and indirect elections that could have occurred in history. If were able to obtain all the possible distributions of direct and indirect elections that could have occurred in history, we would have the whole population of 'observations' possible and then be able to obtain population parameters on the influence of the choice of electoral system.

However, the observed distribution of direct and indirect elections observed in this study, is the only 'sample' available for making inferences about the unavailable 'population' of all possible distributions of direct and indirect elections. Finally, the significance of the regression coefficients will determine the reliability of predictions about the effect of future possible distributions of direct and indirect elections on the frequency of contested elections in the sample. Among these possible future distributions, the one which is relevant to the first research question is the distribution where all African countries in the sample have adopted indirect elections. This study seeks to investigate whether such a distribution will result in a lower frequency of contested elections as compared to the current distribution where most African countries have adopted direct elections.

Methodological limitations

1. It was not feasible to quantify the critical period advantage of indirect elections and include them in the conceptual framework. For instance it would be difficult to establish that longer periods between the mass voting and electors' voting guarantees that many more cases of alleged electoral fraud or discrepancies will be resolved. Other factors such as the ease of

obtaining evidence and the level of complexity of the cases reported will determine the speed at which electoral fraud allegations are resolved.

2. It was not possible to quantify the distributive advantage of indirect elections. No index was found for such a variable.
3. The study may have overlooked some important independent variables and these may have generated omission bias and contributed to the size of the standard error of the regression
4. Any weaknesses in the ability of the IDEA election cleanness indexes to capture the extent to which the formal electoral institutions of the countries selected in the population of interest, will affect the accuracy of the regression coefficients
5. Any weaknesses in the ability of the Power Sharing indexes to capture the extent of winner-take-all politics will affect the accuracy of the conclusions

Outline of Remaining Chapters

Chapter 2

In this chapter the distributive advantage of indirect elections over the principal forms of direct elections is established through a simulation.

Chapter 3

In this chapter, relevant descriptive statistics, statistical inference results are presented.

Chapter 4

In this chapter a summary of findings, conclusions, implications, recommendations and suggestions for future research are presented.

CHAPTER 2-OVERVIEW OF ELECTORAL SYSTEMS AND A DEMONSTRATION OF THE DISTRIBUTIVE ADVANTAGE OF INDIRECT ELECTIONS

Introduction

The main concepts established in Chapter 1 about the relative strengths of indirect and direct elections in combating the contestation of election results are as follows:

- Indirect elections are expected to have a critical period advantage (CPA) over direct elections, thus leading to a lower frequency of contested results
- Indirect elections are expected to have a distributive advantage (DA) over direct elections, thus leading to lower frequency of contested indirect elections

The works of Chin (2019) and Chin (2020) were the prime sources pointing to the fact that two-round systems and indirect elections tended to motivate politicians to distribute public goods widely. However, Chin's works left a gap- they did not demonstrate which of the two electoral systems had the capacity to compel politicians to distribute public goods more broadly. That gap will be filled in this chapter.

The underlying logic is that high-stake elections tend to invoke challenges from losers (Halff, 2015, p. 12). Electoral systems that promote a wider distributonof public goods will reduce the stakes in elections and ultimatley reduce the tendency of losers to challenge electoin results.

The two-round presidential system is one of the forms of direct elections. If it can be demonstrated that indirect elections have a greater distributive effect than the two-round system, then one can claim that indirect elections have a greater distributive effect than all forms of direct elections. In that case, the distinction between direct and indirect elections is enough to describe the electoral system variable that was used in the conceptufal framework.

In order to unpack this claim , a discussion of various forms of direct elections must precede the simulation. Thus in the next section, electoral systems will be discussed with a focus on the types of direct elections. This will be followed by a simulation that compares the distributive effects of indirect elections and all forms of direct elections.

Electoral systems-indirect elections versus various forms of direct elections

It is important to distinguish between the terms 'electoral system' and election management body (EMB) because the two terms are used interchangeably and are often conflated. Farrell , 2009 distinguishes between an electoral system, which determines how votes are aggregated into an election result (thereby determining who the winner is) and the EMB, which is the "overarching structure within which all the electoral processes occur (including the electoral system). In other words, the electoral system is just one component of the functions of the EMB.

Douglas Rae (1967) identified three components of an electoral system:

- ***District magnitude*** – referring to the number of seats assigned to each district.

- ***Ballot structure*** – alluding to how voters choose their desired candidates on the ballot paper. Categorical ballot structures give the voter the option of choosing one candidate/party on the ballot paper (e.g. U.S., Brazil), whilst ordinal ballot structures give the voter the option of ranking candidates (e.g. Ireland or Malta)
- ***Electoral formula:*** this aggregates the votes collated into aggregates that determine the winners and losers (Farrell D. M., 2009, p. 2).

Most of the studies that discussed the long-term effects of an electoral system focused on the electoral formula component. For Dreef and Wagner (2013, p 22), "the electoral system sets the rules by which candidates are elected …..". Chin (2019) uses the term electoral rules and defines it as follows: rules that "determine how voters' preferences are aggregated and translated into political representation. Anderssen et al. (2005) present the most interesting definition because they tease out the institutional impact of electoral systems on the reaction of losers as follows:

"*Institutions can mute or amplify the impact of losing in one of several ways: by defining the rules of the process by which losers are produced in the first place, usually through the electoral system".*

Moreover, the examples they give about electoral systems adopted in various countries align with the four categories presented in the next paragraph. All the scholars referred to in this paragraph applied the term 'electoral system' to the formula that aggregates votes into the determination of the winner. None of them used it to refer to the district magnitude, the ballot structure, or the entire electoral management system. This study will conform to the narrow and technical usage of the term 'electoral system' denoting the electoral formula.

The number of seats a candidate can win from a particular district is usually determined using one of the following electoral formulas: Two Round System (TRS), Plurality formula, Proportionality formula or Mixed formula (Norris, 1997, p. 299; Dreef & Wagner, 2013, p. 22). Under the TRS, (also referred to as Second Ballot), a candidate who gets more than 50% of the votes during the first round of voting wins the election. Thus, second round of elections are not conducted. However, if no candidate gets more than 50% during the first round, then a variety of rules are used to determine which candidates get to compete in a second round of voting (usually the ones who got the highest percentage of votes in the first round). The ultimate winner is the one who gets more than 50% of votes in the second round. Ghana uses the TRS for presidential elections (Electoral Commision of Ghana, n.d.).

In turn, the Plurality formula or the First Past the Post (FPTP) is such that the candidate who gets the highest percentage of votes gets all the seats, even if the percentage is less than 50. For example, "Sir Russell Johnston (Liberal Democrat) won the seat of Inverness, Nairn and Lochaber in the 1992 British general election with just 26 percent of the vote" (Farrell, 1997). Ghana uses FPTP for parliamentary elections (Electoral Commision of Ghana, n.d.). Additionally, the Proportionality formula entails calculating the number of seats electoral candidates get as a proportion of the votes they obtained multiplied by the total number of seats. For example, if two candidates competed in a particular district and Candidate A obtained 100 votes and Candidate B obtained 400 votes, Candidate A would acquire 20 percent of the available seats (100/500 x number of seats) and Candidate B would get the remaining 80 percent of the available seats (400/500 x number of seats).

Any combination of the TRS, FPTP, and Proportionality formulas constitutes a Mixed formula. The two-round and plurality systems are jointly referred to as majoritarian formulas (Norris, 1997, p. 299). As of 1997, 83 out of 150 countries used majoritarian systems (Norris, 1997, p. 29). However, beyond the three principal electoral formulas (electoral systems) described above, (which usually take up much of the space in the literature), there is a **more superintendent or overarching classification** of electoral systems: *the choice between the direct and indirect election of a presidential candidate.* For presidential elections, the principal direct electoral formulas used to aggregate national votes are either TRS or TPTP. These direct election family of formulas are contrasted with indirect elections in this study.

With the exception of Botswana and South Africa, all democracies in Africa elect their presidents through direct elections (Kiger, 2019). W. Arthur Lewis, Ghana's first post-independence economic advisor who later received the Nobel prize for economics for pioneering research in development economics relating to developing countries, argued in 1965 that electoral systems that yield governments based on simple aggregation of votes and majority rule will not work in African pluralist societies. His argument has largely been confirmed (Joseph, 1997). What Arthur Lewis foresaw was that electoral systems that handed over power to the most populous ethnic group that in a deeply divided country could easily ignite ethnic tensions. Such tensions were bound to be exacerbated by post-election distributive effects characterized by winner-takes-all systems.

Indirect elections can be purposely designed to reduce the unfair advantage large ethnic populations have over smaller ethnic groupings in order to generate more inclusive electoral outcomes. The next section illustrates how this can be done using a simple simulation.

Simple simulation demonstrating the distributive advantage of indirect elections

In this section I will use a very simple simulation to demonstrate the superiority of one type of indirect election over the two forms of presidential direct elections –TRS and FPTP-as regards their capacity to motivate politicians to distribute public goods as widely as possible. This was referred to as the distributive advantage of indirect elections. A wider allocation of public goods is expected to lower the stakes of elections and ultimately the penchant of losers among minorities to challenge election results.

A more detailed simulation can be found in the Appendix. The detailed simulation approximates the way the U.S. indirect elections work and provides a generic template for indirect elections.

To start with, let us assume that a hypothetical African country, Wakanda, has 4 administrative regions- A, B, C and D.

Table 4 below displays the percentage of active voters in each region:

Table 4: Percentage of active voters in the 4 administrative regions of Wakanda

Regions	**Region A**	***Region B***	***Region C***	***Region D***
% of active voters	40%	*20%*	*20%*	*20%*

Source: Author

We will also assume that there are 4 presidential candidates in a particular election with the following ethnic ties:

- Candidate A is ethnically affiliated with Region A
- Candidate B is ethnically affiliated with Region B
- Candidate C is ethnically affiliated with Region C and
- Candidate D is ethnically affiliated with Region D

Now to discuss the distribution effects of the various forms of direct presidential elections- pluralist (FPTP), two-round system.

Under a pluralist or First-Past-The-Post electoral system (which is a form of direct election), it is likely that Candidate A will win the elections with just the 40 percent active votes from Region A.

Under the two-round system (another form of direct election), a candidate must obtain a minimum of 50 percent of the votes.

If Candidate A obtains all the 40% stake from Region A, all he needs is an extra 10% from any of the 3 regions- B, C and D. He could obtain the extra 10% from just region A, or little bits and pieces scattered across regions B, C and D. Whatever, the case the extra 10% from regions B,C and D in on way constitutes a majority from any of the regions. This has implications Candidate A's motivation for distributing public goods among the regions B, C and D.

Nevertheless, the two-round system compels Candidate A to look beyond his ethnic group unlike the FPTP electoral formula. This example corroborates the work of Chin (2019).

Proportional systems are mostly used for parliamentary representation, so we move onto indirect elections, where it gets interesting.

The key difference between indirect elections and the forms of direct elections discussed so far is that it is not the percentage of popular votes that solely determines who becomes the next president.

In my view, indirect elections tip the scales of weighing presidential candidates from an entire dependence on **head count** to **region count**. I believe this is the engine that maximizes the distributive advantage of indirect elections. I will use the next paragraph to unpack this all-important concept of switching from head count to region count.

In order to apply the indirect electoral formula, each region must first be assigned a number of elector seats. Electors will vote for one presidential candidate on behalf of the whole administrative region. Under the winner-take-all regional voting system, the party that obtains majority of the popular votes in an administrative region, gets to sweep all the elector seats allocated to that region. The political party that gets the most electoral seats across the 4 regions gets to win the presidential race.

To make the example simple, let us assume that each of the 4 regions in Wakanda is assigned only 1 electoral seat as demonstrated in Table 5 below. In electoral system parlance, this is referred to as the district magnitude (please refer to page 41).

