SELECTED MACROECONOMIC DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN KENYA

BY

STELLA KAGENDO NDWIGA NDUNG'U

A RESEARCH THESIS SUBMITTED TO THE SCHOOL OF BUSINESS & ECONOMICS IN PARTIAL FULFILLMENT FOR THE AWARD OF MASTER OF INTERNATIONAL ECONOMICS AND TRADE

MOI UNIVERSITY

2023

DECLARATION

This research thesis is my original work and has not been presented for a Master`s course in any School of Moi University.

Signature: …… Date: ……..
Stella K. Ndwiga Ndung'u
SBE/PGE/2007/15

I confirm that the work presented in this research thesis has been carried out by the candidate under my supervision.

Signature: …… Date: ……
Dr. Elvis Kimani Kiano
Moi University

Signature: …… Date: ……..
Prof. Peter Omboto
Moi University

DEDICATION

To: my husband Alexander, daughter –Sifa and son –Amani.

ACKNOWLEDGEMENT

The success of an exercise of such a great magnitude involved in this research cannot be credited to my ingenuity as a student. Many key persons played a vital role without which the exercise could not have been a success.

First and most important of all, I thank the Almighty God for giving me the will power, strong mind and ability to carry out the study.

Secondly, special gratitude goes to my supervisors; Dr. Elvis Kiano and Prof. Peter Omboto who gave their irreplaceable input to the success of this research thesis. I sincerely acknowledge their professionalism and able supervision.

Thirdly, I would not hesitate to sincerely give thanks to my dear family members and friends for their great encouragement that has seen me travail victoriously adding up to my career and take home a bravo!

Last but not least, to my colleagues at Kenya Utalii College; Mr. James Kamau, Mr. Moses Wanjala & Ms. Caroline Kinyua, thank you so much for the immeasurable moral support throughout the course and research process. Earnest compliments to all those who sacrificed their valuable time when I needed further professional academic facilitation and re-assurance; Dr. Kemboi, Mr. Peter Mwai, Dr. Stephen Muchina and Dr.Onyango, Thank you so much!

Compilation of this report involved sharing of ideas and drafts, encouragement, perseverance, articulate precision and extensive commitment. The comprehensive research led me to new and newer fields of study that I had not even bargained for. It is therefore with great pleasure that I present it to you all and for this, God bless!

ABSTRACT

FDI plays an important role in the receiving country which makes it vital in policy formulation. Despite the economic importance of FDI, most countries have been facing a common challenge on how to attract considerable FDI. Kenya, like many other developing and emerging nations, has had a big challenge in attracting and sustaining foreign direct investment at levels that allow domestic investment to take advantage of benefits associated with capital inflows. The purpose of this study was to empirically analyze selected macroeconomic determinants of foreign direct investments in Kenya. More specifically, study objective was to examine the causal effect between foreign exchange volatility and foreign direct investments, causal effect between inflation rate and foreign direct investment and causal effect between interest rate and foreign direct investment. The study was informed by the ever increasing challenge of attracting and sustaining foreign direct investment. The study was anchored on the Dynamic macroeconomic foreign direct investment theory, the capital arbitrage theory and the Internalization theory. The study adopted an explanatory research design and employed an Auto-Regressive Distributed Lag to analyze the results. Study sample entailed of annual secondary time series data set for a period of 35 years from 1986 to 2021, sourced from KNBS, Central Bank of Kenya, and World Bank. Findings of diagnostic test demonstrated that there was no multicollinearity among the independent variables (vif=1.14), residuals were homoscedastic (p=0.0897>0.05), and there was no auto-correlation among the residuals (p=0.8637>0.05). The results of the Shapiro-Wilk normality test showed that the study's variables were normally distributed. The Augmented dickey fuller unit root test both showed that there was no unit root and that the variables had a short run relationship. Additionally, the model's stability over time was confirmed by the CUSUM test. Findings of the study were: the causal effect between foreign exchange volatility and foreign direct investment was positive and significant ($\beta_1 = 0.0070$, $p = 0.000$); inflation rate and foreign direct investment were positive and significant ($\beta_2 = 0.0238$, $p = 0.001$); interest rate had a positve significant causal effect ($\beta_3 = 0.0167$, $p = 0.005$) with foreign direct investment. The study therefore recommends that there is need for the government to regulate interest rates since high interest rates have significant negative influence on foreign direct investment inflows in the country. Additionally, there is need for policy makers to minimize exchange rate by improvising sustainable plans that properly controls the foreign exchange market. There is also need to manage inflation by developing price stability measures through the use of effective policy measures.

TABLE OF CONTENTS

DECLARATION ii
DEDICATION iii
ACKNOWLEDGEMENT iii
ABSTRACT iv
TABLE OF CONTENTS v
LIST OF TABLES viii
LIST OF FIGURES ix
ACRONYMS AND ABBREVIATIONS x
OPERATIONAL DEFINITION OF VARIABLES xi
CHAPTER ONE 1
INTRODUCTION 1
1.0 Overview 1
1.1 Background to the Study 1
1.1.1 Foreign Direct Investment Flows in the World 3
1.1.2 Foreign Direct Investment flows in Kenya 4
1.1.3 Macroeconomic Determinants 5
1.2 Statement of the Problem 6
1.3 Objectives of the Study 9
1.3.1 General Objective 9
1.3.2 Specific Objectives 9
1.4 Hypotheses of the Study 9
1.5 Significance of the Study 9
1.6 Scope of the Study 10
CHAPTER TWO 11
LITERATURE REVIEW 11
2.0 Overview 11
2.1 Concept of the Study 11
2.1.1 Concept of Exchange rate 11
2.1.2 Concept of inflation rate 12
2.1.3 Concept of interest rate 12
2.1.4 Concept of Foreign direct investment 13
2.2 Theoretical Review 13

2.2.1 Dynamic Macroeconomic FDI Theory 14
2.2.2 Capital Arbitrage Theory 15
2.2.3 Internationalization Theory 17
2.3 The Empirical Review 18
2.3.1 FDI and Exchange rate 18
2.3.2 FDI and Inflation Rate 26
2.3.3 FDI and Interest Rates 32
2.4 Conceptual Framework 35
CHAPTER THREE 37
RESEARCH METHODOLOGY 37
3.0 Overview 37
3.1 Research Design 37
3.2 Target Population 37
3.3 Data Collection Procedure 38
3.4 Data Analysis 38
3.5 Model Specification 39
3.6 Definition and Measurement of Variables 40
3.7 Diagnostic Tests 41
3.7.1 Test of Multicollinearity 41
3.7.2 Autocorrelation Test 41
3.7.3 Stationarity Test 42
3.7.4 Normality Test 42
3.7.5 Linearity Test 43
3.7.6 Heteroscedasticity Test 43
3.7.7 The Lag selection criteria 43
3.7.8 Model stability test 44
3.7.9 Cointegration test 45
3.8 Ethical Consideration 45
CHAPTER FOUR 47
RESEARCH FINDINGS AND DISCUSSION 47
4.0 Overview 47
4.1 Summary Descriptive Statistics 47
4.2 Pearson Correlation 51
4.3 The Normality Test 52

