Electoral Democracy and FDI

Dumisani Yambira

Supervisor(s):
Dr Michelle Small
Prof Rod Alence

A Capstone Project report submitted in partial fulfillment of the requirements for the degree of Master of Arts in the field of e-Science

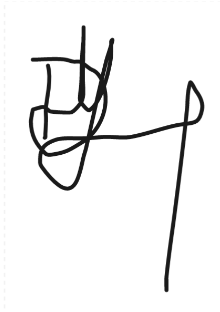
in the

School of Social Sciences
University of the Witwatersrand, Johannesburg

18 November 2020

Declaration

I, Dumisani Yambira(1147585), declare that this report is my own, unaided work. It is being submitted for the degree of Master of Arts in the field of e-Science at the University of the Witwatersrand, Johannesburg. It has not been submitted for any degree or examination at any other university.



Dumisani Yambira

18 November 2020

Abstract

The subject of electoral studies in Africa has dominated the academic framework since the era of African political independence. Hence African political systems have been defined by their electoral nature meaning if the system is democratic, its classified as a democracy and if its flawed its declared as non-democratic, dictatorial or authoritarian. As politics has an influence on the economy, this project through least squares regression analysis will show how countries with Electoral Democracy are associated with higher inflows of Foreign Direct Investment in Sub-Saharan Africa.

Acknowledgements

I would like to take this opportunity in showing my appreciation to the following who contributed to the success of my Capstone Project.Dr Michelle Small, my supervisor who gave me clarity on how I should conduct this research. Her advice gave me the foundation on how I should handle this research project. Prof Rod Alence, my co-supervisor who assisted me with the research methodology and structuring the appropriate regression models which added more value to my Capstone project. Dr Helen Robertson, this Capstone project is as a result of her contribution in giving me general guidelines of how to conduct a scientific research and Joshua Nel who assisted me with how to structure the reference for Latex. Finally, my appreciation also goes to the DSI-NICIS National e-Science Postgraduate Teaching and Training Platform (NEPTTP) for their financial assistance and Ms Casey Sparkes who ensured the funds were availed to in time so that this research might be feasible. Then my friends and family who provided emotional support. It is thus important that the above being mentioned, the views expressed in the project are those of the author, the acknowledged people just provided support and guidance but the arguments and the conclusions belong to the author.. . .

Contents

List of Figures

List of Tables

List of Abbreviations

FDI	**F**oreign **D**irect **I**nvestment
CPIA	**C**ountry **P**olicy **I**nstitutional **A**ssessment

For Tadana…

Chapter 1

Introduction

The research of this capstone project strives to investigate the relationship between Electoral Democracy and FDI in sub-Saharan African states. The direction of investigating this relationship is to assess the extent to which Electoral Democracy influences the inflows of FDI in sub-Saharan African states given the institutions are credible. More elaboration will be given in the following sections under this Chapter. In mention of this, the overall structure of this research report will commence with the Introductory Chapter. Thereafter, other chapters like Literature Review, Research Methodology, Results and Discussion then the Conclusion will follow. For the interest of this Chapter, the paper will give a detailed background, provide the research question, aim, objectives, limitations and the overview to the reader. The importance of this chapter is to lay the project‘s foundation and give clarity of how this research topic will contribute to the academic framework.

1.1 Background

A general rule of thumb to which academics, economists and political analysts may agree to is the paradoxical nature of the African continent from an International Political Economic perspective. Vast potential in economic resources yet a ubiquitous feature of political instability and economic stagnation for a number of sub-Saharan African states. In light of this view, elections as presented by the academic (Golder and Wantchekon, 2004), have been strongly embedded with African political systems, according to him, since political independence of African states. The background of this research is driven by the realization that since attaining independence starting from 1957(Ghana) to 1994 (South Africa), a number of African states were in favor of a communist ideology whilst embracing an electoral system (Golder and Wantchekon, 2004). Hence the multi-party systems created at the beginning became replaced by single party rule in the 1960's and 80's , in some countries elections were still maintained though it was a *de facto* (Golder and Wantchekon, 2004). The desire of the African politicians was to stay in power either through elections or through constitutional amendments.

Following the third wave of democratization in the 90's, most African politicians were compelled to either resume or maintain the electoral system (Golder and Wantchekon, 2004). As states maintained the system of elections, incumbent governments would constantly declare that their plebiscites were free and fair hence most claimed that there was electoral democracy in their states (Golder and Wantchekon, 2004). As in the global community, politics drives economy, the phase of third wave of democracy simultaneously witnessed the rise of FDI as globalization was being embraced. For this reason, (Butkiewicz and Yanikkaya, 2006) asserted that good institutions were now essential to economic growth. Since the post cold war, the world has thus witnessed African states dumping marxist ideologies and embracing Democratic ones (Butkiewicz and Yanikkaya, 2006). Observed as a mechanism of attracting aid, electoral system was used as a mechanism of seeking political alliance with democratic countries from the west. Thus in assessment of the International Political Economy of African states in the 21st century, the paper will investigate the impact of Electoral Democracy on FDI. In carrying this investigation, the reader should be aware that democracy is a broad concept and despite there being various ways to measure democracy, the paper chose to measure this political system through elections from the lexical index of electoral democracy. Hence by providing this background, the paper aims to investigate whether the political system of democracy which the majority of African states have embraced since the third wave of democracy is contributing towards economic growth which will be measured by the net FDI.

1.2 Research Question

Elections are primary to the establishment of how political systems have been governed on the sub-Saharan African region. An electoral system that is encompassed by violence and fraudulence has a higher probability of jeopardizing the political system. As corruption and oppression are associated with these forms of electoral systems(Golder and Wantchekon, 2004), hence the position of this investigation is that the nature of political system has an impact on the economic activity of a country. In light of this assessment in order to better understand the nature of this relationship, the project has decided to narrow down the question and extract a more detailed investigation hence:

`Is there an association between electoral democracy in Sub-Saharan Africa and Foreign Direct Investment in the 21st century?`

By using the term electoral democracy, the research will highlight that there are countries that have elections but are not democratic. The structure of this research shows that Foreign Direct Investment is the dependent variable whilst electoral democracy is an independent variable. The addition of good institution highlights that the latter is a control variable, the referred institutions/measurements which will be used in this research are public sector rating and property rights and political stability

1.2.1 Research Hypothesis

The purpose of this study is to find out whether countries that practice electoral democracy attract Foreign Direct Investment. The expectation of this research is that Foreign Direct Investment flows more to countries that have electoral democracy. The research expects there be a positive correlation between electoral democracy and Foreign Direct Investment whilst the causal factor being the presence of good institutions such as property rights. The argument is that attraction of FDI needs the presence of electoral democracy and good institution as having electoral democracy does not suffice unless if the country also has good institutions in order for it to attract more FDI.