Table 5: Electoral seats assigned to each region in Wakanda-district magnitude

	Region A	Region B	Region C	Region D
% of active voters	40%	20%	20%	20%
Electoral seats	1	1	1	1

Source: Author

To win the presidential race, presidential candidates must obtain a minimum of 3 electoral seats across the 4 regions (majority of electors' votes). This simple example demonstrates that indirect elections compel politicians to reach out to wider constituencies. Under the pluralist or FTP electoral system Candidate A needed only Region A votes to win the elections. Under the two-round system, Candidate A could have won with all the votes from Regions A and B (60%). Under indirect elections he must obtain 3 electoral seats from 3 regions.

But how does Candidate A obtain the electoral seat in any region? Any candidate can obtain the electoral seat assigned to a particular region by winning the popular votes in that region! So for instance, if Candidate A obtains most of the votes in Region A, he gets the electoral seat for Region A. If he happens to obtain the majority of votes in Region B, he gets to keep the electoral seat of Region B as well.

By this mechanism, the head count mode of voting at regional level is essential transformed into a region count mode of voting at the second stage of voting. The electors' seats represent regions not head counts. However, a candidate needs head count at the first (regional) stage of voting in order to add that region to his tally of region counts.

Why is this such a big deal for this dissertation topic?

This is because, when Candidate A wins the elections by obtaining 3 elector seats from Regions A, B and C, he will have to ensure that his public goods policies benefit regions A, B and C. The president and his ministers are compelled to formulate policies based on region counts, because that it what it takes to win elections.

Contrast this with the plurality system. If Candidate A had won under plurality votes with the 40% of votes from Region A, it is likely that his economic policies would just be narrowed down to Region A at the expense of Regions B, C, D. In other words, his policies would be less inclusive of the regions that host people outside his ethnic affiliation. The two-round system would push President A to allocate public goods to other regions but the indirect election is the most effective at translate head count policies to region count policies. This is the engine driving the distributive advantage of indirect elections.

Table 6 below, illustrates the different public goods distribution policies under each type of electoral system.

Table 6: Likely distribution of public goods under each electoral system by Candidate A

	Region A	Region B	Region C	Region D
% of active voters	40%	20%	20%	20%
Candidate A wins under pluralist system	40%	0%	0%	0%
Candidate A wins under two-round system	40%	10%		
Elector seats	1	1	1	1
Candidate A wins under indirect elections	1	1	1	0

Source: Author

The blue regions indicate the areas that are likely to benefit from Candidate A if he wins elections.

The wider the distribution of public goods, the lower the stakes in elections and the less likely that losers from any region will contest elections in Wakanda.

The wider the distribution of goods, the lower the stakes in elections and thus the lower the expected frequency of contested elections.

Finally, in the literature review, one of the empirical discoveries was that region and geographical, had greater salience than ethnicity in explaining the support bases of parties because regional residents primary goal was to benefit from "locally determined clientelistic distributions" Basedau & Stroh (2011). This means that an electoral system based on region count will meet the needs of the electorate because it fosters the distribution of public goods, something voters care more for than primordial ethnic affiliations.

However, the indirect elections used in various countries are not identical in the extent to which they convert head count to region count. For instance, in Estonia, the number of elector seats per region are proportional to the number of voters in each region (Núñez, n.d.). The allocation of electors per state in the U.S. is much more complicated but can be summarized as follows- there is a minimum allocation of two seats per state (based on equal allocation of senators per state) and beyond that a plethora of rules assigning extra electors to each state (National Archives, 2020).

The next simulation indicates that when the number of elector seats assigned to a region is proportional to the number of people (head count) in the region, the electoral system leans more towards a head count formula, with its disadvantage of permitting victories under the plurality or two-round systems.

Table 7 below displays a situation where equal number of seats are allocated to each region.

Table 7: Non-proportional allocation of elector seats

Region	No. of voters	% voters	Non-proportional no. of elector seats
A	1,000	12.5%	2
B	2,000	25.0%	2
C	1,000	12.5%	2
D	4,000	50.0%	2
	8,000	**100.0%**	**8**

Source: Author

The allocation of elector seats is not proportional because even though Region D has 50% of voters, it has only 2 elector seats, just like Region A which hosts only 12.5% of voters.

In such a situation, a candidate has to obtain elector seats in at least 3 regions in order to win. The non-proportional allocation of seats leans towards a region count formula, which favours a wider distribution of public goods.

For the same population, a formula where the number of elector seats is proportional to the population in each region is displayed in Table 8 below:

Table 8: Proportional allocation of elector seats

Region	No. of voters	% voters	Proportional no. of elector seats
A	1,000	12.5%	1
B	2,000	25.0%	2
C	1,000	12.5%	1
D	4,000	50.0%	4
	8,000	**100.0%**	**8**

This time, Region D which has 50% of voters has 4 elector seats, 50% of the total number of elector seats (8). In this situation, a candidate could win with a plurality formula simply by obtaining all the elector votes in Region D if no other candidate gets more than 4 elector seats.

This simulation has demonstrated that less-than-proportional allocations of elector seats to administrative regions tends to a greater pull towards region count, whilst proportional allocations lean towards a head counts formula that permits plurality victories The greater the pull towards region count, the greater the distributive advantage of the indirect election.

Even though indirect election countries differ in their leaning towards a head count or region count formula, all of them have a critical period advantage, because mass voting for the purpose of choosing electors must always be accompanied followed by a non-critical period prior to electors' voting.

A more detailed simulation is presented in the appendix.

CHAPTER 3-FINDINGS

Introduction

The objective of the study was to determine whether the adoption of indirect elections by all African countries that currently utilize direct elections to select their presents could generate lower frequencies of contested elections in those countries that make the switch, as compared to the frequencies observed in history.

Regression analysis was used to determine the strength of the influence of each independent variable on the frequency of contested elections. The variable of interest is the choice of electoral system. The regression model was used to statistically control all other independent variables.

The regression equation derived from the conceptual framework was as follows:

FCE = **a** + **b** EC + **c.** GPC +**d**. PS + **m**. ES + **e ,** where

FCE = frequency of contested elections

EC = election cleanness'

ES = electoral system

PS = power sharing index

e = error term (residuals)

Each of these independent variables represents a research question:

1. ES pertains to the first research question –'To what extent can indirect elections, as opposed to direct elections, generate a lower frequency of contested presidential election results in African democracies?'
2. EC pertains to the second question –'How might the quality of election procedures predict the frequency of contested presidential elections in African democracies?'
3. PS pertains to the third question- 'To what extent does power sharing predict the frequency of contested presidential elections in African democracies?'
4. GPC pertains to the fourth question –'To what extent does the median per capita income predict the frequency of contested presidential elections for presidential democracies that conducted elections within the period, 1989 to 2020?'

The analysis unearthed that fact that the influence of the electoral system and election cleanness variables over the frequency of contested elections were statistically significant.

In order to answer the four research questions, the following approach was used in conducting the data analysis:

1. Generated descriptive statistics such as measures of central tendency, measures of dispersion and measures of skewness in order to obtain in a fair idea of the shape, important patterns and relationships in the data
2. Determined the suitability of the data for statistical inference

3. Used regression analysis to determine the coefficients of the five independent variables
4. Checked whether the regression model satisfied the 7 classical assumptions of ordinary least squares (OLS) regression
5. Specified the appropriate model for explaining and predicting the FCE

Important shapes, patterns and unusual values in the data

All the secondary data required for the regression model are displayed in Table 9 below:

Table 9: The 31 observations to be plugged into the regression model

Country	Electoral System	Continent	Frequency of contested elections (FCE)	Electoral System dummy variable (ES)	average Election Cleanness (EC)	median GDP Per Capita in current USD (GPC)	average Power Sharing (PS) index	First election year after 1988	Last election year
Botswana	Indirect	Africa	0.00%	0	76.54%	5,073.52	0.00%	1989	2019
Estonia	Indirect	Europe	0.00%	0	90.79%	14,663.04	22.38%	1995	2019
India	Indirect	Asia	0.00%	0	81.41%	714.86	23.38%	1991	2019
South Africa	Indirect	Africa	0.00%	0	76.18%	6,146.47	41.29%	1994	2019
Suriname	Indirect	Americas	14.29%	0	79.00%	3,590.65	0.00%	1991	2020
Trinidad and Tobago	Indirect	Americas	0.00%	0	76.96%	12,327.28	0.00%	1991	2020
United States	Indirect	Americas	12.50%	0	82.86%	45,206.74	20.63%	1992	2020
Vanuatu	Indirect	Oceania	0.00%	0	68.87%	2,601.47	0.00%	1998	2020
Algeria	Direct	Africa	33.33%	1	41.49%	1,955.34	33.28%	1991	2014
Benin	Direct	Africa	20.00%	1	68.01%	755.01	39.50%	1991	2016
Central African Republic	Direct	Africa	16.67%	1	42.33%	377.42	6.16%	1993	2020
Cote d'Ivoire	Direct	Africa	80.00%	1	43.76%	1,308.94	24.58%	1990	2020
Gambia	Direct	Africa	20.00%	1	39.46%	669.40	0.00%	1996	2016
Ghana	Direct	Africa	25.00%	1	70.77%	702.97	13.13%	1992	2020
Guinea-Bissau	Direct	Africa	0.00%	1	60.82%	465.10	25.11%	1994	2020
Kenya	Direct	Africa	50.00%	1	48.97%	488.76	27.35%	1992	2017
Madagascar	Direct	Africa	16.67%	1	53.80%	368.80	21.94%	1993	2019
Malawi	Direct	Africa	0.00%	1	58.92%	311.97	2.31%	1994	2020

Mali	Direct	Africa	33.33%	1	60.50%	489.02	26.45%	1992	2018
Mauritania	Direct	Africa	66.67%	1	42.36%	1,134.82	17.18%	1992	2019
Mozambique	Direct	Africa	16.67%	1	48.83%	432.13	28.01%	1994	2019
Namibia	Direct	Africa	0.00%	1	66.22%	4,135.73	30.30%	1994	2019
Niger	Direct	Africa	14.29%	1	59.28%	344.53	34.94%	1993	2020
Nigeria	Direct	Africa	28.57%	1	46.54%	882.52	61.14%	1983	2019
Senegal	Direct	Africa	20.00%	1	72.76%	1,027.73	23.49%	1993	2019
Sierra Leone	Direct	Africa	20.00%	1	61.25%	360.37	24.64%	1996	2018
Togo	Direct	Africa	100.00%	1	40.02%	537.33	23.23%	1998	2020
Tunisia	Direct	Africa	0.00%	1	40.94%	3,687.78	23.40%	1999	2019
Uganda	Direct	Africa	0.00%	1	37.54%	349.22	12.74%	1996	2016
Zambia	Direct	Africa	33.33%	1	54.45%	493.48	15.64%	1991	2016
Zimbabwe	Direct	Africa	60.00%	1	32.77%	731.95	18.77%	1996	2018

Compiled by: Author

Note: Source for frequency of contested elections-BBC Country Profiles:
http://news.bbc.co.uk/2/hi/country_profiles/default.stm

Source for Election Cleanness Scores-IDEA's State of Global Democracy Indices:
https://www.idea.int/gsod-indices/about#Free%20Political%20Parties

Source for GDP per capita-World Bank:
https://databank.worldbank.org/indicator/NY.GDP.PCAP.CD/1ff4a498/Popular-Indicators#

Source for Power Sharing index-Constitutional Power Sharing Data-Harvard University:
https://dataverse.harvard.edu/dataset.xhtml?persistentId=doi:10.7910/DVN/9FYN8J

Snapshot of observations

The data describes the aspects of the political and economic spheres of 31 countries (comprising 25 African countries and 6 non-African countries) which are relevant to this study. Out of the 25 African countries shortlisted for the study only 2 (South Africa and Botswana) currently use indirect elections to choose their president. All the 6 non-African countries described in the dataset use indirect elections. Two of the twenty-five African countries use indirect elections to select their president. Each of the 31 observations in the table contains the value of the dependent variable

(frequency of contested elections over the long haul) and the values of the four independent variables (ES, EC, GPC and PS).