4.4 Lag Selection Criteria 53
4.5 Autocorrelation Test 53
4.6 Homoscedasticity Test 54
4.7 Multicollinearity Test 55
4.8 Stationarity Test 56
4.9 Co-integration test 57
4.10 Structural Break Test 58
4.11 Model Stability Test 59
4.12 Discussion of the Results 60
4.13 Testing of Hypotheses 66
CHAPTER FIVE 69
DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS 69
5.0 Overview 69
5.1 Summary of the Findings 69
5.2 Conclusion 72
5.3 Recommendations 73
5.3.1 Policy Recommendations 73
5.3.2 Theoretical Recommendation 75
5.4 Recommendations for Further Research 76
REFERENCES 78
APPENDICES 86
Appendix A: Sample of Data Collection Sheet 86
Appendix B: NACOSTI Licence 87
Appendix C: Stata Output 89
Appendix D: Plagiarism Certificate 97

LIST OF TABLES

Table 1.1: World Regions FDI Flows (2000-2017) 4
Table 4.1: Summary of Descriptive Statistics 47
Table 4.2: Summary of correlation results 52
Table 4.3: Summary of Shapiro Wilk results 52
Table 4.4: Summary of lag selection criteria results 53
Table 4.5: Summary of autocorrelation results 54
Table 4.6: Summary of homoscedasticity test results 55
Table 4.7: Summary of multicollinearity results 56
Table 4.8: Summary of stationary results 57
Table 4.9: Summary of Co-integration results 57
Table 4.10: Structural break test results 58
Table 4.11: ARDL results 66
Table 4.12: Summary of hypothesis 68

LIST OF FIGURES

Figure 1.1: FDI Inflow in Kenya (1980-2018) 5
Figure 2.1: Conceptual Framework 36
Figure 4.1: Trend of foreign direct investment 49
Figure 4.2: Trend of foreign exchange rate 49
Figure 4.3: Trend of inflation rate 50
Figure 4.4: Trend of Interest rate 50
Figure 4.5: CUSUM graph 59

ACRONYMS AND ABBREVIATIONS

ADF	Augmented Dickey- Fuller Test
CBK	Central Bank of Kenya
FDI	Foreign Direct Investment
FLFP	Female Labor Force Participation
GDP	Gross Domestic Product
GNP	Gross National Product
KNBS	Kenya Bureau of Statistics
MNE	Multinational National Enterprise
OMO	Open Markets Operations
VAR	Vector Auto Regression

OPERATIONAL DEFINITION OF VARIABLES

Exchange rate There is a monetary system which permits supply and demand to collectively determine the exchange rate (Bernanke, 2013).

Foreign Direct Investment reflects the goal of establishing a long-term interest in an enterprise that is resident in an economy other than the one in which the direct investor is based. This interest is considered to be a long-term interest. (OECD Benchmark Definition of FDI 4th edtn, 2008)

Inflation Rate It is common practice used as a measure for monetary discipline and macroeconomic stability. A high inflation rate is indicative of a lack of discipline and commitment with regards to policy matters (Bengoa and Sanchez, 2013).

Interest Rates These are rates that the borrowers must pay the lenders on their debt and deposit commitments, and the prices of these obligations are determined by the future cash flows that will be due on the obligations (Alexander Pierre Faure, 2014).

CHAPTER ONE

INTRODUCTION

1.0 Overview

The study sought to investigate the selected macroeconomic determinants of foreign direct investment in Kenya. This chapter was structured into six sub- sections, section one focused on the background information relating on concept of foreign direct investment. Section two explored statement of the problem. Section three presented the research objectives of the study. Section four explored hypothesis to be tested. Section five described the justification of the study..

1.1 Background to the Study

World Trade Organization (WTO) (2016) describes Foreign Direct Investment (FDI) as a a scenario in which an investor resident in the home country purchases an asset located in another country (the host country) with the intention of managing that asset. Foreign direct investment (FDI) sets itself apart from portfolio investments in foreign stocks, bonds, and other financial instruments by virtue of the management dimension. On the other hand, foreign direct investment (FDI) can be understood as the ownership of ten percent or more of the ordinary shares or voting stock of a company, which is typically regarded as an indication of "substantial influence" by an investor (IMF, 2017). Therefore FDI can generally be seen from two perspectives thus as a foreign branch of an existing firm or from the perspective of a brand new investment.

Globally, there has been an upward trend in interest in foreign direct investment (FDI) due to the perceived benefits that come with incorporating foreign capital into an economy (Aremu, 2005). Borensztein et al. (2013) concur with this school of thought on the idea that FDI provides an alternatie platform to finance domestic investment

especially for the third world countries lacking enough capital to promote the use of technology management and to stimulate growth.

Rana and Dowling (2014) observe that two significant factors that influence economic performance are exports and foreign capital inflows. However, the distribution of foreign direct investment is still very skewed, with the top 5% of the world receiving 68% of FDI while the bottom 5% receive only 1% (Chakrabarti, 2014). Most people view foreign direct investment as a composite bundle of technology and capital stock that has the potential to increase economic growth (EG) in two ways: directly and indirectly via channels and spillovers (Almfraji & Almsafir, 2014).

The link between FDI and economic development cannot be overemphasized and many studies have established that FDIs positively influence the levels of production and growth rates in the sectors that they enter through skills development as well as innovation (UNCTAD, 2015). Majority of the less developed countries (LDC) entirely depend on FDIs for survival since the capital derived from the FDIs comes in handy to increase investment and therefore obtain long term growth (Mwega &Ngugu, 2006). Based on this reason, a lot of the LDCs have tried to create better investment environment by doing away with rigid trade barriers (Kimunyi, 2014). Foreign direct investments generally bridge the gap between savings and investments thereby enhance capital accumulation.

There are four categories of FDIs:

Category1: By Direction either Inward or Outward.

Category2: By Target either Horizontal or Vertical

Category3: By Entry Mode either as Greenfields or Brownfields (mergers & acquisitions)

Category4: By Motive either through seeking Resources, Market, Efficiency or Strategic asset.

This study analyses the market seeking FDI, which targets local and regional markets through production of facilities in the host countries.

1.1.1 Foreign Direct Investment Flows in the World

Over the course of the past few decades, foreign direct investment (FDI) has been steadily growing on a global scale. Global foreign direct investment (FDI) reached $1,401,4 billion in 2010, and it has since climbed to approximately $5100 billion in 2017. In every region of the world, there is an evident trend toward an upward tendency. The economies that are still in the process of developing have the most promising indications. According to Adina, Dumitri, and Carol (2012), the financial crisis that began in the United States of America in 2008 resulted in a considerable reduction in the amount of foreign direct investment (FDI) flows in the developed world during that particular year. On the other hand, foreign direct investment (FDI) was still growing in other regions of the world. It wasn't until 2009 that a downward trend was visible, which was most likely brought about by the effect of developed nations withdrawing funds as a result of the financial crisis.

There was a decrease of more than 47% in the amount of foreign direct investment (FDI) sent out of developing countries, which went from more than $1,570 billion in 2016 to a little more than $820 billion in 2017. The decline in foreign direct investment (FDI) outflow from developing countries was relatively less, falling from $296.2 billion in 2016 to $229.1 billion in 2017, representing a paltry 23% decrease. As a result of low levels of saving that are associated with (relatively) low levels of national income, many developing countries do not have the resources necessary for investment. As a

result, macroeconomic policy frequently focuses on promoting the attraction of foreign direct investment (FDI). Foreign Direct Investment (FDI) should not only result in an increase in output by means of the transfer of technology and innovation, but it should also result in an improvement in employment and economic development (Todaro, & Stephen 2011). Table 1 below summarizes the world FDI inflows between the years 2000-2017.