Null Hypothesis: *Foreign Direct Investment does not flow more to countries with electoral democracy in Africa*

Alternative Hypothesis: *Foreign Direct Investment flows more to countries with electoral democracy in Africa*

1.3 Research Aims and Objectives

1.3.1 Research Aims

The research aimed to achieve the findings through the use of quantitative methods.The paper believes that through using empirical analysis will the findings be given more weight and support the argument of this research. Therefore the goal is to prove using data analytic methods, specifically, least squares regression, more explanation will be given in the Research and Design section. The reason why the research is aiming for this goal is to prove that countries with electoral democracy are associated with more flows of Foreign Direct Investment.

1.3.2 Objectives

The research asserts that the objectives are linked to the aims and thus, the intentions are to address the research question. Through the followings ways:

1. Identify countries from the lexical index of electoral democracy classify them into two categorical variables using factor levels, the categories will be electoral democracy and electoral non-democracy. In addition of the first objective, combine the data extracted from different sources and merge the variables into one dataframe so that it is easier to perform data analysis.

2. Have a Univariate analysis where the data from the independent and dependent variable will be assessed separately, this is to enable an aggregate perspective of how fdi or electoral democracy is on the Sub-Saharan region.

3. Generate a least squares regression analysis as this is an easy method to interpret how the levels of electoral democracy are associated with FDI. It is in this section where control variables will be applied too and the regression models will involve interactions between the categorical variable and the control variables.

4. Have data visualization where the processed data can be easily interpreted through the visuals generated.

5. Final objective is the expectation that the findings brought by the quantitative methods will contribute new knowledge to the academic framework of International Political Economy.

1.4 Research Limitations

This research recognizes that the restraints carried along with this project are that the findings are influenced by the data variables. It should be in recognition that in the academic framework, the factors that may influence fdi may vary but the research has chosen the variables for the purposes of addressing the question and achieving its aims. Other restraints are that, in the process of merging the datasets, small amounts of data has been lost due to the merging process. To clarify, countries like South Africa were excluded from the final mergeAfrica dataset because the world bank data for property rights did not have South Africa as part of the observations. Hence the countries that will be generated are those which have data from fdi, lexical index of electoral democracy, CPIA, property rights and political stability. Hence it is a pre-requisite that during the data cleaning phase countries have data from these criteria. Nevertheless, despite the data cleaning phase, the sample size remains large enough to be representative of the entire population.

1.5 Assumptions and Definitions

The supposition regarding this investigation is that the question raised will be addressed and its findings will contribute new knowledge as to how countries with electoral democracy are associated with more Foreign Direct Investment inflows than those without. The second supposition is that the data analytic tools when generated into data visuals may be easily interpreted such that the reader may clearly understand. Furthermore, this investigation hopes that the control variables of institutions are able to explain a causal effect which they have on Foreign Direct Investment. Meaning that whilst the paper expects there be positive association between electoral democracy and Foreign Direct Investment, the investigation assumes that the presence of good institutions causes an increase of Foreign Direct Investment.

For the definitions Foreign Direct Investment refers to the net fdi of GDP. This means it is the fdi that is being calculated as a percentage of GDP. For electoral democracy, this refers to the measurement of democracy through the form of an electoral system, this definition was inspired by the lexical index of electoral democracy (Skaaning, Gerring, and Bartusevičius, 2015). By constantly referring to institutions as good for the control variables, the word *good* refers to a measurement of 3.0 and above.

1.6 Overview

For the overview, this research is divided into five chapters. The following chapter will be Literature Review where the views of other scholars regarding the subject matter are discussed. This will be followed by Research Methodology, Results and Discussion and finally the conclusion and possible recommendations regarding to issues that may increase the inflows of Foreign Direct Investment.

Chapter 2

LiteratureReview

This Chapter focuses on the existing literature regarding electoral democracy and Foreign direct investment. The intention is to investigate and bring to light what the authors say regarding the subject matter. Literature review creates the necessary foundation of the project and provides guidance to the gaps which may exist in the academic framework.

2.1 Electoral Democracy

The concept of Electoral Democracy for this project is driven by the lexical index of Electoral Democracy (Skaaning, Gerring, and Bartusevičius, 2015). Democracy is a broad concept of political governance (Skaaning, Gerring, and Bartusevičius, 2015) and (Butkiewicz and Yanikkaya, 2006) acknowledge this in their papers. Hence effective ways to measure democracy according to Skaaning is by using an index to measure the electoral aspect of democracy (Skaaning, Gerring, and Bartusevičius, 2015). Elections are thus an important aspect of democracy, for African countries that have declared themselves to be democratic, electoral systems determine whether the will of the people is being respected by those who are in the corridors of power. (LeBas, 2013) discusses the idea of democracy but in the context of opposition parties in Africa. He argues that strong oppositions are necessary to push reluctant incumbents toward reform and political opening. He thus views the concept of electoral democracy in the lenses of the existence of an opposition party that challenges the incumbent (LeBas, 2013). The concept of democracy from an electoral perspective in his view revolves around the ability of political competition on the ballot paper. He shares the same notion with (Van Kessel, 2013) who uses the term populist parties. His argument is that, the credibility of the populist parties plays a crucial role in understanding the electoral success and failure in an electoral system (Van Kessel, 2013). Though both academics discuss the framework of elections, their concept of electoral democracy focuses on the micro level of political parties.

This differs from the argument by (Skaaning, Gerring, and Bartusevičius, 2015) where electoral democracy focuses on the macro or national level. This method agrees with the purposes of this research as the objective is to investigate the association between Electoral democracy and FDI of Sub-Saharan African countries. Therefore, the merits of the research paper by (Skaaning, Gerring, and Bartusevičius, 2015) is the ability to measure electoral democracy, by creating an index guided by the following variables, binary coding then aggregated in ordinal ranking. The variables include legislative, executive,franchise, competition and opposition hence if a country has a score of 1 in each of these variables, then it may be considered democratic through the electoral system as a score in 6 of these variables qualifies the country in being classified to have electoral democracy Skaaning, Gerring, and Bartusevičius, 2015. Hence countries would be ranked out of 6, if it has 6 then there electoral democracy and if it has 3 then there is no freedom of the plebiscites. More will be explained in the research methodology chapter, and in light of this, the merits of (Skaaning, Gerring, and Bartusevičius, 2015) is the ability to clarify the concept of electoral democracy through means of ordinal scaling. By electoral democracy, it came to the attention of this project that the majority of the existing literature in the framework base the findings from an qualitative perspective. (Harding, 2020)discusses about the concept of elections and democracy but focusing on the rural areas in Africa. He asserts that incumbent parties rely on votes from the countryside and therefore, this group of electorates use agricultural policy to lure voters through agricultural inputs (Harding, 2020).