Each observation contains the salient characteristics of what each country in the population of interest has exhibited over the long-term with respect to the four research questions. In order to capture these long-term characteristics, the averages of the continuous independent variables (EC, GPC and PS) were captured in the dataset as either the mean or median. The frequency of contested elections for each country is also a long-term parameter. For a country which holds elections every 4 years, it takes 20 years to obtain 5 election counts and measure the frequency of contested elections. The electoral systems for each country have remained unchanged during the period of study-1989 to 2020.

Descriptive statistics

Important patterns for each variable are summarized in Table 10 below:

Table 10: Descriptive statistics for each variable in the regression model

	Frequecy of contested elections (FCE)	average Election Cleanness (EC)	median GDP Per Capita in current USD (GPC)	average Power Sharing (PS)
N	31	31	31	31
Missing	0	0	0	0
Mean	0.220	0.589	3624	0.207
Median	0.167	0.593	732	0.232
Mode	0.00	0.328 [a]	312 [a]	0.00
Sum	6.81	18.2	112334	6.41
Standard deviation	0.257	0.160	8428	0.141
Minimum	0.00	0.328	312	0.00
Maximum	1.00	0.908	45207	0.611
Skewness	1.52	0.178	4.37	0.437
Std. error skewness	0.421	0.421	0.421	0.421
Kurtosis	2.10	-1.13	21.0	0.993
Std. error kurtosis	0.821	0.821	0.821	0.821
Shapiro-Wilk W	0.809	0.953	0.419	0.929
Shapiro-Wilk p	< .001	0.186	< .001	0.042

Source of statistical output: The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org

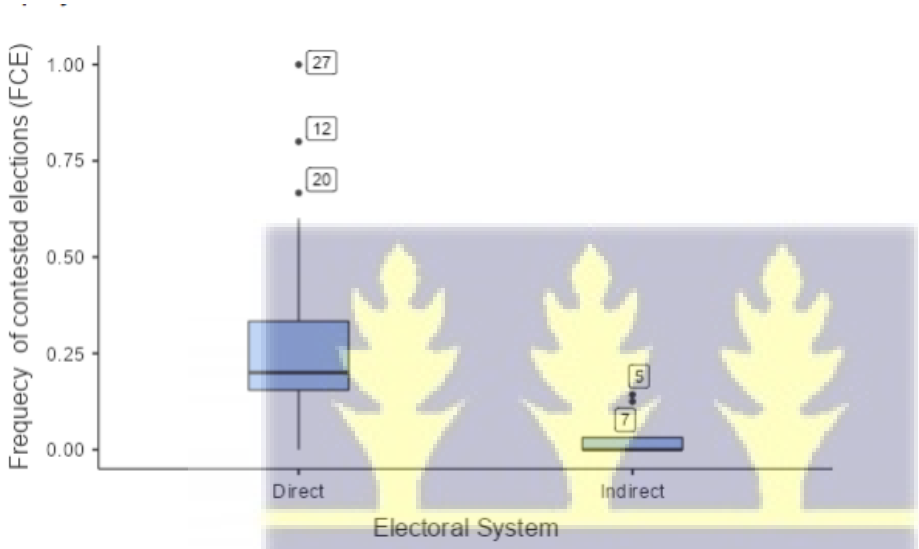
The median frequency of contested elections (FCE) for the population of interest (POI) of 31 countries is 16.7 percent. It is less than the mean of 22 percent because the mean is affected by outliers such as Cote d' Ivoire (80%) and Togo (100%). The mean FCE of the population of interest is less than both the African continental average of 26.8 percent for the period 1960 to 2012

(Hausken & Ncube, 2014, p. 614) and the global FCE of 25 percent for the period 1974 and 2012 (Huerta, 2014 as cited in Baah, 2018).

The mode of the frequency of contested elections (FCE) is zero percent (0%), posted by 11 countries. Seven (6) of these countries use indirect elections, whilst the remaining (five) 5 use direct elections. A significant observation is that six (6) out of eight (8) countries that use indirect elections had a FCE of zero (0%) for the period of the study.

The box plot in Figure 8 below highlights the pattern between the range of values of FCE for direct and indirect elections:

Figure 8: Box plot comparing ranges of FCE of direct versus indirect election countries



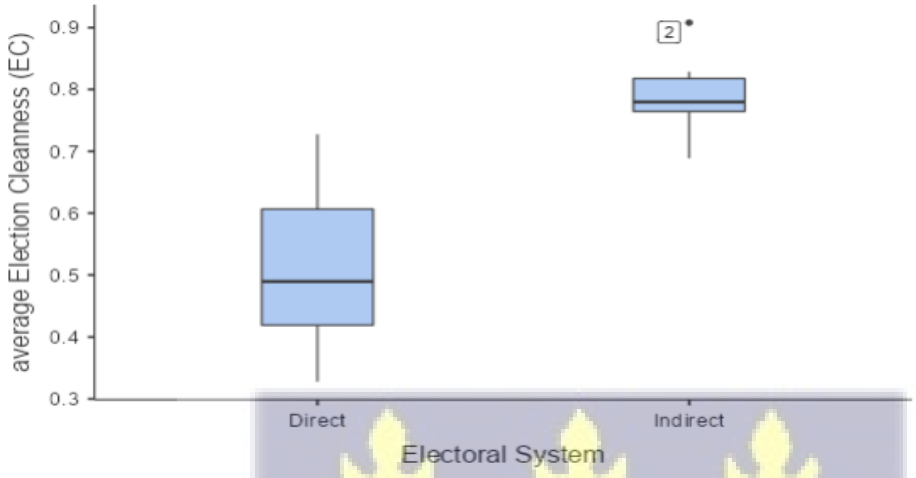
Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

The box plot indicates that the range of FCE for direct elections are far higher than those for indirect elections. Even though this seems to vindicate the aim of the study, that indirect election countries within the population of interest generate lower FCE, there are important caveats to consider:

- Neither the lower FCE range of indirect election countries nor the higher FCE range of direct election countries observed implies causality between the electoral system and FCE. It may be that countries that happened to choose indirect elections would have still obtained the same low FCE observed if they had chosen direct elections instead. Similarly, the countries that chose direct elections may have still obtained high FCEs if they had opted for indirect elections instead. To ascertain whether the low FCE of indirect election countries and the high FCE are not chance events, statistical inference will have to be conducted on the data, to determine the likelihood that these observed patterns are not due to pure chance;
- The lower FCE range of indirect election countries could be due to some other factor that is unique to indirect election countries that has nothing to do with the electoral formula of indirect elections. For instance, what if indirect election countries generally have higher

election cleanness scores? That translates to indirect election countries having more independent and efficient election management bodies. To query, this a box plot comparing the election cleanness of direct versus indirect election countries was plotted as shown in Figure 9 below:

Figure 9 Box plot comparing the election cleanness of direct versus indirect election countries



Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

Indeed, the range of election cleanness scores of indirect elections countries within the population of interest (POI) are far higher than those direct election countries. Once again, these differences need to be ascertained though statistical inference to provide some assurance that they were not chance events in history.

Suitability of the five variables for statistical inference tests

Many inferential statistics methods (such as t-tests) require the underlying data to be normally distributed for optimum efficiency. The Central Limit Theory states that violation of the normality assumption is not a big deal for sample sizes greater than 100 (Mishra, et al., 2019).The population of interest for this study has a size of 31 and calls for a normality test.

One test of normality is the extent of skewness of the data. Skewness measures the level of symmetry of the data- with a value of 0 indicating perfect symmetry.

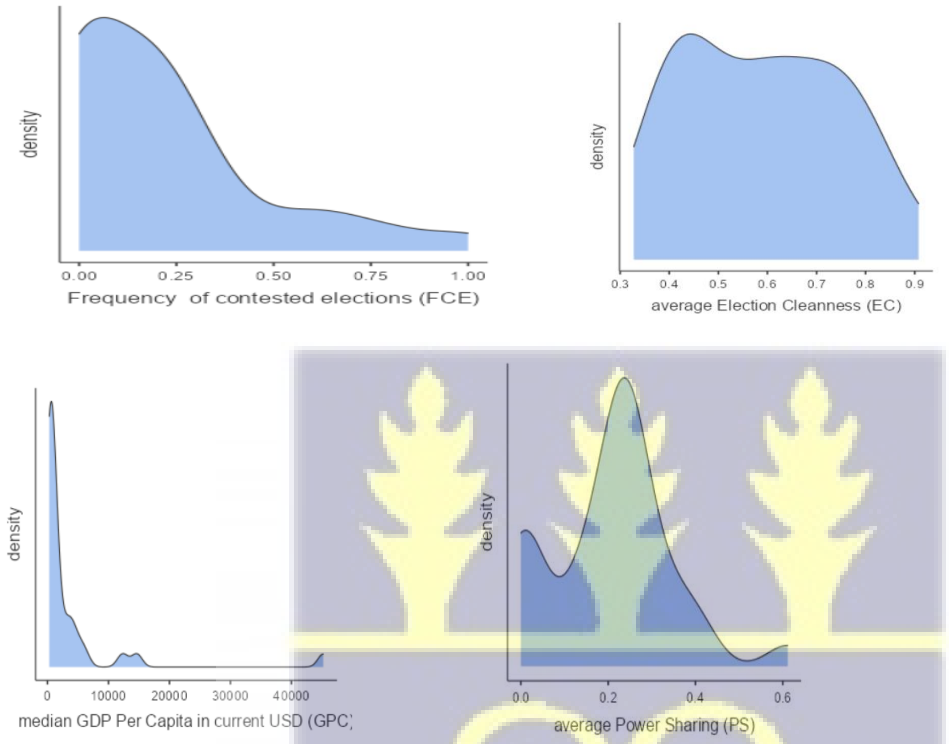
Data are described as approximately normal if the both skewness and kurtosis (excess) lies between 0 and 1.

The measures of skewness and kurtosis for each variable used in the study are found in Table 10 above. The skewness measures for FCE and per capita income are 1.52 and 4.37 respectively. This indicates that the distributions of FCE and per capita income are asymmetrical and thus do not approximate normality. However, for smaller samples (less than 50), the Shapiro-Wilk test has a greater capacity to detect non-normality than measures of skewness and kurtosis (Mishra, et al., 2019). When $p > .05$ the null hypothesis is rejected and the data are considered normally distributed.

Only the p-value for average election cleanness (EC) exceeded 0.05 as shown in Table 10 above. This means that none of the continuous variables was normally distributed with the exception of election cleanness.

The density plots exhibited in Figure 10 below indicate the non-normality of the three of the four continuous variables used in the study:

Figure 10: Density plots of the 4 continuous variables



Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

Fortunately, the Ordinary Least Squarest (OLS) regression method assumptions do not require normally distributed data. Rather, the residuals or error terms associated with the data are optimal if they are normally distributed (Frost, 2019, p. 210). The next section captures the first attempt to determine the coefficients of the regression model and the statistical significance of each coefficient.

The first determination of regression coefficients

After exporting the data in Table 9 to the Jamovi software, the output displayed in Table 11 was printed out:

Table 11: Regression Model 1

Model Fit Measures

				Overall Model Test			
Model	R	R^2	Adjusted R^2	F	df1	df2	p
1	0.566	0.320	0.216	3.06	4	26	0.034

Predictor	Estimate	SE	t	p
Intercept	0.6894	0.326	2.1157	0.044
Electoral System dummy variable (ES)	0.0122	0.162	0.0753	0.941
average Election Cleanness (EC)	-0.8990	0.406	-2.2132	0.036
median GDP Per Capita in current USD (GPC)	2.48e-6	5.95e-6	0.4168	0.680
average Power Sharing (PS)	0.2002	0.318	0.6295	0.534

Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

The F-test of overall significance indicates whether the linear Regression Model 1 provides a better fit to the data than a model that contains no independent variables.