Table 1.1: World Regions FDI Flows (2000-2017)

Region	FDI Inflows (Million Dollars)					FDI Outflows (Million Dollars)				
	2000	2010	2015	2016	2017	2000	2010	2015	2016	2017
World	207.5	1401.4	2099.9	1770.8	1114.1	241.3	1232.8	2267.5	1928.7	1100.9
Developed economies	172.5	1137.9	1444	1018.2	567.5	229.5	1094.7	1923.8	1571.8	820.6
North America	68.1	413.1	455.6	467	189.2	90.1	227.2	556.4	579.7	381.1
Europe	104.4	724.8	988.4	551.2	378.3	139.4	867.5	1367.4	992.1	439.5
Developing economies	35	256.4	564.9	630	478.3	11.9	134.7	292.1	296.5	229.1
Africa	2.8	9.8	63	72.1	58.5	0.6	1.5	10.6	9.9	4.9
Latin America	8.9	97.6	163.6	183.1	116.5	0.3	49.7	55.9	82	47.3
Asia and Oceania	23.3	148.9	338.2	374.6	303.2	10.9	83.7	225.5	204.3	176.7

Source: (World Bank, 2018)

1.1.2 Foreign Direct Investment flows in Kenya

Ndung'u (2017) pointed out that development of infrastructure and trade liberalization significantly improved development. However, FDI inflow has been volatile with Kenya relinquishing the leadership position to other on FDI attraction. The flow of foreign direct investments into the country experienced declined during the years 1980 and 1990. The decline might be attributed to a number of factors, including the sluggish growth of the economy, the increasing problems in public governance, inadequate infrastructure, the high cost of borrowing funds, the inconsistency in economic policies, the lack of investor trust in the reforms, and the competition. During this time period, foreign direct investment (FDI) inflows recived amounted only 20 million US dollars on average.

The comparative amount of foreign direct investment (FDI) inflows by developing countries' standards was still quite low, despite the fact that Kenya led the pack in terms of attracting FDI in contrast to other East African countries. With the majority of East African countries beginning economic reforms between the years 1990 and 2000, they were able to improve their ability to attract foreign direct investment (FDI). In terms of foreign direct investment (FDI) attraction, these other countries have surpassed Kenya as a result of their good trading policies and practices.

The net FDI inflow in Kenya however, went up to USD 39 million but declined again in 2001. During this period, there was an enormous withdrawal of investors from Kenya as a result of its poor economic performance, which was closely linked to rampant corruption.

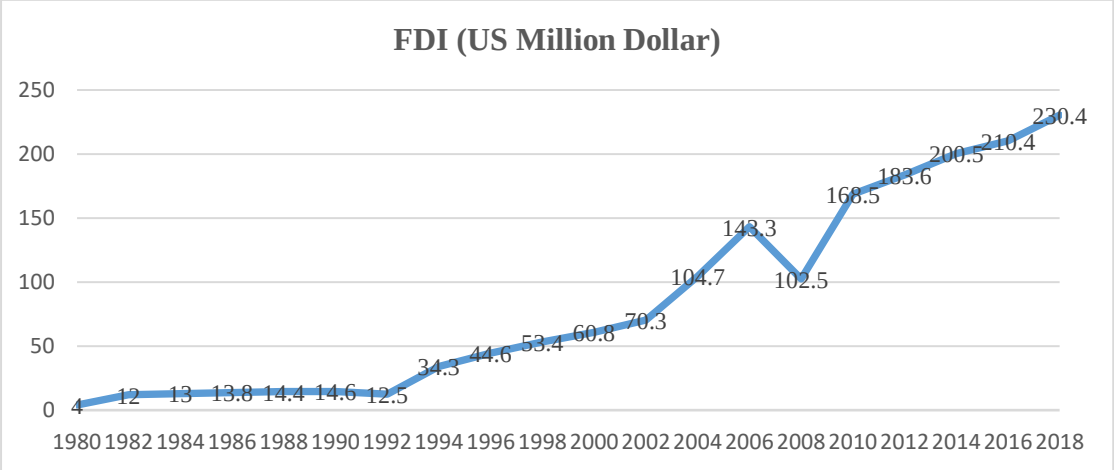


Figure 1.1: FDI Inflow in Kenya (1980-2018)

Source: (CBK report, 2018)

1.1.3 Macroeconomic Determinants

Rudger and Stanley (2009) defines macroeconomic variables as aggregate economic indicators that make up the economic system. These factors play the role of forecasting the national income and the analysis of major economic factors that influence each other in the economy. The behavior of an economy is often reflected in macroeconomic

factors, manifested in the overall economic output of goods and services. Therefore, the wellbeing of these factors dictates the performance of all economic activities including foreign direct investments. Brandley (2008) attempted to list the various types of macroeconomic factors in an economy as: Gross Domestic Product (GDP), Interest rate, exchange rate, employment, stock markets, balance of payment & inflation. While this list may not be conclusive, it contains key factors that are critical in the overall performance of the economic sector. Macroeconomic indicators measure the performance of the economy upon which investment decisions are made.

A part from the macroeconomic environment, FDI inflows are also affected by other institutional factors: technology, labor costs, degree of openness, risk and corporate taxes (Demirhan & Mascah, 2008). However, studies on these variables have found concrete results in relation to FDI inflows (Ouma, 2016; Demirhan & Mascah, 2008). On the other hand, macroeconomic variables have the tendency to fluctuate in relation to performance of the economy and that makes it difficult to control making foreign investors to be quite cautious with their investment decisions. Various studies regarding these variables (Hailu, 2010; Wanjiru, 2014 & Luther, 2014) in different sectors obtained mixed results and unlike other factors, inflation, interest rates and exchange rates affect people and businesses on a daily basis (Brandley, 2008). Therefore, this study sought to determine the effect of exchange rate, inflation rate, taxation rate and interest rates on Foreign Direct Investments in Kenya.

1.2 Statement of the Problem

Foreign Direct Investment (FDI) is crucial for the receiving country and plays a significant influence in the creation of policies. Todaro (2017) argues that foreign direct investment (FDI) leads to enhanced efficiency, advantages of the free market system, solution of savings insufficiency, foreign exchange inadequacy, revenue gap, and

management-related concerns. In addition, Foreign Direct Investment (FDI) facilitates the introduction of advanced technology, leading to the adoption of new production methods and the expansion of product diversity. These developments contribute to the exportation of a wide range of products (DeMello, 2019; Mwega, 2019; Feldstein, 2019). The capital investments had a remarkable surge, rising from USD 914.92 million in 2012 to USD 3,378.98 million in 2015 (Ken Invest, 2016). FDI in the economy has an indirect impact by generating employment opportunities for the local workforce employed in foreign companies. As an example, the number of employment generated by foreign direct investment (FDI) in Kenya increased to 8,223 in 2017 from 2,491 in 2015, according to Ken Invest (2016). As per the Economic Survey (2018), Foreign Direct Investment (FDI) contributed 1.2% to Kenya's Gross Domestic Product (GDP). Although FDI has made a significant impact on the Kenyan economy, Kahouli et al., (2017) noted that FDI inflows into the country have been inconsistent. Therefore, it is necessary to implement effective methods to ensure a steady flow of FDI, which is the focus of this study.