Linking this to the relevance of this investigation, the academic then debates that these actions by incumbent parties result in clientalism, electoral manipulation and mobilization of ethnic constituencies, elements which jeopardize electoral democracy in a nation state (Harding, 2020). By revealing the current literature on electoral democracy, the paper aims to highlight the characteristics of countries that are classified as electoral non-democratic. Indicating from the literature above , the paper believes that countries that are classified as non-democratic from an electoral perspective may have the characteristics stated by (Harding, 2020). In terms of outlining features that classify electoral non-democratic countries, (Harding, 2020) shares the same view with (Golder and Wantchekon, 2004). Unlike (Harding, 2020), (Golder and Wantchekon, 2004) in his investigation of electoral democracy, he debates that there is no one linear way of how elections work on the continent. He stands by the view that though African countries have included multi-party systems since the third wave of democracy in Africa, electoral democracy has been jeopardized by dictators as the system is used as a tool to control people rather than being a means through which they could control him (Golder and Wantchekon, 2004). The argument raised by those not in favor of electoral democracy is that single party systems were more suitable for nation building projects and African governments who were electoral non-democratic endorsed the view that single party rule was required to help economic development (Golder and Wantchekon, 2004).

2.2 Electoral Democracy and FDI

This paper believes that there is a relationship between the political system of governance and the economy. The academic framework share this view, (Camyar and Ulupinar, 2019) argues that firm performance is stronger under plurality-majoritarian rule than under proportional rules. Though the case study is for European countries, she believes that electoral systems have a strong influence on individual firms economic performance (Camyar and Ulupinar, 2019). The academic states that countries with electoral systems that promote plurality-majoritarian have a strong investor protection, this suggests that the institutions associated with these countries are favorable for investor protection (Camyar and Ulupinar, 2019). In corroboration with (Camyar and Ulupinar, 2019), (Morisset, 1999) found out that countries with diverse markets have better chances of attracting FDI. For example, macroeconomic and political stability are crucial factors in the attraction of FDI (Morisset, 1999). The academic framework hence acknowledges that institutions are foundational to the attraction of FDI. Though there exists literature on factors which attract FDI and the concept of Electoral Democracy, there lies a gap in literature that addresses an association between these two variables. The majority of academics such as (Butkiewicz and Yanikkaya, 2006) believe that good institutions create an environment that promote economic activity, growth and development. From a political perspective, (Butkiewicz and Yanikkaya, 2006) asserts that maintenance of rule of law is vital for economic growth. In support of the importance of this political aspect, (Alence, 2004) endorses this view as he states that political institutions which are democratic lead to sustainable governance.

(Alence, 2004) debates that judged against liberal democratic ideals, Africa's democracies have many shortcomings. NEPAD endorses democracy and good governance as conditions for sustainable development (Alence, 2004). In appreciation of the views by the academics, the paper believes that electoral democracy is important to the establishment or sustainability of political institutions. With electoral democracy, qualities like transparency and equality are the same traits found in institutions like rule of law or property rights, provided they are classified as good. Hence the argument in light of the literature review is, electoral democracy is fundamental to political stability and inclusiveness of good governance. If a country has electoral democracy, it creates an environment for civil participation and gives a promising incentive of a free market economy that values equality and rule of law. By this assessment, the paper assumes that there is possibility that Electoral Democracy has an association with FDI in Sub-Saharan African countries.

Chapter 3

ResearchMethodology

The focus of this chapter is to bring out the research methodology of the project. Sections therefore include research design, data variables , methods and analysis of the study.

3.1 Research design

Under research design, the paper discusses broad research methods and provides a description of the methods to be used. For the purposes of fulfilling this investigation, the research method chosen is a hypothesis-led. As stated in Chapter 1, the alternative hypothesis is that Foreign Direct Investment flows more to countries that practice electoral democracy. The hypothesis method was carried using ordinary least squares regression. This meant that in the data processing and analysis section, in order to yield better results, control experimental methods were used to bring more insight into investigating the relationship between Foreign Direct Investment and electoral democracy. Hence the decision to use least squares regression was driven by the realization that the response variable is continuous and therefore, least squares regression was the most suited option to conduct the experiment.

3.2 Data and Variables

3.2.1 Data Source

This research made use of an initial sample collection of sub-Saharan African countries whose number amounts to 46. The intention of using sub-Saharan African countries was to determine the political economy relationship within this region. By using the number of 46, the intention of the paper was to have a sample size large enough to be representative of the entire population. The sources of the data will be shown in a tabulated form. Within this table, the paper will show the respective variable type alongside with data source. Thereafter, more information will be laid out regarding the variables and why they were chosen.

3.2.2 Variables

TABLE 3.1: Data Variables

Variable Description	Data Source
Electoral Democracy	LxicalIndexonElectoralDemocracy
Foreign Direct Investment	WorlBank
PropertyRights	WorlBank
Public Sector	WorlBank
Political stability	Thglobaleconomy

Electoral Democracy As the independent variable, the study chose electoral democracy in order to measure its impact on FDI in Sub-Saharan African states. Democracy is a broad concept and though assessing Democracy in the form of elections has been widely written in the academic space, there lies a gap relating this topic to FDI. Through the use of lexical index on electoral democracy (Skaaning, Gerring, and Bartusevičius, 2015). The paper has chosen this dataset because the author clearly states the idea of electoral democracy using data science methods. Hence the structure of this paper from the concept to quantitative layout of this variable is primarily influenced by (Skaaning, Gerring, and Bartusevičius, 2015).

Foreign Direct Investment As the dependent variable, the objective is to measure whether Foreign Direct Investment is influenced by Electoral Democracy. Prior to this investigation, the paper is aware that institutions are crucial to the attraction of FDI and therefore in assessment of this, the aim is to find out whether elections have an association with FDI. The data source of FDI is from the World bank. The units of measurement for FDI is the net inflow of FDI as a percentage of GDP. By assessing FDI, the objective is to assess an aggregate perspective of the variable in sub-Saharan African countries. This means the paper will not go in-depth on individual countries.