At the 5 percent level of significance, the p-value of .034 for the F-test indicates that there is a 3.4 percent probability that the 31 observations in the data could have been obtained by chance if the model had no independent variables. Therefore, the null hypothesis indicating that no coefficient has influence over the dependent variable is rejected. It is therefore expected that at least one of the variables should be statistically significant.

Indeed, only one independent variable was statistically significant- election cleanness (EC). It had a p-value of .036. This generally means that for every round of 100 samples drawn from the population, it is only 4 of such samples that are likely to contain the observed data if the null hypothesis (which indicates that the coefficient of the variable is zero) was true.

However, all these conclusions are based on the assumption that the seven (7) classical assumptions of Ordinary Least Squares method of regression were adhered to. If any of the assumptions are significantly violated, then all the p-values in the regression output above are not reliable, neither are the interpretations given so far.

If the assumptions of OLS hold true, they facilitate the computation of the best estimates of the regression coefficients (Frost, 2019, p. 210).

The 7 assumptions are as follows (Frost, 2019, pp. 202-209):

1. "The correctly specified regression model is linear in the coefficients and the error term"
2. "The error term has a population mean of zero"
3. "All independent variables are uncorrelated with the error term"
4. "Observations of the error term are uncorrelated with each other"
5. "The error term has a constant variance (no heteroscedasticity)"
6. "No independent variable is a perfect linear function of other explanatory variables"
7. "The error term is normally distributed (optional)"

Whereas the first six assumptions are mandatory, the last assumption is optional for generating the best regression coefficient estimates (Frost, 2019, p. 209)

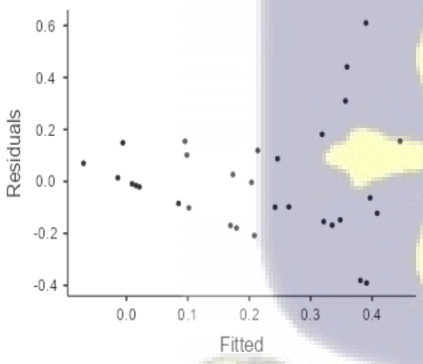
According to Frost, "residual plots can expose a biased model far more effectively than numeric output by displaying problematic patterns in the residuals" (Frost, 2019, p. 126). In other words, residual plots are more effective than R-squared, F-tests and other numerical measures for assessing the goodness-of-fit. In the next section, residual plots will be used to cover any potential violations of the 7 OLS assumptions.

Residual plots as first diagnostic tool

Residual plots display the residual values (difference between fitted values and the observed dependent values) and the fitted values on the x-axis. If the plots do not display randomness, neither regression coefficients nor other numeric outputs are reliable (Frost, 2019, p. 196).

Figure 11 below depicts the residual plot for the first regression model, which will subsequently be referred to as Regression Model 1 (or Model 1)

Figure 11: Residual plot- residuals against fitted values for Model 1



Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

Figure 11 displays a clear **crescent pattern**. The regression model is not a good fit.

Therefore, none of the regression coefficients or p-values of the first regression output can be trusted. The non-random pattern in the residual plot indicates that some explanatory power that rightfully belongs to the independent variables of the regression model has 'leaked over' to the error terms (Frost, 2019, p. 200). Possible reasons for this leakage include a missing:

- Independent variable.
- Polynomial term to model a curve (See plot above).
- Interaction term.

The missing independent variable remedy was the least preferred for this study. The integrative literature review approach was used to identify factors that possibly could influence FCE. The current regression model has 4 independent variables. Adding more variables would cause it to become overfit with independent variables. An overfit model is overly complex and has too many independent variables relative to the sample size. Overfitting causes a regression model to generate unreliable R-squared values, p-values and coefficients (Frost, 2019, p. 188)

Ideally, there should be 10 observations for each independent variable in the model to avoid overfitting a regression model (Frost, 2019, p. 193). Based on this rule of thumb, the ideal data set for this study should have had a minimum of 40 observations (4 independent variables x 10).

Instead, there are 31 observations in the data. The small number of indirect election countries (8) places a limit on how many direct election countries can be added to the population of interest. Adding on too many direct election countries would make the data a predominantly direct election population of interest and weaken any signals from the indirect election countries.

Hence, there was no theoretical basis for adding more independent variables. There was no justification for including a polynomial term. Therefore, the remaining option- ***interaction terms***- was the recovery path taken.

Toying with possible interactions

Interaction effects occur when the effect of one variable on the dependent variable depends on the value of another variable (Frost, 2019, p. 110). For example, the effect of one's I.Q. on a test score may interact with how many hours of study one put in, the quality of textbooks read and the state of one's health on the test day to produce the test score. For the purpose of this study, I experimented with the following interactions:

- ES interacting with EC
- EC interacting with PS

These interactions were placed in various models hosting different combinations of the standalone variables, ES, EC, GPC and PS.

For each model, the overall goodness-of-fit statistics such R-squared, adjusted R-squared, p-values for the F-test and p-values for the coefficients were examined. The model with the best parameters included the ES and EC interaction combined with the ES variable.

This model will be referred to as Regression Model 2.

Table 12 below shows the output for Regression Model 2:

Table 12: Regression Model 2

Model Fit Measures

				Overall Model Test			
Model	R	R^2	Adjusted R^2	F	df1	df2	p
1	0.565	0.319	0.270	6.55	2	28	0.005

Model Coefficients - Frequecy of contested elections (FCE)

Predictor	Estimate	SE	t	p
Intercept	0.0335	0.0775	0.432	0.669
Electoral System dummy variable (ES)	0.7287	0.2259	3.225	0.003
ES x EC	-0.9217	0.4000	-2.304	0.029

Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

Before commenting on the regression output above, it will be expeditious to compare Regression Model 1 and Regression Model 2 to highlight the basis for choosing Model 2 over Model 1. This will require a modicum of interpretation of some of the parameters. However the bulk of interpretations will be done in the Discussion Chapter.

Table 13 below displays a comparison of the two models.

Table 13: Comparison of Regression Model 1 and Regression Model 2

	Regression Model 1	Regression Model 2	Model 1-Model 2
p-value of F-test	0.034	0.005	0.029
R-squared	0.320	0.319	0.001
adjusted R-squared	0.216	0.270	-0.054
p-value of ES	0.941	0.003	0.938
p-value of EC	0.036	standalone variable excluded	

Source: Author

Model 2 exhibits a far lower p-value for the F-test.

The R-squared is slightly higher for Model 1 but adjusted R-squared for Model 2 is significantly higher than that for Model 1. The R-squared has the limitation of bloating as more independent

variables are added to the model. All it takes to increase R-squared for a study is to add on many useless independent variables. The adjusted R-squared overcomes that limitation (Frost, 2019, p. 132). Thus, the increase in adjusted R-squared from 0.216 (Model 1) to 0.270 (Model 2) points to an improvement in the ability of Model 2 to explain variation in the observed data.

The p-value of the electoral system (ES) variable drops from 0.941 (Model 1) to 0.003 (Model 2). This means that the probability of observing the 31 observations in the population of interest by mere chance has reduced, assuming the null hypothesis indicating that ES has no effect on FCE was true. This also marks an improvement of Model 2 over Model 1.

Finally, the EC variable had to be excluded from Model 2 as a standalone variable because its p-value exceeded .05 when added to the model. Furthermore, the p-value of the interaction term and ES were pushed beyond .05 when a standalone EC variable was added to the model.

Table 14 below shows Model 2 with EC standalone independent variable added on.

Table 14: Model 2 plus standalone EC variable

Predictor	Estimate	SE	t	p
Intercept	-0.0968	1.06	-0.0916	0.928
Electoral System dummy variable (ES)	0.8589	1.08	0.7965	0.433
average Election Cleanness (EC)	0.1647	1.33	0.1236	0.903
ES x EC	-1.0864	1.39	-0.7798	0.442

Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

Checking the 7 OLS assumptions for Model 2

In this section, Model 2 was subject to tests for detecting compliance with the 7 OLS assumptions prior to interpreting p-values or regression coefficients.

Testing for autocorrelation

The Durbin-Watson test examines the null hypothesis that the residuals are uncorrelated. Its value ranges between 0 and 4. A value of 2 indicates zero autocorrelation, a value less than 2 indicates positive autocorrelation whilst a value exceeding 2 indicates negative autocorrelation.

The value of the Durbin-Watson test statistic for Model 2 was 2.56 as shown in Table 15 below, indicating negative autocorrelation. However, because the p-value exceeds .05, the null hypothesis is not accepted. This means that the notion that Model 2 is plagued by autocorrelation can be jettisoned.

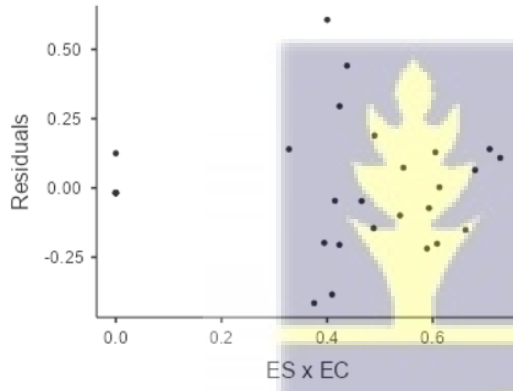
Table 15: Durbin-Watson test for autocorrelation

Autocorrelation	DW Statistic	p
-0.288	2.56	0.140

Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

A visual inspection of a plot of the residuals against the only continuous independent variable- the interaction term, ES x EC, indicates the absence of autocorrelation. The randomness of the pattern shown in Figure 12 below, indicates the absence of autocorrelation.

Figure 12: Residual plot- residuals against interaction term ES x EC (Model 2)

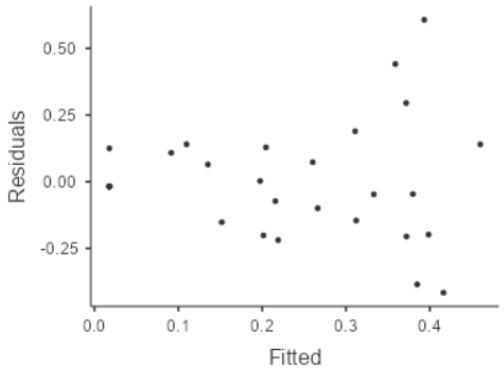


Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

Testing for heteroscedasticity

The variance of the error term should be constant for each observation under OLS assumptions (homoscedasticity). Generally, when the residuals plotted against fitted values fan out into a cone, it indicates the presence of heteroscedasticity. Figure 13 below exhibits a plot of the residuals against the fitted values of Model 2.

Figure 13: Residual plot- residuals against fitted values (Model 2)



Source of statistical output: *The jamovi project (2022). jamovi (Version 2.3) [Computer Software]. Sydney Australia. Retrieved from https://www.jamovi.org*

The data points in Figure 13 **do not** fan out **systematically** from the fitted value of 0 onwards. Rather, the points narrow down from fitted values of 0 to 0.15, spread out at 0.2 and narrow down again at 0.28. From 0.3 they fan out to 0.4.

Heteroscedasticity portrays a different pattern. Heteroscedasticity is "*a systematic change in the spread of the residuals over the range of measured values. …. Typically, the telltale pattern for heteroscedasticity is that as the fitted values increases, the variance of the residuals also increases*" (Frost, 2019, pp. 211-212). Figure 13 does not exhibit a systematic fanning out. Rather, Figure 11, based on Model 1, exhibits the characteristic systematic fanning out pattern of heteroscedasticity.

Heteroscedasticity occurs in data sets in which some variables have a wide range of values. This may explain why the residual plot of Model exhibits heteroscedasticity but that of Model 2 does not.