Although FDI holds significant economic importance, many countries are dealing with a shared obstacle in terms of attracting substantial FDI (Kinyanjui & Kinuthia, 2019). Kenya, similar to other developing and growing countries, faces significant difficulties in recruiting and maintaining foreign direct investment at levels that enable local investment to capitalize on the advantages associated with capital inflows (Njoroge, 2017). In the 1970s, Kenya was highly regarded after as a location for Foreign Direct Investment (FDI) in East and Central Africa. Over the years, Kenya's attractiveness to foreign enterprises diminished, a trend that persisted until around 2008. Mwega and Ndungu (2018) claimed that the economic stagnation was a result of macroeconomic limitations that resulted from the collapse of the IMF's Structural Adjustment Program

(SAPs) in 1986, extensive infrastructure damage caused by El Nino rains, and the presence of weak institutions (Hasli et al., 2017). Kinyanjui and Kinuthia (2019) observed that in 2008, Kenya was compelled to initiate vision 2030 in order to strive for worldwide competitiveness and the prosperity of the nation. Notwithstanding these steps, the inflow of foreign direct investment (FDI) into the country has consistently exhibited fluctuations (Kahouli et al., 2017).

Several conducted studies have determined the factors influencing FDI inflows in Kenya where results obtained from the majority of them were not clear. For example, Hailu (2010) Analyzed the elements on the demand side that impact the inflow of Foreign Direct Investment (FDI) in African nations. It was discovered that the inflation rate has a detrimental influence on FDI inflows in Africa. Wanjiru (2014) and Luther (2014) conducted a study in Kenya to examine the influence of inflation volatility on economic growth. Their findings revealed no significant correlation between the two factors. Uyagur (2015) examined the factors that influenced the amount of foreign direct investment (FDI) lnflow in Turkey between 1992 and 2004. The areas under consideration encompass the inflation rate, interest rate, and investment climate. The results showed that interest rates and consolidated budgets were the main FDI determinants in Turkey.

From the brief empirical review on the subject, there is no evidence there are any studies on the macroeconomic determinants on FDI inflows in Kenya, majority of them got mixed results. Also, no recent study has been conducted considering that there are several initiatives that the country has done to improve FDI; therefore, the need for a current study to capture these developments. Therefore, the study sought to determine the macroeconomic determinants (foreign exchange rate, inflation rat and interest rates) of Foreign Direct Investments in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The general objective of the study sought to assess the selected macroeconomic determinants of Foreign Direct Investments in Kenya.

1.3.2 Specific Objectives

The following specific objectives were;

i. To assess the effect of foreign exchange rate on Foreign Direct Investments in Kenya
ii. To examine the effect of inflation rate on Foreign Direct Investments in Kenya.
iii. To establish the effect of interest rates on Foreign Direct Investments in Kenya

1.4 Hypotheses of the Study

$\mathbf{Ho_1}$:Exchange rate had no significant effect on Foreign Direct Investments in Kenya.

$\mathbf{Ho_2}$:Inflation rate had no significant effect on Foreign Direct Investments in Kenya

$\mathbf{Ho_3}$: Interest rate had no significant effect on Foreign Direct Investments in Kenya.

1.5 Significance of the Study

Prior researchers on the subject had mostly focused on other sectors such as agriculture and manufacturing with variables mainly institutional. In addition, the macroeconomic variables (exchange rate, interest rate, and inflation) had given mixed results. Therefore, this study is justified in the sense that it focused on FDI inflows where the empirical coverage was quite scanty. The study significantly contributed to the following:

First, policy makers in Kenya, who incorporated some recommendation informing better policies with positive impact on FDI. The findings, concerning macroeconomic determinants of FDI inflows seemed ideal to contribute to the economic growth of the country.

Second, the body of knowledge in-regards to the factors influencing attraction of FDI in the country would assist in meaningful engagement with various stake holders in working out policies that aid increase FDI thus improving the economic performance of the country.

Third, Investors focused on investing in Kenya. The study investigated on the factors influencing FDI in Kenya, helpful in investors' choice of decisions based on the macroeconomic environment prevailing in the country amidst the backdrop of stiff competition globally.

1.6 Scope of the Study

The main objective of the study was to assess the selected determinants of foreign direct investment in Kenya. Foreign direct investment variables in the study will be; exchange rate, inflation rate and interest rate. The study used time series data over a period of 35years (1986- 2021), the period that covers the entire period when the investment environment evolved through reforms.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter reviewed the relevant literature on selected macroeconomic determinants of Kenya's foreign direct investment. Specific focus was dedicated on theoretical and empirical literature and concluded with conceptual framework. The conceptual framework indicates the dependent and independent variables of the research problem as outlined. Specifically the review focused on published and unpublished academic journal papers, books, electronic sources and other topics of interest related. Finally, the research gap is isolated from the reviewed literature.

2.1 Concept of the Study

2.1.1 Concept of Exchange rate

Itskhoki, 2021 defines exchange rate as the value at which one currency is exchanged for another. It represents the comparative worth of different currencies in the global foreign exchange market. The author notes that rates play a crucial role in international trade, influencing competitiveness of nations and affecting cost of goods and services across borders. Generally, exchange rates determined by various factors including: economic indicators, inflation, interest rates and geopolitical events (Itskhoki & Mukhin, 2022). They can fluctuate constantly due to market forces, impacting the profitability of businesses engaged in international trade and influencing investment decisions. Central banks and governments often intervene in currency markets to stabilize or adjust exchange rates, inorder to maintain economic stability and competitiveness in the global economy (Lal, et al.,2023).

2.1.2 Concept of inflation rate

Inflation rate measures the percentage change in the overall price level of products and services in a country's economy over a particular period of time, which is commonly one year. Specifically, it is a measure of the price at which thepurchasing power of a currency is eroded, meaning that, on average, prices are rising (Tien, 2021). Various factors, influence inflation including changes in demand and supply, production costs, and monetary policies. In general, moderate inflation is considered to be acceptable and even desirable for economic growth because it encourages investment as well as consumption of capital (Okpe & Ikpesu, 2021). However, high or hyperinflation can have detrimental effects on an economy, affecting the real value of money, uncertainty in financial markets, and distortions in resource allocation. Central banks often target a specific inflation rate as part of their monetary policy to maintain price stability and support overall economic health. Monitoring and managing inflation is a key aspect of economic policymaking to ensure a balanced and sustainable economic environment (Valogo, et al., 2023).

2.1.3 Concept of interest rate

According to Camara, 2021 interest rate is to the cost of borrowing money or the return on investment expressed as a percentage. It plays a pivotal role in the functioning of financial markets and influences various economic activities. Central banks or monetary authorities typically set benchmark interest rates, such as the federal funds rate in the United States, to regulate the overall money supply and achieve specific economic goals, including controlling inflation and stimulating or slowing down economic growth. Any change in interest rates impact consumer spending, business investment, and the housing market, among other sectors (Blanchard, 2019). It is observed that low interest rates generally encourage borrowing and spending,

promoting economic activity, whereas high interest rates have a cooling effect on inflation but limits borrowing and investment.

The relationship between interest rates and economic variables makes them a crucial tool in monetary policy, affecting the overall health and stability of an economy (Boungou, 2022).