Property Rights Property rights are an essential indicator used by investors for investment purposes (Izilein and Mohammed, 2017). The paper used property rights variable to determine the extent to which the relationship between electoral democracy and fdi can be influenced given that there is an interaction between the independent variable and FDI. The data source for property rights is from the World Bank. The paper believes this is a credible source as the information is frequently updated by experts in the field.

Public Sector The selection of Public sector as another control variable is to determine the institution's transparency and corruption level. The objective is to investigate whether the impact of the public sector institution contributes a significant relationship between Electoral Democracy and FDI given that all other variables remain constant. The data source of public sector is World Bank.

Political Stability The control variable of Political Stability was extracted from the data source of the global economy. The paper wants to investigate whether all variables being constant, to what extent can the findings influence relationship between Electoral Democracy and FDI, given the interaction between Political stability and electoral democracy.

3.3 Methods

Methods taken to fulfill the intentions of this investigation were as follows, data filtering, statistical methods to be used and need for transforming the variables in order to meet the demands of the research question. The first consideration was to conduct data cleaning and arrangement. This was fulfilled by firstly adjusting the lexical index data (Skaaning, Gerring, and Bartusevičius, 2015). As the intention was to investigate sub-Saharan African countries, much effort was put into subsetting the sample countries and collecting data that only commenced from the year

2000 up to 2019. Thereafter, the investigation resolved to load other datasets and hence used the *merge function* to work on combined datasets from all the variables. In the process of merging, the paper merged datasets by respective country and years, this allowed alignment of the variables. Nevertheless, as mentioned in 1, the merging process automatically removed few countries from the final dataset as there was no sufficient information on the respective countries from other datasets extracted. Fortunately, this did not compromise the nature of the research as the sample size still remained large enough to represent the entire population.

Statistical methods considered was a hypothesis-led method guided by using ordinary least squares regression model. The paper chose to use the statistical software of *R* as it is capable of working with big data and generating graphs necessary for data visualization. The significance of the hypothesis was tested using the alpha value of *0.05*. Methods of descriptive, inferential and regression statistical methods were used to give a detailed explanation of the variables. Under least squares regression, the investigation first ran a multivariate regression analysis with variables as independent. This was meant to find out the effect of the variables on fdi, independently. Thereafter, the paper resolved to use interaction of the variables to see the effect of predictor combination on fdi. Regression summaries were instead used as they highlight the level of significance that the predictors have on fdi. Lastly, transformation was done on the dependent variable. This was achieved by using powerTransform function to assess the recommended type of transformation. The paper added a start of 7 to the values in fdi, adding a start meant that all the values were added by the number 7 so that all values become positive. Thereafter, the investigation log transformed the dependent variable as to ensure normality in the distribution of the fdi values. For the electoral democracy variable, the paper converted values to a factor where 0-3 was classified as non-democracy and 6 was referred as democracy. The classification was important for regression analysis as dummy variables were included.

3.4 Analysis

The analysis of the results was classified into three parts, Univariate, Bivariate and Multivariate Regression. The section for univariate included descriptive statistics where for better interpretation of the results, data visual in the form of histogram and density plot were used. The objective was to give an aggregate assessment of electoral democracy and fdi independently. The importance of the univariate was to assess the distribution of the data results given by these variables and briefly comment on them. For the part in bivariate regression, the investigation used dummy variables to explain the association between electoral democracy and fdi against electoral non-democracy. A regression summary was generated to explain the p-values and the coefficients. In addition, the paper further generated ggplots to describe the impact of this bivariate relationship.

For the multivariate regression analysis, the paper generated a correlation matrix graph to assess the association amongst the variables. The independent association from the correlation matrix enabled the investigation to understand how the variables correlate. The final stage was to generate the regression summaries which were printed out on this paper. The importance of regression summaries was to assess the coefficients alongside their statistical significance towards fdi. A total of 5 models were generated where in the first model, the predictors were assessed independently in respect to their relationship with the dependent variable. Models 2 to 4 were printed out as at each model, the investigation included an interaction between dummy and the control variable. In model 5, the investigation then included an interaction between the dummy variable of each side and all the control variables. Model 5 was created in order to compare it with the rest of the models and the *Anova* function was used to produce results of which model was better. Hence this would be observed through the significance level and the model that was the furthest from the alpha level of *0.05*.

Chapter 4

ResultsAndDiscussion

This chapter provides results for the investigation. It commences by analyzing the data through univariate, bivariate and multivariate regression sections.

4.1 Univariate

4.1.1 Electoral Democracy

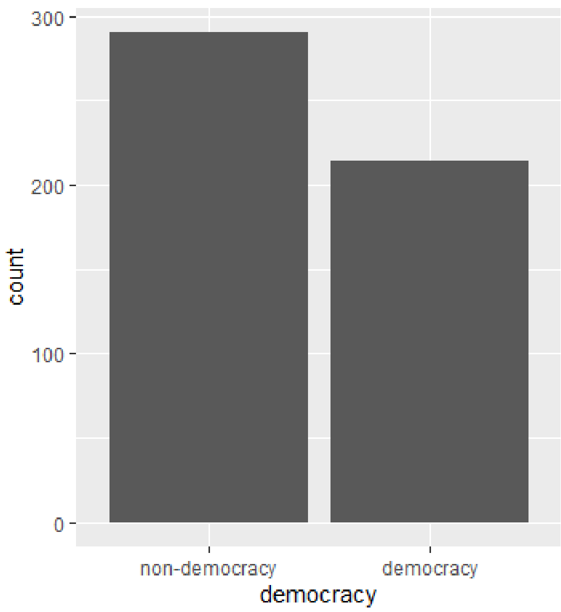


FIGURE 4.1: This histogram shows the nature of electoral democracy in sub-Saharan African countries from 2005-2019

The results above indicate that on an aggregate scale, the majority of elections in sub-Saharan African countries are not democratic. These results correspond with academic writings of (Golder and Wantchekon, 2004) who assert that elections have evolved as a system whereby politicians use them to control the masses. Despite the presence of multi-party system, (Golder and Wantchekon, 2004) believes that the existence of ethnic conflicts and division has jeopardized the democracy of elections in most African countries. The level of democracy compared to non-democracy though it might be lower than the latter, it may suggest that in terms of country-years, the number of countries that have electoral democracy is good.