Model 1 includes one variable with a wide range- the median GDP per capita (minimum of USD 311 for Malawi and USD 42,206 for U.S.). Model 2 has only one continuous variable, the interaction term-ES x EC, which has a narrow range from 0 percent to 72.8 percent. Therefore, it is not expected to exhibit heteroscedasticity.

Test for Multicollinearity

Multicollinearity occurs when independent variables are correlated. Moderate multicollinearity may be tolerated in a regression model (Frost, 2019, p. 223). The Variance Inflation Factor (VIF) is used to detect multicollinearity. However, there is no consensus about what moderate multicollinearity is and how to treat it. Frost, 2019 states that a VIF greater than 5 is critical and warrants fixing.

Table 16 below displays the multicollinearity statistics for Model 2.

Table 16: Multicollinearity statistics for Model 2

	VIF	Tolerance
Electoral System dummy variable (ES)	6.31	0.159
ES x EC	6.31	0.159

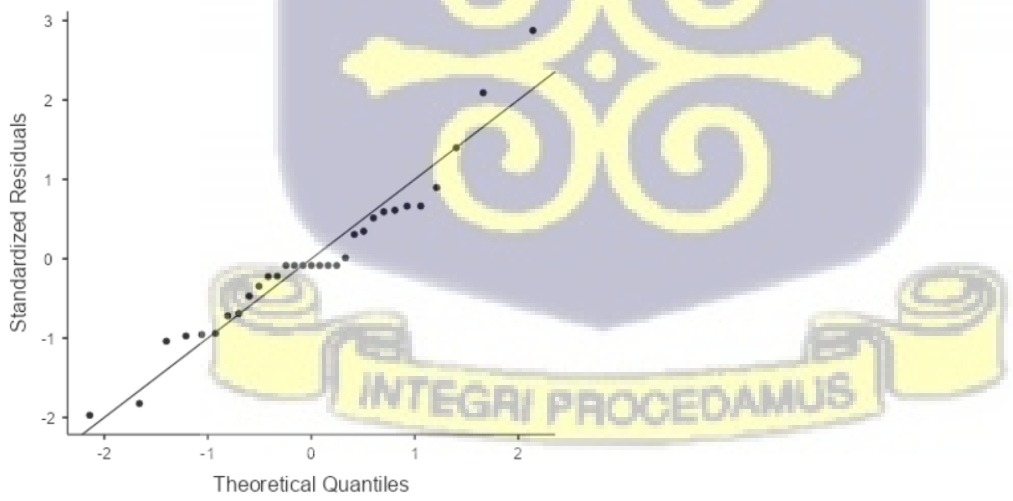
A list of references are provided by (Choueiry, n.d.) on his website about a variety of safe and critical VIF ranges prescribed by various scholars. According to the website, Vittinghoff et al, 2012 state that a VIF exceeding 10 is problematic, whilst Menard S., 2001 indicates that VIF exceeding 5 is a cause for concern but one exceeding 10 indicates the presence of serious collinearity.

The multicollinearity observed in Model 2 is due to the interaction term ES x EC. This type of multicollinearity is referred to as **structural multicollinearity**. It occurs when two or more independent variables are multiplied to create a new independent variable (Frost, 2019, p. 221). According to Allison, 2012, structural multicollinearity derived from a model where two independent variables x and y are multipied to create a third, xy, the p-value of xy is not affected by multicollinearity. Based on the fact that the multicollinearity observed in Model 2 is structural and that the VIF is less than 10, the multicollinearity in Model was considered moderate and not warranting a fixing.

Test of normality of the residuals

The Q-Q plot indicates the extent of normality of the residuals. Figure 14 below exhibits the Q-Q plot for Model 2.

Figure 14: Q-Q plot for Model 2



The points hover around the line and don't curve off, indicating that the residuals are normally distributed. Jim Frost made an interest remark about this assumption:

"OLS does not require that the error term follows a normal distribution to produce unbiased estimates with the minimum variance. However, satisfying this assumption allows you to perform statistical hypothesis testing and generate reliable confidence intervals and prediction intervals" (Frost, 2019, p. 209).

Testing whether the error term has a population mean of zero

Because Model 2 has an intercept, it forces the mean of the error term to be zero (Frost, 2019, p. 78). Thus this assumption is not violated.

Having satisfied all the OLS assumptions, Model 2 was chosen as the specified regression model for the data analysis.

Interpreting Model 2 output

In this section minimal interpretations were provided just to describe mathematical relationships and to explain the logic behind decisions to further revise Model 2. However, the bulk of the interpretation were reserved for the Discussion.

Model 2 has two independent variables- ES , the electoral system term and the interaction term, ES x EC.

All other variables included in the conceptual framework were dropped because they were not statistically significant and actually caused Model 1 to be overfit.

The Model 2 regression equation is as follows:

$FCE_{fitted} = \mathbf{a} + \mathbf{m}.\ ES + \mathbf{n}\ (ES \times EC) + \mathbf{e}$

, where 'a' is the constant term, 'm' is the coefficient of ES, the choice of electoral system, 'n' is the coefficient of the interaction term ES x EC and 'e' is the residual or error term.

Based on the regression output for Model 2 in Table 12, the fully specified regression model is as follows:

$FCE_{fitted} = 0.0335 + 0.7287\ ES - 0.9217\ (ES \times EC)$, where (ES x EC) is the interaction term.

The regression model has both main effects and interaction effects.

The main effect is the "portion of an independent variable's effect on the dependent variable that doe not depend on the value of another independent variabe" model (Frost, 2019, p. 118). Thus, the coefficient 0.7287 is the main effect of ES.

In the methodology section, it was proven algebraically that, a positive coefficient for ES indicated that

$FCE_{direct} > FCE_{indirect}$.

Thus Model 2 suggests that the mean of the frequency of contested elections for direct election countries is statistically significantly greater than the mean frequency of contested elections of indirect election countries.

An interaction effect indicates that the influence of an independent variable on a dependent variable depends on the value of another independent variable in the model (Frost, 2019, p. 119). Thus -0.9217 is the interaction effect of ES x EC.

When a regresson model hosts statistically significant effects, " the main effects cannot be interpreted without considering the interactions" (Frost, 2019, p. 115).

Unlike the coefficients of main effects which are useful, the coefficients of the interaction term is usually meaningless (Frost, 2019, p. 121). Interaction plots make it easier to interpret the interaction effect (Frost, 2019, p. 117)

The interaction plot for Model 2

The easiest part of creating the ineraction plot for Model 2 was assigning EC values of 0 percent to 90 percent at regular intervals of 10 percent to the x-axis.

Two lines were plotted on the same axes:

- FCE_{direct} : The y-values of the this are the values of FCE_{fitted} for direct election countries in the population of interest.
- $FCE_{indirect}$: The y-values of the this line are the values of values of FCE_{fitted} for indirect election countries in the populatoin of interest, mostly African countries.

These equatons can be written out by assiging the variable ES its respective dummy variable values for direct and indirct elections.

The dummy variable of 1 was assigned to direct elections in the methodology section.

The dummy variable of 0 was assigned to indirect elections.

Hence, FCE_{direct} is specified by plugging ES= 1 into FCE_{fitted}

Similarly, $FCE_{indirect}$ is specified by plugging ES = 0 into FCE_{fitted}

The Model 2 regression equation is:

$$FCE_{fitted} = 0.0335 + 0.7287\ ES - 0.9217\ ES \times EC \quad (4)$$

The equation was constructed using the Model 2 regression coefficients in Table 12.

Next, this equation was split into its direct and indirect components FCE_{direct} and $FCE_{indirect}$:

-for FCE_{direct} :

$FCE_{direct} = FCE_{fitted}$ when ES = 1 giving rise to:

$FCE_{direct} = 0.0335 + 0.7287 \times (1) \quad -0.9217 \times (1) \times EC$

$FCE_{direct} = 0.0335 + 0.7287 \times (1) \quad -0.9217\ EC$

$FCE_{direct} = 0.0335 + 0.7287 \quad -0.9217\ EC$

$FCE_{direct} = 0.7622 - 0.9217\ EC$ (5)

-for FCE_{inrect} :

$FCE_{indirect} = FCE_{fitted}$ when ES = 0 giving rise to:

$FCE_{indirect} = 0.0335 + 0.7287 \times (0) \quad -0.9217 \times (0) \times EC$

$FCE_{indirect} = 0.0335$ (6)

The two lines, FCE_{direct} and $FCE_{indirect}$ were constructed by plugging in values of EC from 0 percent to 90 percent at regular intervals, except for the special EC values of 79.1% and 82.7% which were determined using Microsoft Excel's Goal Seek to compute the values of EC that generate the intersection of FCE_{direct} and $FCE_{indirect}$ as well as the x-intercept of FCE_{direct} respectively.

Table 17 below displays the values of EC, FCE_{direct} and $FCE_{indirect}$ used to plot the interaction plot for Model 2

Table 17: Values of EC, FCE direct, FCE indirect used for interaction plot of Model 2

EC	FCE direct	FCE indirect
0.0%	76.22%	3.35%
10.0%	67.00%	3.35%
20.0%	57.79%	3.35%
30.0%	48.57%	3.35%
40.0%	39.35%	3.35%
50.0%	30.14%	3.35%

60.0%	20.92%	3.35%
79.1%	3.35%	3.35%
82.7%	0.00%	3.35%
90.0%	-6.73%	3.35%

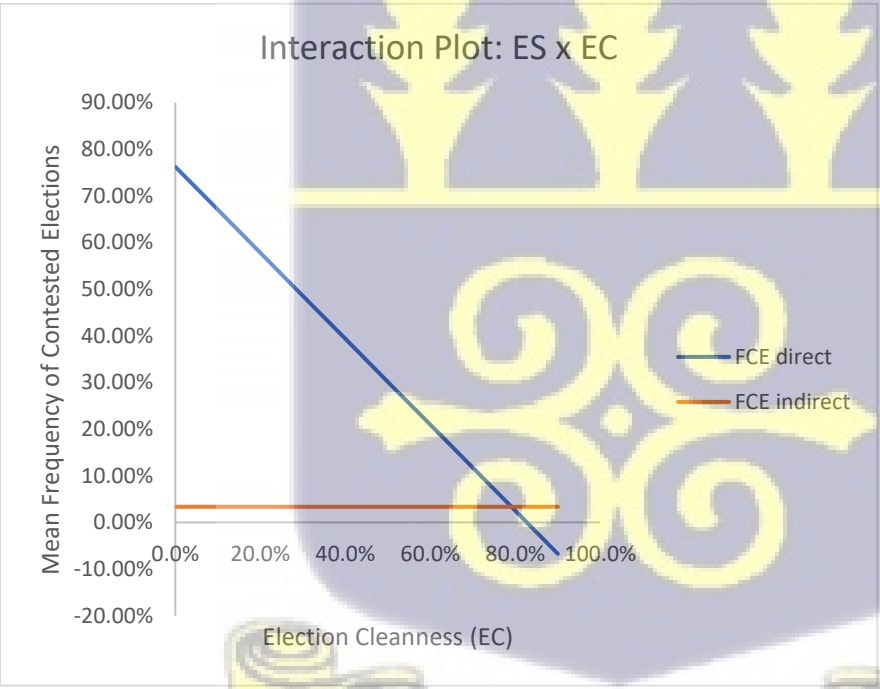
Source: Author

For each value of EC, the value of FCE_{direct} computed is actually the mean value of FCE for direct elections held at that value of EC. For example, when EC = 10%, the mean FCE for direct election countries is 67%.

Similarly, for each value of EC, the value of $FCE_{indirect}$ computed is actually the mean value of FCE for indirect elections held at that value of EC. For example, when EC = 10%, the mean FCE for indirect election countries is 3.35%. Whereas the mean FCE reduces for direct countries as EC increases, the mean FCE remains at 3.35% for indirect election countries.

Figure 15 below displays the interaction plot based on Table 17.