2.1.4 Concept of Foreign direct investment

Foreign Direct Investment is a critical component of international economic relations and is associated with a business or individual investing directly in productive activities, such as establishing a subsidiary or acquiring a significant ownership stake in another country (Acquah, A. M., & Ibrahim, 2020). Foreign Direct Investment is characterized by a lasting interest and degree of control over the enterprise in the host country. It serves as a means for countries to attract capital, technology, and managerial expertise, fostering economic development and growth. Foreign Direct Investment can take various forms, including mergers and acquisitions, joint ventures and the establishment of wholly-owned subsidiaries. Governments often create policies to encourage FDI by offering incentives, such as tax breaks or reduced regulatory barriers (Chindengwike, 2022). However, FDI also raises issues related to sovereignty, economic inequality, and the potential for exploitation, requiring a delicate balance between attracting foreign investment and safeguarding national interests (Osei & Kim, 2020).

2.2 Theoretical Review

This section looks at theories and models related to the study variables. A theory would be refered to as a collection of interconnected concepts and definitions that provide a systematic perspective on phenomena by elaborating on the relationships between variables with the intention of providing an explanation for a natural phenomenon.The

study is underpinned by three theories: Dynamic Macroeconomic FDI Theory, Capital Arbitrage Theory and Internalization Theory which are discussed below.

2.2.1 Dynamic Macroeconomic FDI Theory

Beghum and Sannassee (2009) were the ones who developed the Dynamic macroeconomic Foreign Direct Investment theory. According to Sanjaya (2010), this theory indicates that the timing of investments is dependent on the changes that occur in the macroeconomic environment. There are a number of factors that influence the flow of foreign direct investment (FDI) in a country. Some of these factors include the gross domestic product, domestic investment, the real exchange rate, productivity, and openness. Moreover, according to this theory, foreign direct investments (FDIs) are a function that multinational corporations perform over a long period of time, and the length of time plays a significant role.

Furthermore, the dynamiz theory postulates that the period performs a significant role, and that the timing of investments is dependent on the macroeconomic environment that exists in the host country at that particular time frame, as well as the degree of openness and rate of economic growth that the host country possesses simultaneously. Gross domestic product, domestic investment, real exchange rate, productivity, and openness are the components that make up the macroeconomic environment. These factors are the ones that determine foreign direct investment (FDI) flows. The macro environment is particular to that nation, and the effect of one variable will not be the same as it would be in another economic environment. Therefore, it is essential for a foreign investor to analyze and comprehend the investment environment of a country, as well as the risk that is associated with the investment environment, in order to achieve success. The Dynamic macroeconomic theory bear some rtelationships all showing how FDI and exchange rates affect FDI.

According to this view, foreign direct investments (FDIs) are a long-term function of the activities of multinational corporations strategies. This idea is comparable to the foreign direct investment (FDI) theories based on exchange rate, which attempted to demonstrate the connection between FDI and exchange rate. It was an attempt to explain how the flow of currency exchange rates influences foreign direct investments (FDIs).

2.2.2 Capital Arbitrage Theory

Beghum et al., (2009) established the capital market theory, which was subsequently further developed by Hymer between the years 1960 and 1969. This theory asserts that foreign direct investment (FDI) is subject to interest rate fluctuations. The theory of capital markets outlined three factors that are responsible for attracting foreign direct investment to less developed nations. Foreign direct investment (FDI) is drawn to countries for a variety of reasons, one of which is the undervalued exchange rate. The reason for this is that it makes it possible for the host countries to have lower production costs. The second reason is that because there are no organized securities that are currently in existence, long-term investments in less developed countries will frequently be foreign direct investment (FDI) rather than the purchase of securities. The third reason is that because there exists limited information about the securities of the host countries, it favors FDI because it allows for control of the assets of the host country.

According to Asiedu (2015), exchange rate is a critical component affecting FDI. The author observed that foreign direct investment would be geberated if there are distinct currency areas. In 2011, Goldberg asserted that, assessment of future exchange rate volatility is done when one holds a higher share of equity capital in an investment. On the other hand, the volatility of exchange rate impact on the decision of where MNE’s

would be located. Therefore, the theory is applicable in explaining the volatility of exchange rate on Foreign Direct Investments in Kenya.

Furthermore, according to this idea, foreign direct investment (FDI) moves from nations in which the profit is low to nations in which the profit will be much higher (Froot & Stein, 2016). This indicates that direct investment moves from nations with low levels of profitability to those with high levels of profitability. This indicates that capital is moving not only across national borders but also across international borders. In addition, there are consequences, and countries that have a greater amount of capital ought to export, while those that have a lower amount of capital ought to import. According to Madura and Fox (2017), wherever there is a connection between long-term interest rates and return on capital, it should be in the same direction. The majority of investors will travel to nations that offer those investors a higher rate of return. On the other hand, globalization has led to the expansion of capital markets all over the world, and some people believe that such a theory is not trustworthy when it comes to understanding the cross-border investment of multinational corporations. The flow of resources across international borders is no longer influenced by fluctuations in interest rates when the model takes into account flaws in the market, such as uncertainty or business risks (Beghum et al, 2009).

Aliber explained that source Country Multinational Company can access funds at a lower interest rate than the host Country firms. Portfolio investors overlook the foreign aspect on the Multinational Companies which gives them borrowing advantage than the local firms (Nayak & Choudhury, 2014). Investors would want to capitalize on exchange difference disparity existing in two countries in order to enhance investment return hence Alber postulated that weaker currencies relative to stronger currencies in

the investing country stands a higher chance of attracting FDI in order to take advantage of the better market rate.

2.2.3 Internationalization Theory

Casson and Buckley made significant contributions to the field of internationalization theory in the year 1976. Hennart (1982) contributed to the further development of the theory, which also benefited from the addition of works to the theory by Casson (1983). It provides an explanation for the expansion of multinational organizations as well as the reasons behind their growth. This illustrates that multinational firms conduct their internal activities in order to gain a particular advantage and then utilize that advantage in order to improve their competitiveness. Hymer (1976) asserts that foreign direct investment (FDI) will only take place in situations where the exploitation of firm-specific advantages is greater than the relative cost of investing overseas. In a nutshell, he suggests that foreign direct investment (FDI) takes place in imperfect markets and suggests it is only a strategic decision made at the corporate level as opposed to a financial decision made by the capital market.

Casson and Buckley (1976) contend that in order for foreign direct investment (FDI) to be appealing, the conditions of ownership, location, and internalization (OLI) must be satisfied. In the first place, the international corporation needs to have a benefit in terms of ownership in comparison to the local company. This could take the shape of the specialized organizational or technological knowledge that the multinational corporation possesses. In addition, it is essential to consider the policies of the government regarding the advantages of investing in a particular host country. In certain circumstances, the government of the host country may impose laws regarding the characteristics of foreign ownership. In effect, these limits reduce foreign direct investment (FDI) inflows, which will be accompanied by technological advancements.

The second reason is that it must be beneficial for multinational corporations and other investors to manufacture in the country that is hosting them if they are able to take advantage of some comparative locational advantage from the host country. A last consideration is to decide whether it is feasible to carry out the activities within the countries that are hosting them, as opposed to leasing or purchasing them from other companies.

This theory is pertinent to the current investigation because it accepts that there are certain conditions in the host country that govern whether or not there will be inflows of foreign direct investment. The purpose of this study is to analyze whether or not rates of inflation are among the factors that influence foreign direct investment in Kenya.

2.3 The Empirical Review

2.3.1 FDI and Exchange rate

Exchange rate is generaly refered to as the The value of the currency of a particular country in relation to the currency of another country . Central Bank of Kenya has a responsibility to compile suggestive foreign exchange rates on a daily basis, giving an opportunity to the general public to access and use them (Ndungu, 2017). Therefore, Commercial bureaus and banks apply different exchange rate values in their daily transactions.