4.1.2 FDI

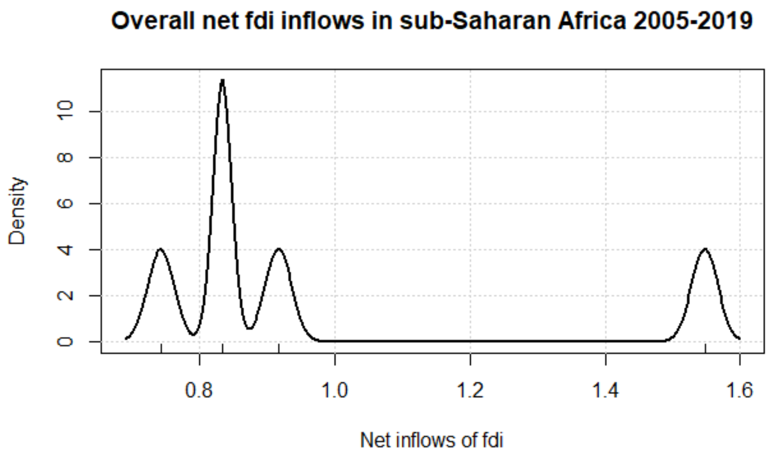


FIGURE 4.2: The graph shows fdi inflows as a percentage of GDP in sub-Saharan Africa from 2005-2019

The density plot from above are results of a logged fdi variable. What can be deduced from the plot is that, the overall inflow of fdi is multimodal, a statistical term which refers to a variety of modes. The majority of countries from the sample fall within a range of *0.8-0.85* of attracting fdi as a percentage of their GDP. This result might be influenced by the largely dyfunctional political institutions and governance that is to blame for the region's disappointing economic performance (Alence, 2004). As a region primarily comprised of developing countries, factors of corruption, ethnic conflicts, interwars which may be associated with political instability may be factors that deter a consistent influx of foreign direct investment from a regional point of view. Within the plot, the contrast shows that there is a group that lies within the $1.5 - 1.6$ parameter. This suggests that this may be the group which attract fdi more than the former group, factors like political stability, transparency of the institutions may be present with this group as investors prefer environment were there is certainty of reaping their investments back.

4.2 Bivariate Regression

4.2.1 Electoral Democracy and FDI

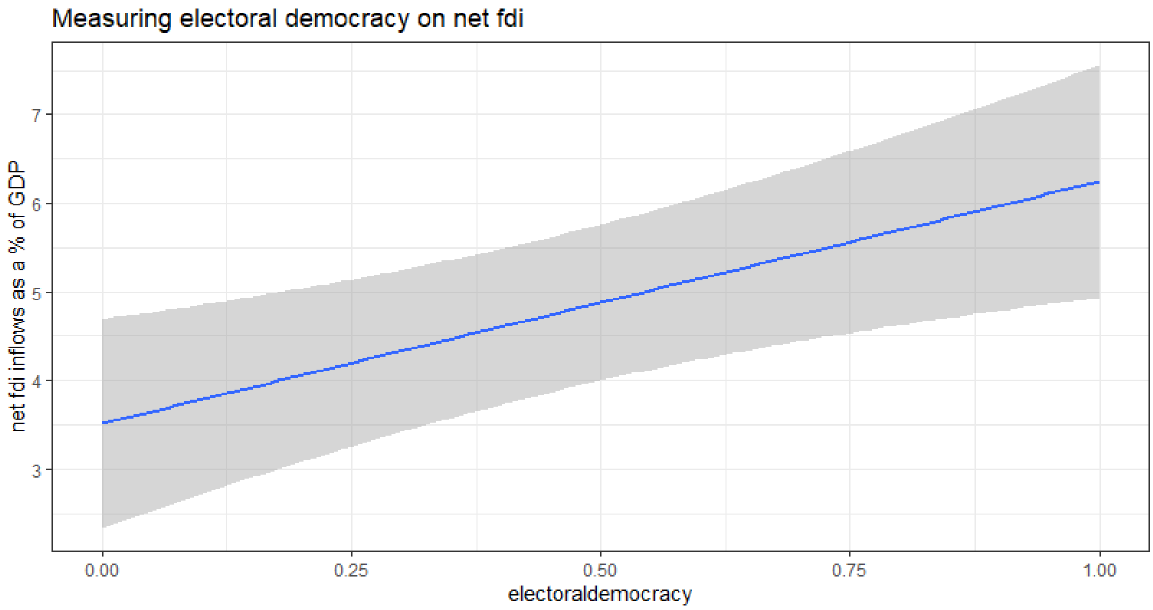


FIGURE 4.3: This plot shows the relationship between electoral-democracy and fdi

The plot indicates a positive relationship between electoral democracy and net fdi inflow.The positive correlation is indicated by the straight blue line which rises diagonally. The interpretation thereof is, net inflows of fdi are associated with an increase in electoral democracy in Sub-Saharan countries.