Figure 15: The interaction plot of Model 2



Source : Author

The two lines, FCE_{direct} and $FCE_{indirect}$ have different slopes, indicating that there is an interaction between ES and EC. With interaction plots, parallel lines point to a lack of interaction between two variables whilst different slopes indicates otherwise (Frost, 2019, p. 114).

The interaction effect in Model 2 means that for a given EC value, the mean FCE depends on whether a country holds direct elections or indirect elections. In other words, the effect of EC on the mean FCE interacts with the effect of ES on the mean FCE to determine the overall effect on the mean FCE.

Similarly, for a given value of ES or for a given electoral system, the overall effect on the mean FCE depends on the value of EC.

The following inferences can be drawn from Figure 15:

1. Within the range of values of 0% to 82.7% for EC, the mean FCE is always lower for indirect election countries for a given EC.
2. Beyond the EC value of 82.7%, the mean FCE of indirect election countries exceeds that of direct election countries for a given EC.
3. The slope of FCE_{direct} is -92.17% (equation 5). This means that for every percentage point increase in the EC of a direct election country, the FCE reduces by 0.9%.
4. The slope of $FCE_{indirect}$ is 0% (equation 6). This means that changes in EC do not affect the mean FCE of direct election countries. In other words there is no main effect of EC on FCE for indirect election countries. The mean FCE for indirect elections is a steady 3.35% irrespective of the value of EC.

The last point indicates that changes in EC for an indirect election country do not significantly affect the mean FCE of indirect election countries. Theoretically, this implies that if an indirect election country were to reduce its EC by as much as 50 percentage points, the mean FCE for indirect election countries would remain unchanged. In practical terms, it seems to suggest that if a direct election country were to reduce its efficiency of organizing elections and cede over its independence to the incumbent and start oppressing some political parties (things which attract a low EC scores), the losers of elections will not increase their contestation of election results. This prediction from interaction plot is not realistic. However, there is a good explanation for this unrealistic prediction.

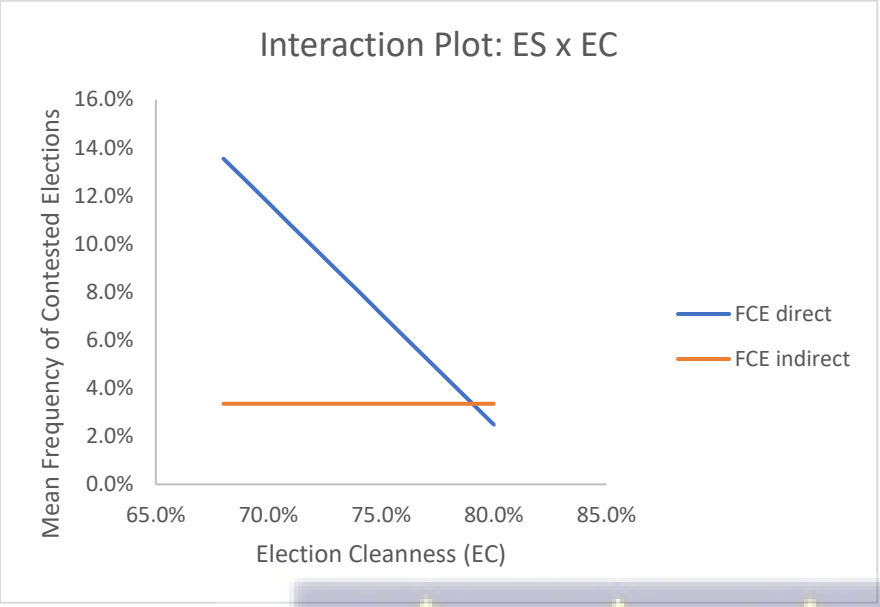
The reason for the predicted unresponsiveness of the FEC of indirect elections to changes in EC is that the data that were used to generate Model 2 and its interaction plot had EC ranging from 68.9% to 90.8% for indirect election countries and with almost all their FCE being 0% (except for Suriname and U.S. which had a FCE of 14.25% and 12.5% respectively).

Generally, reliable interpretations about the slope of the interaction plot lines can only be made within the range of the observed independent variables used to generate the model (Frost, 2019, p. 57). Thus, so long as the range of EC is between 68.8% and 90.9%, it is realistic to predict that that the mean FCE of indirect election countries will be constant at 3.35%.

Therefore, an error was committed by attempting to interpret the interaction plot based on an x-axis with EC values stretching from 0% to 90%, when the range of EC values for indirect election countries actually fell between 68.8% and 90.9%.

Figure 16 below shows the corrected interaction plot with EC values ranging from 68% to 80%.

Figure 16: Interaction Plot with EC ranging from 68% to 80%



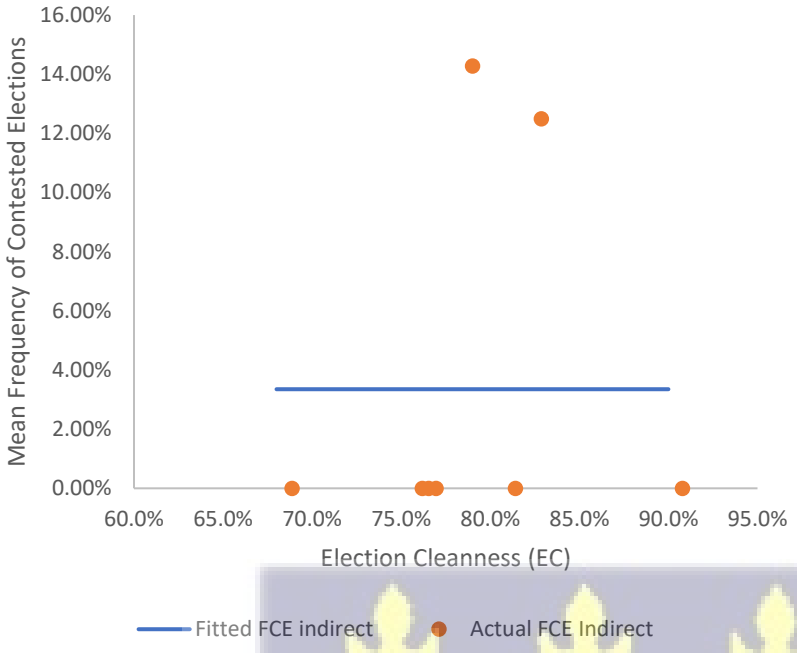
Source: Author

Within this narrower range, the mean FCE of indirect election countries is still perennially higher than that of direct election countries and the gap widens as EC falls.

In order to compare how the fitted interaction plot for direct and indirect elections compare with the actual data for direct and indirect election countries, I split the interaction plot into 2 graphs- one for the fitted indirect election FCE and the other for the fitted direct FCE plot.

Figure 17 below shows how the actual FCEs of indirect election countries spread around the fitted FCE line for indirect countries.

Figure 17: Fitted FCE versus Actual FCEs of indirect election countries



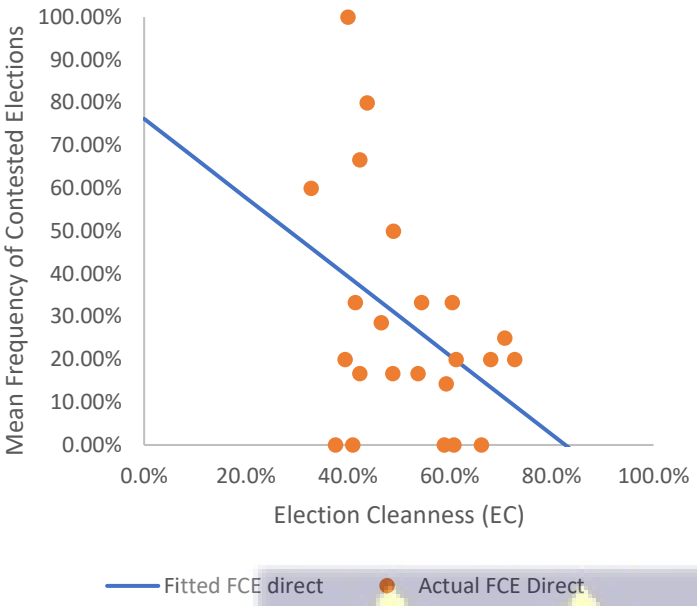
Source: Author

The constant FCE of 3.35% of the fitted FCE line for indirect election countries is actually the mean of the historical FCEs for indirect election countries.

The median of the historical FCEs for indirect election countries is 0%. The mean FCE is higher than the median FCE for indirect election countries because of the FCE outliers of 14.29% and 12.5% for Suriname and U.S. respectively (whose points lie above the fitted line in Figure 17).

Figure 18 below shows how the actual FCEs of direct election countries spread around the fitted FCE line.

Figure 18: Fitted FCE versus Actual FCE of direct election countries



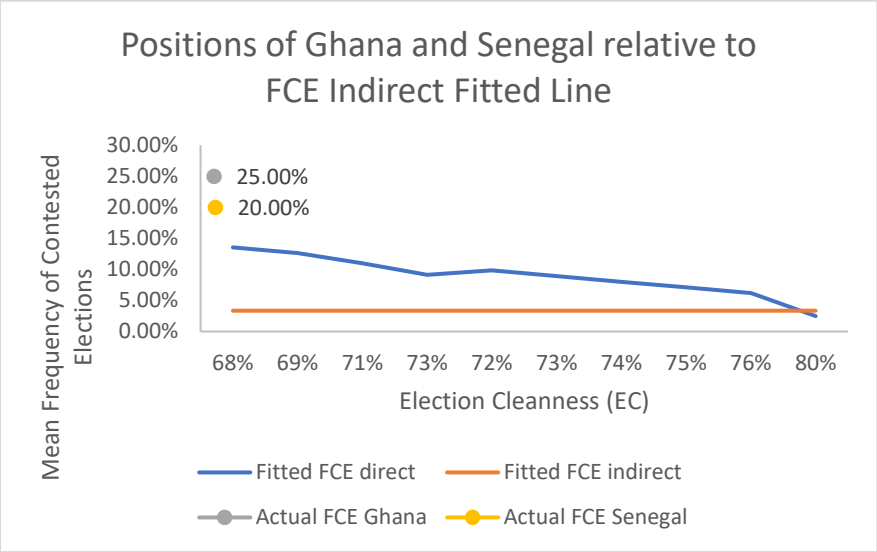
Source: Author

In the population of interest for the study, the only direct election countries are African countries. Moreover, only two direct election African countries have ECs within this range- Ghana (EC = 70.77%) and Senegal (EC =72.76%). Recall that EC is actually the average election cleanness score of a country between 1989 and 2020. Ghana and Senegal had the highest average election cleanness scores among all the African countries that use indirect elections (23 countries) in the population of interest.

The interaction plot in Figure 16 indicates that indirect elections have the capacity to generate lower FCEs for countries that adopt it and that the capacity to lower FCE is greater, the lower the EC of the direct election country which adopts it. The only direct election African countries that fall within the range of the interaction plot in Figure 16 are Ghana and Senegal.

Figure 19 below shows the actual FCEs and ECs of Ghana and Senegal within the interaction plot.

Figure 19: Interaction plot with Ghana and Senegal



Source: Author

Ghana and Senegal, the direct election countries with the highest average clean election scores, lie above both the fitted line for direct election countries and the fitted line for indirect election countries.'

The graph indicates that switching from direct elections to indirect elections will greatly reduce the frequency of contested elections for **even the African countries with the best EC scores**.

According to the fitted line for direct election countries, the expected FCE for Ghana at an EC of 70.8 percent is 11 percent. At the EC of 70.8 percent, a switch to indirect elections will reduce its expected mean FCE from 11 percent to 3.35 percent.

For Senegal at the EC of 72.8 percent switching from direct to indirect elections will reduce the FCE from an expected value of 9.1 percent to a mean of 3.35 percent.

The fourth column of Table 18 below indicates the extent to which FCE drops when a country switches from direct to indirect elections at every level of EC, with the case of Ghana and Senegal highlighted.