Exchange rate is a crucial factor that influences foreign direct investment (FDI). Asiedu (2015), who was the initial person to suggest the important role of exchange rates on the location of foreign direct investment, proposes that Foreign Direct Investment would be spawned if there are several distinct currency areas. When an individual controls a greater proportion of equity capital in an investment, a greater amount of

consideration is given to the possibility of fluctuations in future exchange rates (Goldberg, 2011).

According to a study done by Polodoo (2011), The fluctuation in currency rates has proven to be significant and impactful for foreign direct investment (FDI) since it directly affects the reliability of the profitable business strategy from the home countries. The exchange rates have an impact on the comparative prices of identical items produced in different states. This is because conducting business in a foreign country involves converting the local currency into the foreign currency, which may not be advantageous for the investor.

In their study, Ullah, Haider, and Azim (2012) examined the influence of exchange rates on foreign direct investment in Pakistan. While there are many factors that influence foreign direct investment (FDI), the exchange rate is a significant determinant. However, exchange rates have become highly unstable as they are susceptible to adapting to fluctuations in both domestic and international financial markets. This study utilizes time series data spanning from 1980 to 2010 to analyze variables such as foreign direct investment, exchange rate, trade openness, and inflation in Pakistan. Following the obtaining of data on the aforementioned variables, several time series econometrics approaches, such as unit root tests, volatility analysis, co-integration techniques, and causality analysis, were employed for analysis. The study's findings indicate a positive correlation between foreign direct investment (FDI) and the depreciation of the Rupee, whereas the exchange rate acts as a deterrent to FDI. Trade openness has a big and dramatic impact on Foreign Direct Investment (FDI). However, this relationship does not hold true for inflation, as it is not significant. The findings of the Granger causality test indicate that there is a causal relationship between the exchange rate and foreign direct investment, with the exchange rate influencing foreign

direct investment but not the other way around. This study was conducted in a developed country with different macroeconomic factors and therefore, the findings cannot be generalized for the Kenyan case.

Kyereboah-Coleman and Agyire-Tettey (2008) conducted a study in Ghana to examine the impact of exchange-rate volatility on foreign direct investment in Sub-Saharan Africa. The study employed an extensive dataset and a longer duration, along with a rigorous and robust methodology, to investigate the impact of the real exchange rate on foreign direct investment (FDI) in Ghana, a small and developing country. The analysis utilized time series data from 1970 to 2002. The real exchange rate was determined using ARCH and GARCH models, while co-integration and ECM were utilized to establish both short-term and long-term linkages. The study demonstrated that the fluctuation of the real exchange rate adversely affects the attraction of foreign direct investment (FDI), and the process of liberalization has not resulted in an increased FDI inflow in Ghana. Additionally, it is disclosed that although both the stock of foreign direct investment (FDI) and political considerations have the potential to attract FDI, the majority of foreign investors do not take into account the market size when deciding whether or not to invest in Ghana. Despite being a developing country, its policies on macroeconomic factors differ from those of Kenya and therefore the findings cannot be applied in Kenya.

Osinubi (2016) conducted a study on the impact of exchange rates on foreign direct investment (FDI) in Nigeria. The study utilized secondary time series data from 1970 to 2004. The study employed the error correction model together with the ordinary least squares (OLS) method of estimation. The findings indicate that international investors should not be concerned about the exchange rate. Additionally, the analysis demonstrates a notable and favorable correlation between actual inflow of foreign direct

investment (FDI) and the exchange rate. This indicates that the devaluation of the Naira leads to an increase in real inflow of foreign direct investment (FDI). Furthermore, the findings suggest that the implementation of the structural adjustment programme in Nigeria in 1986 had an adverse effect on real inflow of foreign direct investment (FDI), potentially attributable to the deregulation measures that were followed by changes in the currency rate. Therefore, a significant obstacle faced by the Central Bank of Nigeria is achieving a stable and realistic exchange rate that will enhance domestic production, stimulate real inbound foreign direct investment, and uphold both internal and external equilibrium. The level of volatility in Kenya nd Nigeria are different and therefore the findings cannot be generalized.

Otieno (2012) conducted a study on the influence of exchange rate volatility on foreign direct investment in Kenya. The exchange rate regimes in Kenya have seen a transformation over time, driven by the historical macroeconomic policies of the government. Initially, the country adopted fixed exchange rate regimes, which were later replaced by pegged exchange rate regimes. Eventually, in the 1990s, the exchange rate regimes transitioned to a floating system as a result of liberalization efforts. The exchange rates have exhibited substantial volatility, with the local currency reaching both record highs and lows. The research project encompassed all areas of the economy as its target population. Time series data for the exchange rate fluctuation as well as foreign direct investments to Kenya throughout 1981 and 2010 were acquired from Central Bank of Kenya and the World Bank Country data sources for study. The data collected indicates that in 1987 and 2002, there were minimal variations in exchange rates and relatively low net foreign capital inflows into the country. In contrast, 1993 had the biggest exchange rate turns and relatively substantial foreign direct inflows. All researchers found out that exchange rate fluctuations on FDI was insignificant.

Volatility of the nominal exchange rates may have an effect in drawing of foreign capital inflows into the country although no study has been conducted so far in Kenya to examine the relationship between these two factors. Also, this study used data from 1981 and 2010 and therefore does not capture the reforms and changes made in the past decade. This study will use most recent data from 1986 to 2020.

Del Carmen and Sosvilla-River (2023) conducted an investigation into the heterogeneous relationship that exists between deviations from the equilibrium exchange rate and the per capita economic growth rate. This is because region-specific heterogeneity is difficult for macro variables to capture, and distinct country characteristics may manifest distinct dynamics. The empirical analysis, which utilized annual data for 103 countries from 1996 to 2016 and implemented the novel grouped fixed effects estimator devised by Bonhomme and Manresa (2015), demonstrated that the association among these nations differs when considering distinct groupings of nations. This analysis yielded the discernible designation of six groups characterized by distinct time patterns and estimated impacts ranging from -0.0643 to -0.0014. Across all income categories, deviations from the equilibrium exchange rate delayed the rate of real economic growth, according to the findings. Additionally, emerging economies experience the greatest impact, followed by developing nations with low incomes, as indicated by the findings. Moreover, according to the findings, economic expansion is significantly slowed by fixed and intermediate exchange rate regimes.

The objective of the research conducted by Oseni et al. (2023) was to examine the influence of the Yuan-Naira and Dollar-Naira exchange rates on Nigeria's economic growth. The quarterly data utilized for the analysis spanned the period from 2010Q1 to 2021Q4. The research employed Vector Autoregressive methodology and the following findings were made: (1) The economic growth rate over the projected period is

cyclically influenced by fluctuations in the dollar-naira exchange rate. The innovation's effects persisted for the duration anticipated; (2) economic growth is subject to more significant volatility in comparison to the dollar-naira exchange rate. A disturbance in the value of the yuan-naira exchange rate has a shorter duration of effect than one affecting the dollar-naira exchange rate. Approximately 2% of the variance in the projected real gross domestic product (RGDP) during the initial quarter can be ascribed to the dollar-naira exchange rate, whereas the yuan-naira exchange rate accounts for approximately 0.8 percent of the RGDP forecast error. In light of the substantial repercussions that volatility in the dollar-naira exchange rate has on the economic expansion of Nigeria, the policy conclusion is that this should be Nigeria's top priority.