4.2.2 Electoral non-Democracy and FDI

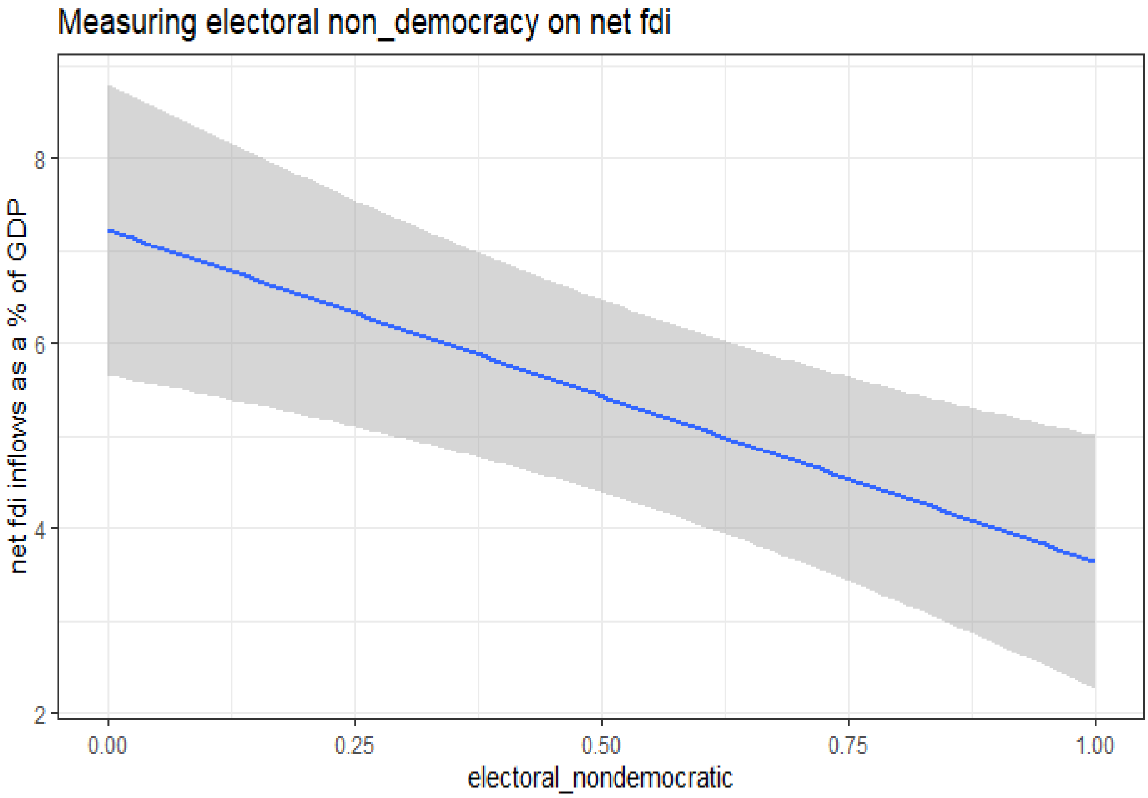


FIGURE 4.4: The plot shows the relationship between electoral non-democracy and fdi

The plot shows an inverse relationship between elections which are non-democratic and inflows of fdi. The inverse may suggest that on a scale of $0 - 1.00$, 1.00 being the worst, fdi inflows reduce if elections become more flawed. The suggestion of this is driven by factors associated with electoral violence, which may lead to political instability and deter investors.

4.2.3 Multivariate regression

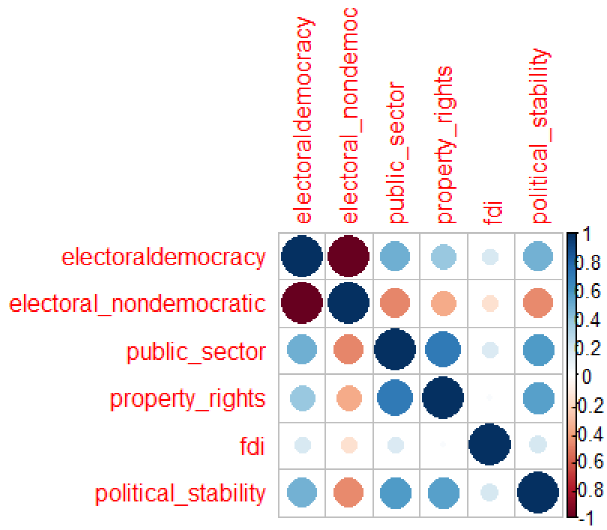


FIGURE 4.5: The graph shows a correlation matrix of all the variables for this investigation

The correlation matrix above shows the association amongst the variables. As observed, correlation between electoral democracy and the public sector is positive. Indicating that where there is democracy of elections, there is a high probability that the public sector institutions will be characterized by less corruption and effective governance. The same applies between electoral democracy and property rights, which suggests that property rights institutions are stronger when they are in a political environment that has electoral democracy. This suggests that countries with electoral democracy also respect the rule of law which enables property rights to be respected, a factor that attracts investors. Electoral democracy and political stability have a positive correlation which is around 0.6, this suggests that there is more political stability in countries whose elections are free and fair. Regarding the latter variables, (Harding, 2020) argues that developmental states have political stability. Nevertheless, the results of this investigation regarding the sample size indicates that non-democratic elections in Africa tend to have a negative correlation with political stability. The reason being, when elections are non-democratic as argued by (Golder and Wantchekon, 2004), the aftermath is associated with electoral violence through ethnic conflicts, or a dysfunctional political institution stated by (Alence, 2004). This causes political instability as a result of the tensions created in post-election period. The correlation between electoral democracy and fdi is positive though weak as the figure is around 0.2, the same applies with variables of public sector and political stability. This suggests that while these variables are important for investors willing to channel their money in sub-Saharan countries, there maybe other important factors which they consider as well or investor preference varies. Nevertheless, for the regression summaries, the paper will use interaction between variables to determine how these factors influence fdi in the region.

Model 1 summary

```
Call:
lm(formula = fdi ~ electoraldemocracy + public_sector +
property_rights + political_stability,data = mergeAfrica)

Residuals:
    Min      1Q  Median      3Q     Max
-12.593  -4.044  -2.220   0.883  94.780

Coefficients:
                   Estimate Std. Error t value Pr(>|t|)
(Intercept)          8.2743     3.6957   2.239  0.02577 *
Electoraldemocracy 1.7419     1.2686   1.373  0.17060
public_sector        3.0902     1.3255   2.331  0.02028 *
property_rights     -3.8632     1.2630  -3.059  0.00239 **
political_stability 2.2788     0.9335   2.441  0.01513 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
' ' 1

Residual standard error: 10.09 on 360 degrees of freedom
  (55 observations deleted due to missingness)
Multiple R-squared:  0.06526, Adjusted R-squared:  0.05488
F-statistic: 6.284 on 4 and 360 DF,  p-value: 6.753e-05
```

FIGURE 4.6: This is a regression summary model. The model above shows predictors processed independently

From the figure above, the predictors were processed independently and the objective was to investigate the influence of the control variables on fdi, independently. From the regression summary, commencing with the public sector which carries a significant p-value of 0.01 and a coefficient of 3.090 this suggests that all predictors remaining constant, the increase of public sector ratings by 1 unit would result in fdi inflows increasing approximately by 11 percent. Likewise, if a country is to decrease on property rights, all predictors remaining constant, net inflows of fdi would would likely reduce by 4 percent. This indicates the importance of property rights for investors. Being the predictor that contains more significant codes (This is observed by the stars at the end). It shows how volatile fdi is if property rights are jeopardized with. Another important factor to take note of is, political stability, and if all predictors remain constant, it shows that if a country becomes more politically stable, net fdi inflows would improve by 10.5 percent. Highlighting that investors are concerned about an environment that is politically stable. A low standard error for these variables indicates that the predictors are significant to this investigation.