Table 18: Extent to which indirect elections reduce FCE at every level of EC

	EC	Fitted FCE direct	Fitted FCE indirect	FCE direct/FCE indirect
	68.0%	13.54%	3.35%	4.04
	69.0%	12.62%	3.35%	3.77
Ghana	70.8%	10.96%	3.35%	3.27
Senegal	72.8%	9.12%	3.35%	2.72
	72.0%	9.86%	3.35%	2.94
	73.0%	8.94%	3.35%	2.67
	74.0%	8.01%	3.35%	2.39
	75.0%	7.09%	3.35%	2.12
	76.0%	6.17%	3.35%	1.84
	80.0%	2.48%	3.35%	0.74

Source: Author

For instance at EC = 68%, the $FCE_{direct}/FCE_{indirect}$ is 4.04. This means that for a direct election country, the reported mean FCE at an EC of 68% is 4 times higher than the mean FCE of indirect election countries. Fixing the EC and comparing the mean FCEs of direct and indirect countries gives a clear indication that switching from direct to indirect elections results in lower FCEs.

The bulk of the inferences from the narrow range interaction plot will be shelved for the discussion.

CHAPTER 4- DISCUSSION

In this chapter, a summary of the key findings, their interpretation and implications for social change and the academic community are discussed.

Summary of key findings

The primary aim of the study was to investigate the possibility that African countries switching from direct elections to indirect elections would experience relatively lower frequency of contested elections.

The four research questions addressed were:

1. To what extent can indirect elections, as opposed to direct elections, generate a lower **frequency of contested presidential election** results in African democracies?
2. How might the **quality of election procedures** predict the frequency of contested presidential elections in African democracies?
3. To what extent does **power sharing** predict the frequency of contested presidential elections in African democracies?
4. To what extent does the **median per capita** income predict the frequency of contested presidential elections for presidential democracies that conducted elections within the period, 1989 to 2020?

The analysis of 31 countries' election outcomes with respect to their choice of electoral system indicated that indirect elections generated lower frequencies of contested elections than indirect elections. Strong empirical evidence was obtained for the **first research question**. The only independent variables that were statistically significant effects on the frequency of contested elections were the choice of electoral system and the quality of elections process.

It came as surprise that the interaction effect between the choice of electoral system and the election cleanness (a measure of the quality of elections processes) was statistically significant. On second thoughts, this interaction should have been anticipated because the quality of elections processes does not work in isolation from the electoral formula in delivering election outcomes. In other words, given two countries with the same quality of elections processes, different election results will be obtained depending on the electoral formula used. Chin (2019) suggests that the most important factor in elections is not the determination of a winner but capacity of an electoral formula to motivate the winner to distribute public goods widely across constituencies. In Chapter 2 it was demonstrated through a simulation that indirect elections in which elector seats were allocated less proportionately as regards the size of voting populations in administrative regions had a distributive advantage over all forms of direct elections. It was also demonstrated in Chapter 2 that the driving engine of the distributive advantage of indirect elections lay with its ability to shift politicians' attention from head count (the number of votes gained by a party) to region count (the number of regions won over by a party). The salience of the shift from head count to region count with respect to the frequency of contested elections is that politicians are compelled to think about many regions when allocating public goods in contrast to focusing of many heads in a few regions. The former reduces the stakes in elections whilst the latter raises the stakes. Incentivizing

losers to challenge election results. The simulation in Chapter 2 demonstrated that less proportional allocation of elector seats tended to shift the electoral formula form head count to regional count.

The interaction effect also indicates that for a given electoral system an increase in the quality of elections processes leads to a reduction in the frequency of contested elections (FCE). The negative slope of the direct elections line in the interaction plot in Figure 16 indicates this relationship. This corroborates the **second research question** which sought evidence for a strong relationship between the quality of a country's elections processes and FCE. No matter how great the size of the distributive advantage of indirect elections are in a given country, lower EC scores will lead to higher frequency of contested elections. Lower EC scores point to repression of political parties and lack of independence of the election management body. Not even the much lauded critical period advantage in this study can prevent falling EC scores of an indirect election country from lowering its FCE. Thus the argument is that, for a given EC score, adopting indirect elections will lead to lower FCE at that EC score. This relationship was indicated by the negative slope of the direct election line in the interaction plot in Figure 16.

The interpretation of the interaction effect was confined to the range of EC scores captured by indirect election countries- from 68% to 80. Only two African direct election countries fell within this range of ECs-Ghana (EC= 70.8%) and Senegal (72.8%). However, given the disconnection between the qualities of a country's election processes (measured by EC) on one hand and the critical period advantage (CPA) and Distributive Advantage (DA) of indirect elections on the other, it can be inferred that a direct election country will always benefit from switching to indirect elections. In other words, no matter how high the quality of direct election processes are (as is the case for Ghana and Senegal), switching to indirect elections will add on the CPA and DA advantages. This is illustrated graphically in Figure 19. The gap between the actual FCEs of Ghana and Senegal and the constant fitted FCE of indirect election countries represents the CPA and DA advantages that these countries stand to gain.

Table 18 actually captures the quantified fitted CPA-DA for each level of EC. It may be referred to as the CPA-DA index. It is the ratio of the predicted FCE for a direct election country to the predicted FCE if it were to switch to indirect elections. It may also be computed as the actual FCE of a direct election country divided by the predicted FCE if it were to switch to indirect elections. The discussion below is based on the former computation. At each level of EC, the CPA-DA index was calculated as fitted FCE $_{direct}$/fitted FCE $_{indirect}$. The table indicates that the CPA-DA index for Ghana was 3.27. This means that the fitted FCE for Ghana as a direct election country was 3.3 times the mean FCE of indirect election countries at Ghana's level of EC. For Senegal, the fitted FCE as a direct election country was 2.7 times the mean FCE of indirect election countries at Senegal's level of Ec. The CPA-DA index is much higher for the two countries when their historical FCEs are used as the numerator, rather than their fitted direct election FCEs- for Ghana and Senegal, the CPA-DA index takes on values of **7.5** *(actual FCE of 25% divided by predicted indirect FCE of 3.35%)* and **5.97** *(actual FCE of 20% divided by predicted indirect FCE of 3.35%)* respectively!

However, these multiples must be celebrated with caution because a similar comparison can be made for the CPA-DA of the only two indirect election countries with FCEs exceeding 0%, that is US with a CPA-DA of **3.7** *(actual FCE of 12.5% divided by mean indirect FCE of 3.35%)* and Suriname with a CPA-DA of **4.2** *(actual FCE of 14.29% divided by mean indirect FCE of 3.35%*). Apart from these two, all the remaining indirect election countries have actual FCEs which are

below the mean FCE of 3.35%. Thus the CPA-DA of Ghana and Senegal (based on actual FCEs) are much higher than that for any indirect election country, indicating that Ghana and Senegal, the direct election African countries with the highest ECs, could gain a significant drop in FCE if they were to switch to indirect elections.

Can this benefit extend to direct election African countries with ECs lower than those of Ghana and Senegal? Well, the CAP-DA index increases as the EC of the direct election country falls within the sample. Given that Ghana and Senegal had the highest ECs among the direct election countries, it may be argued that the CPA-DA index would be much higher for the remaining direct election African countries whose ECs are lower than those for Ghana and Senegal. On the basis of this, one may conclude that switching to indirect elections would reduce the FCE for all direct election African countries.

In contrast to the framework of Lago & Coma (2016) which proposed the opportunity cost argument as basis for which some losers accept results they probably don't believe in, this study did not find the influence of the median GDP per capita on FCE to be statistically significant. One reason may be that favourable power sharing arrangements could motivate the elite who have the power to foment trouble by contesting election results, to accept election results even in the face of declining GDP per capita. Moreover, it is unlikely that a few percentage points increase in median per capita income for a country will benefit every loser equally. GDP per capita is blind to distribution of income as well as public goods. The opportunity cost argument may need to be propped up to include the distribution of income and public goods. Finally, the median GDP per capita for a 31 year period (1989 to 2020) was fixed for hypothetical losers even though the median GDP would be changing at every year, rendering the 30-year fixed median per capita income irrelevant to any loser that lived in the period of the study. The irrelevance has to do with the fact that voters assess governments based on short-term economic performance, as discussed in the literature review.

Given that the frequency of contested elections have increased in Africa despite improvements in the quality of elections Hausken & Ncube (2014), the evidence garnered from this study indicates a large scale shift to direct elections may catalyze the needed downward leap in the continental frequency of contested elections.

Finding sufficient evidence from the data to reject the null hypothesis related to the first two research questions implies that the two most important factors that affect losers' conduct upon hearing election results are the choice of electoral system and the quality of elections process measured by EC scores. This gives credence to the concept of a generalized loser in Africa responding to unique external influences in each African country- in this instance- the choice of electoral system and the EC score of the country. For minor political parties which always lose elections, the choice of electoral system and EC are purely external factors because they are determined by the political parties in power. However, for losers who are dominant political parties that win elections, the choice of electoral system may only be partially 'external' to their decisions- because they can be influenced by the party in power and referendums.

As noted by the 'ace project'- "*Too often, constitutional drafters simply choose the electoral system they know best in new democracies. This is the system of the former colonial power if there was one - rather than investigating the most appropriate alternatives*" (ace project, n.d.).

Hopefully, this study has provided some evidence for future constitutional drafters in Africa to make a difference.

Limitations of the study

The primary limitation of the study is that currently there are only 8 indirect election countries that have EC scores and have conducted a minimum of 5 elections. This limits the number of direct election countries that can be added to the indirect election countries without making the sample predominantly a direct election group. This means that a comparison of direct and indirect elections across the world can only be done on a continental basis as was done for this study.

A second limitation is that because non-probability sampling was used to select the 'sample' the interpretations and predictions based on the regression model are not generalizable. They are limited to the sample. However, for the purpose of this study, African countries were the subject of interest and there were 25 qualifying African countries in the sample.

A third limitation of the study was that the unit of analysis was countries. Each of the 31 countries selected for the population of interest was represented by 5 observations- the frequency of contested elections, the quality of elections processes, the choice of electoral system, the median GDP and the extent of power sharing. For each country, just one number captured its election outcomes- the frequency of contested elections. Using just one number to summarize a country's election's outcomes overlooks the fact that there are different categories of rejected elections and accepted elections. Lago and Coma, 2016 obtained empirical support for the fact that some losers accept election results because they believe in past, present and future results (loser friendly argument) whilst some losers grudgingly accept result they don't have confidence in just to protect their private sector investments (opportunity cost argument). This study did not incorporate categories of rejected and accepted results in the analysis.

The fourth limitation has to do with the fact that the EC of indirect election countries was zero percent with the exception of Suriname. This could be due to the fact that the frequency of contested elections were limited to the period between 1989 and 2020. Going back further in history might have increased the tally for some countries. That being the case, the average FCE for indirect elections may have been higher if data points prior to 1989 were included, thus lowering the CPA-DA index than what is captured this study. Thus the CPA-DA index for this study may be bloated compared to the actual CPA-DA on the ground.

Finally, the size of the non-critical period following the mass voting stage was not incorporated into the quantitative analysis. It was not feasible to conclude that a longer non-critical period had ensured that more cases of electoral discrepancy would be dealt with before declaring final presidential results. The time such allegations are reported and the complexity of the case would influence the speed of resolution.

Recommendations for future studies

The research design may be replicated for Europe, North and South America and Asia to determine whether indirect elections could lower the frequency of contested elections in those regions.

Contested election results is not just an African phenomenon. The frequency of contested elections for Africa as a continent exceeded the global average marginally for data compiled from 1974 to 2012 (Huerta, 2014 as cited in Baah, 2018).

In the future a similar study could enrich the literature by replacing the single election contestation counts that were used in this study with different categories of rejection and acceptance of election results by losers. A categorical dependent variable will require multinomial logistic regression approach.