In a study conducted by Grandes (2023), empirical evidence was gathered regarding the positive effects of exchange rate regime (ERR), financial development, and foreign direct investment (FDI) on economic growth in Africa. To achieve this, two initial panel data samples of African countries were constructed for the study, followed by the creation of new, expanded datasets spanning the years 1980 to 2015. This was accomplished with the aid of a Generalized Method of Moments (GMM) estimator adjusted for tiny samples. To enhance the dependability of the results, the research conducted a second analysis using two supplementary panel samples comprised of data from developed and developing nations which were incorporated onto the initial panel data samples. Financial development and foreign direct investment (FDI) are projected to have a positive and substantial effect on economic expansion. Nevertheless, the impact of the exchange rate regime on economic performance is negligible. These results remain consistent even when accounting for factors such as governance, human capital, investment, trade openness, and the lagged value of per capita GDP.

Economists continue to dispute the extent to which the real exchange rate (RER) influences production growth and export performance. Regarding the correlation between nonprice competition and export performance, divergent viewpoints exist. There exists a viewpoint among certain individuals that the real exchange rate (RER) has no bearing on long-term economic development and that export performance is solely impacted by nonprice competition. Conversely, an opposing viewpoint posits that the RER plays a pivotal role in nurturing sustained economic progress. The aforementioned extreme positions is not substantiated by recent empirical evidence. A considerable proportion of econometric research indicates that Real Effective Exchange Rates (RERs) have notable influences on both economic growth and exports, albeit subject to a number of constraints and conditions. An example of this is how the influence of the Real Effective Exchange Rate (RER) on exports differs contingent upon the nature of the merchandise being exported. Further, it is possible that the adverse consequences of overvaluation on economic growth could surpass the advantageous benefits of undervaluation. Although the influence of RER on growth rates is primarily evident during transitions of the medium term, it is possible that these effects could persist over an extended period of time and affect output levels (Blecker, 2023).

In their investigation, Sari and Tan (2023) examined the variables that might impact the performance of the IDX property and real estate index from 2017 to 2021. GDP growth, interest rates, inflation, and currency exchange rates are the variables that are presently being examined. For this inquiry, data pertaining to the stock price index over a period of sixty months was gathered. The data were analyzed utilizing Eviews 11 software in the form of regression analysis. The Classical Assumption Test was employed to conduct the Normality, Multicollinearity, Autocorrelation, and Heteroscedasticity tests

for the study. Hypothesis tests include the Partial T Test, the Simultaneous F Test, and the Coefficient of Determination Test (R2). As determined by the study's findings, inflation exhibited a statistically significant value of 0.04040.05. Similarly, interest rates (0.00210.05), exchange rates (0.00220.05), and gross domestic product (0.00260.05) were found to be substantially deviating from zero.

The present study employed empirical analysis to investigate the influence of foreign trade on Nigeria's economic growth from 1981 to 2018. The analysis was conducted utilizing the Ordinary Least Squares (OLS) method. Trade in Nigeria is predominantly impeded by the country's constrained production and export infrastructure, which primarily comprises low-value goods such as primary commodities and basic materials. Furthermore, trade within Nigeria is confronted with substantial impediments, such as exorbitant trade expenses and barriers encompassing tariffs as well as non-tariff barriers. The principal objectives are to ascertain the consequences of fluctuations in exchange rates and alterations in trade policies, in addition to scrutinizing the impact of trade liberalization on the economic development of Nigeria. In order to facilitate the investigation and adhere to the objectives of the study, a set of five research questions and hypotheses were formulated. The empirical review and the conceptual framework constituted the two primary categories upon which the literature was evaluated. Comparative cost and factor endowment theories formed the foundation of the research. The research employed secondary data from the Central Bank of Nigeria Statistical Bulletin 2018 to perform a regression analysis. The objective was to determine how policy changes (dummy), currency rates, and liberalization/openness, which are independent variables, affected the real Gross Domestic Product (GDP) of Nigeria. In order to determine whether the series contained unit roots, the Augmented Dickey Fuller method was applied; the outcomes of the tests indicate that the variables were

integrated at order 1(1). In order to identify the absence of long-term equilibrium among the variables in the various equations, the Johansen co-integration test was executed. The results of the study suggested that the relationship between exchange rates and economic development in the nation was statistically insignificant and inverse. However, it has been demonstrated that the numerous trade policies that have been implemented in Nigeria hinder the country's economic development by having a significant and negative effect on GDP growth. Therefore, based on the findings of the research, it is recommended that the federal government of Nigeria adopt measures and policies that promote domestic manufacturing and deter the importation of particular critical commodities so as to stimulate economic expansion. This is due to the fact that, according to Emehelu (2021), import and export trade have a negligible impact on the development of the nation.

2.3.2 FDI and Inflation Rate

Inflation is an increase in the general price level of a collection of commodities and services that is considered indicative of an economy during a specific timeframe. Inflation is quantified by the percentage fluctuation in a price index, which represents the mean price level for a particular range of products and services, in comparison to a reference year (Romer, 2009). High inflation rates generate uncertainty regarding future investment projects, resulting in a drop in investment levels and overall growth. Conversely, low inflation, when used as an indicator of stability, decreases the likelihood of systematic risks that affect the entire system and encourages investment, trade, and growth in the economy.

In their study, Khamis, Mohd, and Muhammad (2015) examined the influence of inflation and GDP per capita on foreign direct investment in the United Arab Emirates. The World Bank and UNCTAD provided data on the variables of inflation rate, GDP

per capita, and FDI inflows. This data covers a time series of 33 years, from 1980 to 2013. In this study, the auto regressive distributed lag (ARDL) model is utilized to analyze the long-term connection between the independent and dependent variables. The study's findings indicate that inflation does not have a substantial influence on FDI inflows, but the proxy of GDP per capita used to measure market size has a significantly favorable effect on FDI inflows. The report provides recommendations for economists and policy makers in the UAE, as well as suggestions for future research. The level of economic development in United Arab Emirates is high compared to that of Kenya and therefore the factors affecting inflation and policies set by their government might differ from that of Kenya and therefore the findings of this study cannot be generalized for the Kenyan case.

Hong and Ali (2020) conducted a study in Malaysia and Iran to examine the influence of inflation on foreign direct investment.The period of testing for this study covers from 1986 to 2016. The Augmented-Dickey Fuller (ADF) unit root test was employed to assess the stationarity of variables. The presence of cointegration variables was examined using the Johansen and Juselius test. Granger causality, based on the VECM framework, was utilized to investigate the short-term and long-term relationships between variables. Lastly, a variance decomposition analysis was conducted to determine whether the variables are exogenous or endogenous. The empirical findings indicate that foreign direct investment has a short-term impact on gross domestic product in Malaysia. However, in Iran, there is no causal relationship shown between the variables in the short term. Therefore, there is need to conduct similar study in Kenya to compare the findings with that of Iran and Malaysia and therefore guide in policy formulation.