Model 2 summary

```
Call:
lm (formula = fdi ~ electoraldemocracy * public_sector +
property_rights + political_stability, data = mergeAfrica
)

Residuals:
    Min      1Q Median      3Q     Max
-12.587 -4.031 -2.173   0.901  94.798

Coefficients:
           Estimate    Std. Error t value Pr(>|t|)
(Intercept) 8.4966        4.1650   2.040   0.0421 *
electoraldemocracy 1.0452 6.1225   0.171   0.8645
public_sector 2.9895     1.5849   1.886    0.0601.
property_rights -3.8504   1.2695 -3.033    0.0026 **
political_stability 2.2845 0.9361   2.440  0.0152 *
electoraldemocracy: public_sector   0.2430  2.0894   0.11
6   0.9075
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
' ' 1

Residual standard error: 10.1 on 359 degrees of freedom
  (55 observations deleted due to missingness)
Multiple R-squared:  0.0653, Adjusted R-squared:  0.05228
F-statistic: 5.016 on 5 and 359 DF,  p-value: 0.0001865
```

FIGURE 4.7: The model above shows an interaction between electoral democracy and public sector

The investigation highlights an interaction between electoral democracy and public sector (The one at the bottom of the model). The purpose of an interaction in a regression model is to assess the effect of the control variable (public sector) on independent variable (dummy variable: electoral democracy) and how these two influence the dependent variable (fdi). From the model results, a country that has achieved electoral democracy alongside with public sector rankings is a result which suggests that it is not of importance to investors. Though in the previous models, results have indicated that independently these factors are significant. This suggests that investors prefer to look at these factors separately rather than as a combination. With a p-value of 0.9075, this suggests that investor might prefer to focus on public sector rankings alone without considering electoral democracy and vice versa.

Model 3 summary

```
Call:
lm (formula = fdi ~ electoraldemocracy * property_rights
+ public_sector + political_stability, data = mergeAfrica
)

Residuals:
   Min      1Q Median      3Q     Max
-11.114 -4.102 -1.528   1.142   92.380

Coefficients:
             Estimate    Std. Error   t value   Pr(>|t|)
(Intercept) 1.993        4.032       0.494     0.621394
electoraldemocracy 22.094 5.784   3.820      0.000157 ***
property_rights -1.202    1.445     -0.832      0.406139
public_sector   2.810     1.306        2.151 0.032129 *
political_stability  2.155 0.919   2.344     0.019609 *
electoraldemocracy:property_rights  -7.017 1.947  -3.604
0.000358 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
' ' 1

Residual standard error: 9.927 on 359 degrees of freedom
  (55 observations deleted due to missingness)
Multiple R-squared:  0.0979, Adjusted R-squared:  0.08533
F-statistic: 7.792 on 5 and 359 DF,  p-value: 5.616e-07
```

FIGURE 4.8: This figure shows interaction between electoral democracy and property rights and their impact on fdi inflows

The model indicates an interaction between electoral democracy and property rights. This suggests that if a country has electoral democracy but its property rights are not strong enough, it would influence the net fdi inflows by 15.86 percent of that given country. This interaction has a great significance because it highlights the importance of property rights to investors. (Morisset, 1999) states that countries that have diverse markets in Africa attract more fdi, in support of his assertion, a diversity of markets has a correlation with laws that protect property rights. From the correlation matrix, the results indicate that there lies a positive correlation between electoral democracy and property rights. Hence in line with this model, the expectation of investors is that when the elections are democratic, the institutions of property rights should be strong to protect their investments. Thus a scenario whereby elections are democratic but laws that govern property rights are not strong enough would bring disillusionment to the investors.

Model 4 summary

```
Call:
lm (formula = fdi ~ electoraldemocracy * political_stabil
ity + public_sector + property_rights, data = mergeAfrica
)

Residuals:
   Min    1Q    Median      3Q     Max
-12.582 -4.014 -2.220   0.878 94.787

Coefficients:
             Estimate Std. Error t value Pr(>|t|)
(Intercept) 8.25202    3.76846   2.190 0.02918 *
electoraldemocracy 1.76896    1.53676   1.151 0.25046
political_stability 2.26030    1.10653   2.043 0.04181 *
public_sector 3.09135    1.32782   2.328 0.02046 *
property_rights -3.86269    1.26485 -3.054 0.00243 **
electoraldemocracy: political_stability 0.05439    1.7370
7   0.031 0.97504
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
' ' 1

Residual standard error: 10.1 on 359 degrees of freedom
  (55 observations deleted due to missingness)
Multiple R-squared:  0.06527, Adjusted R-squared:  0.05225
F-statistic: 5.013 on 5 and 359 DF, p-value: 0.0001875
```

FIGURE 4.9: This model shows an interaction between electoral democracy and political stability

The model shows interaction between electoral democracy and political stability. The results of this interaction highlight that the p-value of 0.975 is not significant regarding influencing fdi inflows.

ANOVA table

```
Analysis of Variance Table

Model 1: fdi ~ electoraldemocracy + public_sector + property_rights + political_stability
Model 2: fdi ~ electoraldemocracy * public_sector + property_rights +political_stability
Model 3: fdi ~ electoraldemocracy * property_rights + public_sector + political_stability
Model 4: fdi ~ electoraldemocracy * political_stability + public_sector + property_rights
Model 5: fdi ~ electoraldemocracy * political_stability * public_sector * property_rights
  Res.Df   RSS  Df   Sum of Sq.   F      Pr(>F)
1   360  36657
2   359  36655  1      1.4 0.0145       0.9042191
3   359  35377  0   1278.4
4   359  36657  0  -1279.7
5   349  33251 10   3405.7    3.5746   0.0001569 ***
---
Signif. codes:  0 ‘***’ 0.001 ‘**’ 0.01 ‘*’ 0.05 ‘.’ 0.1 ‘ ’ 1
```

FIGURE 4.10: An ANOVA function was used to test which model had the best results

The *Anova function* was used to determine the means from the model/group. The purpose is to determine the group/model that has better significant results as compared to others.From the above results, the investigation ran different models in order to determine which model produces the best result in attracting net fdi inflows in the sub-Saharan region. Hence model 5 which contains an interaction of all predictors appeared to be the best model. This suggests given an option, investors prefer a situation whereby all the conditions are available in that given country. Hence to an investor, considering these factors collectively is more preferable to the as it gives them more detail and assists them to make an informed decision.

Confidence Intervals

```
confint (Electro, level = 0.95)

                      2.5 %        97.5 %

(Intercept)         2.269358     5.017455

electoraldemocracy 1.495566     5.663816
```

FIGURE 4.11: This shows confidence intervals

The investigation generated confidence interval using the *Confint function*. The purpose of this function is to generate confidence intervals within the lower and upper bounds. Hence from the results above, it can be deduced that this investigation is 95 percent confident that the correlation between electoral democracy and fdi in region of sub-Saharan Africa is between $1.49 - 5.66$.