Even though the study focused on relationships between ES and FCE on one hand and EC and FCE on the other and the interaction effects between ES and EC, it would have been useful to know the cause of the generally high election cleanness of indirect election countries. How come the indirect election countries (including the Africa direct election countries) occupied the highest range of ECs as illustrated in Figure 8? Is it possible that indirect elections are able to shape all political institutions including elections processes and not just the institutions responsible for allocating public goods? A future research with a longer horizon would be needed to unpack any possible causation of high ECs from indirect elections.

Some academics could begin compiling indexes for measuring the broadness of distribution of public goods to provide quantitative measures for similar studies.

Conclusion

A population of interest of 25 African countries (comprising 23 direct election countries and 2 indirect election countries) and 6 non-African countries (all using indirect elections) was subjected to multiple regression analysis in order to answer four research questions. The data provided sufficient evidence for accepting the alternative hypothesis that indirect elections could generate lower frequencies of contested elections for African countries which largely currently use direct elections and that improvements in the quality of elections processes tend to reduce the frequency of contested elections. However, given that improvements in the quality of election processes have not prevented the continental frequency of contested elections from rising, switching to indirect elections may provide the extra capacity needed to arrest the rising rate of contested elections. Therefore, African policymakers and academics need to investigate how African states might move away from direct elections to indirect elections in order to reduce problems that stem from contested presidential election results.

The simulations in this study indicated that an electoral system that shifted politicians' focus from head count victories to region count victories could motivate them to distribute public goods to as many regions are needed to win elections. Thus, for maximum effect, indirect elections should be structured in such a way that the leaning towards region count is higher. This can be done by using less-than-proportional allocations of elector seats to administrative regions.

Head count formulas (where majority of people determine the winner of elections) give people the 'feel good' factor based on the fact that popular votes directly determined the next president. However, region count formulas ensure that public goods are widely distributed. At the end of the day, the choice of electoral system is always a compromise between '**feel good**' or '**public goods**'. Wider distributions of public goods leads to lower the stakes in elections, which ultimately reduce

the frequency of contested elections. Finally, even though indirect elections across various countries have different leanings towards region count, all of them have a critical period advantage, which could significantly contribute to the lowering of the frequency of contested elections for any direct election country, especially those in Africa.

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APPENDIX

A detailed simulation: demonstrating the distributive advantage of indirect elections

The greater the capacity of an electoral formula to promote a wider distribution of public goods and economic opportunities, the lower the stakes in the election for rivalling political parties and thus the greater the likelihood that losers will accept election results . In this section, I will use a simulation exercise to illustrate how effective well-designed indirect elections are in motivating politicians to appeal to wider groups.

Let us assume that a hypothetical African country has 7 administrative regions- A,B,C,D,E,F and G, each dominated by a unique ethnic group. In other words, there are 7 ethnic groups concentrated in each of the 7 administrative regions. Let us further assume that there are 3 dominant political parties- Party 1, Party 2 and Party 3, fielding presidential Candidate 1, Candidate 2 and Candidate 3 respectively.

We further assume that Party1 is ethnically affiliated with regions A,B,C whilst Party 2 is ethnically affiliated with regions D and E and Party 3 is affiliated with the remaining regions, F and G. For simplicity, it will be assumed that everyone in the country votes.

Table 1A below indicates the populations of each of the 7 regions. The country has a population of 10,000. Region G has the highest population of 3,000, whilst Region C has the lowest population of 500.

Table 1A: Population and Party Affiliation of 7 administrative regions of hypothetical country

Regions in a country	Population	Popular vote %	Party Affiliation
A	1,000	10.0%	Party 1
B	1,000	10.0%	Party 1
C	500	5.0%	Party 1

D	1,500	15.0%	Party 2
E	1,000	10.0%	Party 2
F	2,000	20.0%	Party 3
G	3,000	30.0%	Party 3
	10,000	**100%**	

If the pluralist electoral system is adopted and each presidential candidate appeals only to the regions where their ethnic affiliation is strongest and win all the votes in those regions, Candidate 3 will obtain the highest number of votes (5,000) from Regions F and G. In fact, even if Candidate 3 appeals to only the people in Region G, he would still win the elections under a pluralist electoral system with 3,000 votes (30% of the total votes). This is because Candidate 1 would have obtained 2,500 votes from Regions A, B and C, whilst Candidate 2 would have obtained 2,500 votes from Regions D and E. Under the pluralist system, the candidate with the highest percentage of votes wins, not necessarily the one who obtains more than 50% of votes. Thus, under the pluralist system, Party 3 can adopt a minimalist strategy of appealing to only the voters in Region G in order to obtain 30% of the total votes. To maintain the loyalty of the Region G voters, Party 3 only needs to supply public goods to Region G when in power. It can even afford to neglect the rest of the regions.

But how will the other regions react to this neglect? If regions A,B, C,D and E are ignored with respect to the distribution of public goods by the Party 3 government, the willingness of voters from those regions to accept election results if Party 1 and Party 2 are declared losers, will be low according to both the loser-friendly and the opportunity cost arguments put forth by Lago & Coma, 2016. According to the loser-friendly argument willingness to accept defeat will be low because of the zero probability that Party 1 or Party 2 could win future elections under a pluralist electoral system.. According to the opportunity cost argument, willingness to accept defeat will be low because of fewer economic privileges and opportunities to protect. Such a country is likely to experience a high frequency of contested election results over the long-term.

Under a two-round system, the winning candidate must obtain more than 50% of the total votes. Hence, Candidate 3 will have to win additional votes from other regions apart from F and G. Hence, the two round system will 'compel' Party 3 to show interest in at least 3 regions as opposed to just one region under the pluralist system. However, it is likely that the remaining 4 regions whose votes Party 3 does not need to win elections could be neglected when it comes to the distribution of public goods. The willingness of voters in those regions to accept election results will be low.

Let us assume that at some point, due to a high frequency of contested elections, a referendum is held and it is agreed that direct elections in the form of either pluralist or two-round systems will be abandoned in favour of indirect elections.. The political parties are willing to conduct a series

of election 'experiments' over the next two elections in order to create a new electoral system that is acceptable to both parties.

The first step in switching from direct to indirect elections is to apportion a number of elector seats to each of the 7 regions. The role of the electors in each region is to vote for a new president on behalf of the people in each region. This is actually the second round of voting in an indirect election. In the first stage of voting, the popular votes in each region are used to decide how the elector seats of a region will be apportioned among the political parties. Under a winner-takes-all system for elector seats, the party that obtains the highest number of votes in a particular region gets to take all the elector seats allocated to that region. For example, if Party 1 obtained 60% of the popular votes in Region A, then all the electoral seats assigned to Region A will be allocated to Party 1. For instance, if Region A has been assigned 2 electoral seats, then Party 1will obtain those 2 electoral seats. Party 2 and Party 3 will get no electoral seats for Region A. If Party 2 obtains 51% of the popular votes in Region B, then Party 2 gets all the elector seats in Region B and Party 1 and Party 2 get no elector seats for Region B. In each region, the party that gets over 50% of the popular votes, gets all the elector seats assigned to that region. Since, the party that gets all the elector seats in a particular region gets to select its own electors, it is assumed that those electors will vote for the party's presidential candidate. For example, if Party 1 wins all the elector seats in Region A, then Party 1 gets to choose the electors for Region A and it is assumed that those electors will vote for Presidential Candidate 1 during the second round of voting (in reality a few electors can prove unfaithful, but it rare).

The key factor that determines to the extent to which political parties seek to win votes from a wide geographical area is the distribution of the number of electors across the regions. To illustrate this point, let us assume that 2 electors are assigned to each of the 7 regions, irrespective of the size of the region.

Table 2A below shows the details pertaining to each region: there are a total of 14 elector seats, with 2 for each of the 7 regions. Let us assume that the rule for choosing the winner of the presidential elections under indirect elections is that the winner must obtain greater than 50 percent of the electors' votes. This translates into winning more than 7 elector seats across the country.

Table 2A: Equal elector seats apportioned to each administrative region

Regions in a country	Population	Popular vote %	No. of elector seats
A	1,000	10.0%	2
B	1,000	10.0%	2
C	500	5.0%	2
D	1,500	15.0%	2
E	1,000	10.0%	2
F	2,000	20.0%	2

G	3,000	30.0%	2
	10,000	**100%**	**14**

Source: Author

Since each region hosts just 2 elector seats, it means that the winner of the presidential elections must reach out to a minimum of 4 regions in order to obtain at least 8 electoral seats, in order to win the presidential elections. Recall, that under the pluralist system, Candidate 3 could win with votes from just one region (G). Under a two-round system, he needed votes from Regions F and G and any other region. However, under the indirect elections, even Candidate 3 would have to reach out to a minimum of 4 regions. Thus the indirect election which assigns an equal number of electors to each region compels politicians to appeal to wider geographical areas. Maintaining the loyalty of such wide geographical areas places an onus on the party in power to distribute public goods widely. Another interesting related phenomenon is that Candidate 3 can win the elections by winning votes from any 4 regions. He may even neglect the populous regions of F and G and focus on the regions with the least populations such as A, B, C and D and still win if he is able to obtain all the elector seats for those regions. This is the best place to draw parallels with the United States electoral college. In place of regions, we have states in the U.S. The two electoral seats assigned to each region is analogous to the equal number of elector seats assigned to each state that is affiliated with Congress. Each state is represented by two senators in Congress. This translates into two electors assigned to each state based on the number of senators in Congress. In addition to these two elector seats per state affiliated with Congress, additional elector seats are allocated to each state based on proportional representation. In our simple model, we can assume that beyond the two electors assigned to each region, we would also add a number of electors for each region which is equal to 0.10% of the population of that region.

For instance, Region A has a population of 1,000 voters.

0.10% x 1,000 = 1

Hence, the total number of electors for a region is a combination of an equal number allocated to each region plus a proportional representation. In this case, Region A will have 2 +1 = 3 elector seats.

Region B will have 2 + (0.10% x1,000) = 2 +1 = 3 elector seats

Region G will have 2 + (0.10% x 3,000) = 2 + 3 = 5 elector seats.

Table 3A below depicts the total number of electors each region will have :

Table 3A: Elector seats comprising equal and proportional elements

Regions in a country	Population	Equal elector seats	Proportional elector seats	Total elector seats
A	1,000	2	1	3
B	1,000	2	1	3
C	500	2	1	3
D	1,500	2	2	4
E	1,000	2	1	3
F	2,000	2	2	4
G	3,000	2	3	5
	10,000	**14**	**10**	**24**

Source: Author

Now the total number of electors is 24. It will take a minimum of 14 elector seats to win the presidential elections. The quickest way of obtaining a minimum of 14 elector seats is to obtain all the elector seats from regions G,F,D and any other region.

This simulation exercise both indicates the superiority of indirect elections in compelling politicians to seek a wider reach during their electioneering campaigns, thus leading them to distribute public goods more widely once in power and also a crude idea of how the US electoral college works.

Having demonstrated that indirect elections have a distributive advantage over two-round systems, the form of indirect presidential election that has the greatest distributive effect, one may conclude that indirect elections have a distributive advantage over all forms of direct elections.

Thus with every election, indirect elections are expected to manifest a critical period advantage over direct elections and over the long-term indirect elections are expected to wield a distribute advantage. Both types of advantage affect the frequency of elections in different ways.

The critical period advantage of indirect elections provides more non-critical time for electoral discrepancies that occurred during the mass voting stage to be dealt with, thus leading to lower frequencies of contested election.

The distributive advantage lowers the stake in elections and ultimately lowers the frequency of contested elections.

It is important to note that the argument being made is not that of indirect elections have the magical power to totally obliterate stakes in elections or to totally eliminate perceptions of fraud that lead to contestation of election results. The argument being made that indirect elections are

able to the minimize the occurrence of unresolved electoral discrepancies at the final results are declared and to mitigate high stakes in elections better.