Chapter 5

Conclusion

In conclusion, this investigation has managed to identify the gaps in the academic framework, address the aim and given a contribution to the academic framework. Firstly the gap in the literature space there lies no investigation of the relationship between electoral democracy and FDI. Though the subjects have been written extensively, the investigation is primarily on either the subject of elections or FDI individually. The closest was the association between elections and firm performance referred to in 2. In spite of this, the gap still remained in that literature which focused on electoral democracy and FDI on a regional level was not there. Hence as seen from the main body of this investigation, the project's motivation was observed through the research question *Is there an association between electoral democracy and FDI in sub-Saharan Africa in the 21st century?* mentioned in 1. Confidently, the answer is yes, the investigation through the results 4 has proven that this association does exist. From the data results given, a positive correlation between electoral democracy and FDI exists and this suggests that the majority of investors prefer environment where there is electoral democracy. Hence reiterating the paper's argument, that electoral democracy and good institutions have a better chance of attracting more FDI, the results from 4 Anova table indicate that this model is more preferable to investors. As electoral democracy is positively associated with FDI inflows, the investigation has shown that the presence of control variables like political stability and property rights enable this association to become stronger. Electoral democracy though its not a causal factor to the increase of FDI inflows but its strong correlation with factors that cause increase of FDI inflows like property rights, public sector and political stability allows it to have that correlation with FDI. Hence the investigation can reject the null hypothesis and clearly state the alternative hypothesis which states that FDI flows more to countries with electoral democracy.

As stated in the main paper, countries with electoral democracy have elements like transparency, respect rule of law, allow civil participation which may also promote ease of doing business. The paper has argued that though there lies a possibility that there maybe countries with electoral nondemocracy which attract FDI, from a sub-Saharan aggregate perspective such states maybe outliers or a few as the results have highlighted that countries with electoral democracy are preferred. Countries with electoral non-democracy are primarily associated with negative correlation of political stability, suggesting that in these type of environments property rights may be weak, public sector may be characterized by corruption or mismanagement, factors which may deter investors. The aim has therefore been addressed through the data visual results in 4. Therefore, the contributions made by this project is that the investigation has shown the correlation between electoral democracy and FDI on the sub-Saharan region. Furthermore, while this association lies, the presence of good institutions is crucial as it motivates investors to channel more capital to the country.

The recommendation is that new investors should consider countries where there is presence of all these variables which are stated in model5 of 4. Though investment is possible in countries that have electoral non-democracy, but the risk is higher due to political factors as the data results have shown through the correlation matrix. Another point to potential investors is to also consider countries that have stronger property rights as it is in these states that rule of law is stronger and their investments have better chances of being protected. Though this investigation cannot claim to be perfect, but it does appreciate the idea that its findings have opened new avenues of knowledge that might be of great contribution to the frameworks of academia and international political economy.

Appendix A

Appendix Title

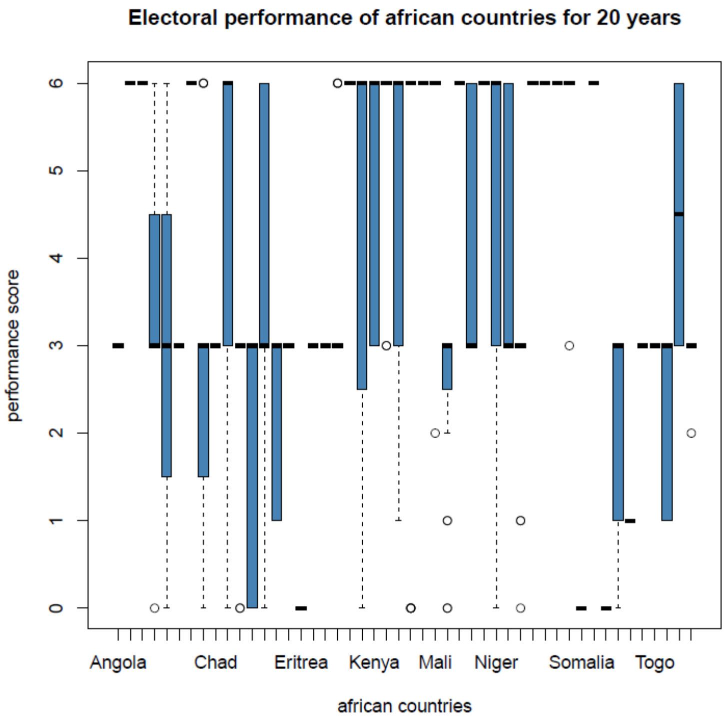


FIGURE A.1: This graph highlights a boxplot which contains the state of electoral democracy in some countries in Sub-Saharan Africa

Bibliography

Alence, Rod (2004). "Political institutions and developmental governance in sub-Saharan Africa". In: *Journal of Modern African Studies*, pp. 163–187.

Butkiewicz, James L and Halit Yanikkaya (2006). "Institutional quality and economic growth: Maintenance of the rule of law or democratic institutions, or both?" In: *Economic Modelling* 23.4, pp. 648–661.

Camyar, Isa and Bahar Ulupinar (2019). "Electoral systems and the economy: a firm-level analysis". In: *Constitutional Political Economy* 30.1, pp. 1–30.

Golder, Matt and Leonard Wantchekon (2004). "Africa: Dictatorial and democratic electoral systems since 1946". In: *The Handbook of Electoral System Choice*. Springer, pp. 401–418.

Harding, Robin (2020). *Rural Democracy: Elections and Development in Africa*. Oxford University Press.

Izilein, EI and Nuhu Mohammed (2017). "Do democratic institutions and foreign direct investment affect economic growth? evidence from Nigeria". In: *International Journal of Development and Management Review* 12.1, pp. 18–31.

LeBas, Adrienne (2013). *From protest to parties: Party-building and democratization in Africa*. OUP Oxford.

Morisset, Jacques (1999). *Foreign direct investment in Africa: policies also matter*. The World Bank.

Skaaning, Svend-Erik, John Gerring, and Henrikas Bartusevičius (2015). "A lexical index of electoral democracy". In: *Comparative Political Studies* 48.12, pp. 1491–1525.

Van Kessel, Stijn (2013). "A matter of supply and demand: The electoral performance of populist parties in three European countries". In: *Government and Opposition* 48.2, pp. 175–199.