Boyd, Levine, and Smith (2014) investigated the nature of the relationship between inflation and economic growth through foreign direct investment (FDI), which serves as an avenue through which the impact of inflation is, in an indirect manner, conveyed in economic growth for the benefit of countries. In a similar vein, Andinuur (2013) carried out a study with the objective of investigating the connections between foreign direct investment (FDI) and inflation in Ghana. According to the findings of the study, a low rate of inflation has an impact on the return on foreign direct investment. As a result of the fact that inflation is a problem that every nation and government in the modern economy must deal with, it has become not only a dreaded but also a misunderstood economic phenomenon ever since the days of barter trading (Kasau & Marks, 2011).

MNEs, which stand for multinational corporations, have the ability to move investments between their home countries and the countries in which they are operating in order to mitigate the adverse consequences of changes in the macroeconomic environment. The purpose of this article is to formalize a model that enables the study of the investment-smoothing behavior of multinational corporations (MNEs) that are subject to inflation taxes in both their home country and the country in which they are located. It is permissible for the multinational corporation to make investments in two economies—the home economy and the host economy—and to fund its foreign direct investment (FDI) through either local or international sources. In this study, the smoothing of investments by multinational corporations (MNEs) is investigated for both vertical and horizontal foreign direct investment (FDI) instances. Despite the absence of formal hedging mechanisms, the findings indicate that foreign direct investment (FDI) is utilized as a hedging strategy, hence minimizing the consequences of inflation taxes. The reaction of multinational corporations (MNEs) to smooth out

investments is contingent upon the rationale for the investment, the sources of finance for foreign direct investment (FDI), and the substitutability of components of production. This investment-smoothing possibility, often known as foreign direct investment (FDI), helps to mitigate the real adverse consequences of inflation.

Taxes in a specific nation are quantified as the aggregate sum of taxes and obligatory contributions that firms must pay, taking into account allowable deduction and exemptions, expressed as a proportion of their commercial profits. Excluded from consideration are taxes that are withheld, such as personal income tax, or taxes that are collected and returned to tax authorities, such as value added taxes, sales taxes, or goods and service taxes (Padovan and Galli, 2002). Besley and Persson (2014) argue that taxes are the primary source of income for all economies and can serve as a potent instrument for fostering economic growth. However, high taxation rates make one country different from another in terms of the environment of doing business.

There has been a significant amount of research conducted in the field of the relationship between the corporate tax rate and foreign direct investment. This field of study has been thoroughly documented. According to the Organization for Economic Cooperation and Development (OECD), the majority of studies have discovered that a reduction of one percent in corporate tax leads to an increase of between one and five percent in foreign direct investment (FDI) (OECD, 2015). The findings of research on corporate tax, on the other hand, are extremely diverse. This is in part because the studies are based on aggregate data on foreign direct investment flows, whereas the influence of tax on FDI is at the firm-level (Cummins & Hubbard, 2015).

The impact of the corporate income tax on foreign direct investment is something that cannot be overemphasized, as stated by Tomonori (2012). Globalization has resulted in

increased liquidity of labor and capital, which has encouraged the utilization of human resources and capital in a manner that is both efficient and prevalent around the globe. The purpose of this study is to conduct an empirical analysis of foreign direct investment using a panel of bilateral foreign direct investment flows among OECD 30 countries from 1985 to 2007. Through an augmentation of the static panel data analysis that was conducted in the earlier research, Tomonori addresses the dynamic panel data analysis (System GMM) in this work. This is the reason why Tomonori acknowledges that the current level of foreign direct investment may be influenced by the level of investment that was made in the previous year. Tomonori further confirmed the expected result in the empirical analyses, which is that the current level of foreign direct investment is influenced by the level of investment that was made in the previous period. According to the findings of these studies, the impact of corporate taxation on foreign investment is of a major negative nature.

Similarly, Imbayi (2013) did a study examining the impact of taxation on foreign direct investment in Kenya, utilizing a descriptive research methodology. The study conducted was a time series correlation analysis, where the dependent variable was the values of Foreign Direct Investment (FDI), and the independent factors included taxation, exchange rates, taxes, inflation, levels of GDP rate, and openness, which acted as moderating variables. The target population consists of the Investment Promotion Centre and the Chamber of Commerce and Industry. The utilization of secondary data entailed the gathering and examination of published material and information derived from alternative sources, such as the Kenya National Bureau of Statistics. The duration of the study was from 1992 to 2002. The study employed a regression analysis model, with the dependent variable being the percentage annual percentage change in foreign direct investment (FDI) inflows to Kenya. Based on the study's findings and subsequent

discussion, it can be concluded that taxation has an impact on both the amount of foreign direct investment and its location.

Despite this study being conducted in Kenya, the data was old and therefore, present study sought to provide most recent state of relationship between tax rates and FDI considering the fact that Kenya has made progress in improving inflow of FDI. Present study will collect data from 1986-2020.

Joosung (1994) examined on the affects of taxation on foreign direct investment (country - specific evidence). The author conducts an empirical estimation of the impact of tax regimes in both the home and host nations on foreign direct investment (FDI). The author provides information demonstrating that tax regulations have a substantial impact on the movement of capital resulting from foreign direct investment (FDI). The strongest statistical findings, based on data from ten nations' investments in the United States from 1980 to 1989, indicate that when a country imposes taxes on foreign-source income, it has a considerable negative impact on foreign direct investment (FDI) when considering the home-country statutory tax rate. (The identical variable does not have a substantial impact on foreign direct investment from nations that do not tax income earned abroad.) The author discovered that the coefficient of the statutory and effective tax rates of the home country exhibit opposite signs in the estimated equations. This finding provides evidence for the existence of distinct mechanisms via which the tax systems of home countries impact foreign direct investment (FDI). This is a very old study and therefore the need for a more recent study to be conducted in developing countries.

In a panel study conducted by Abdioglu (2016), the researcher investigated the impact of corporation tax rates on foreign direct investment in OECD countries. The researcher

analyzed the influence of the corporate income tax rate on the level of foreign direct investment (FDI) in countries belonging to the Organization for Economic Cooperation and Development (OECD). The study aimed to assess the influence of a decreased corporate tax rate on foreign direct investment. The study discovered a significant increase in foreign direct investment (FDI) levels after implementing tax rate falls, as observed in the univariate analysis. The study employed fixed effect panel regressions to examine the correlation between tax rate and foreign direct investment (FDI) level. The study found a negative correlation between tax rate and level of foreign direct investment (FDI). Research findings indicated that countries that decrease their tax rates experienced a subsequent increase in foreign direct investment (FDI). In the example of Kenya, the study aimed to address this inquiry by examining the impact of tax rates on Foreign Direct Investments in Kenya.

2.3.3 FDI and Interest Rates

Devereux & Yetman, 2002 defined Interest rate as the price paid by the borrower on money or capital received from the lender for a specified period of time. Interest rates have been at the center of economic discourse since time in-memorial with prominent scholars like Keynes playing leading roles in this sector (Uddin & Alam, 2009). According to Eicher et al., (2012) interest rates remain primary determinants of FDI. Traditionally, investors would look for low-cost credit and then proceed to invest that credit in economic vehicles that promised larger returns on their investment. As a result of the fact that capital tends to flow to countries that have a return on investment that is higher in comparison to countries that have higher interest rates, the economic theory argued that capital is the driving force behind a global economy. As a consequence of this, the level of investment is high in states that provide security in the form of lower

interest rates and an environment that is better for business, in addition to excellent returns on investments.

Using panel data, Hunady and Orviska (2014) investigated the primary factors that determine foreign direct investment (FDI) inflows in 27 countries within the European Union. They found a weak but positive link between interest rates and foreign direct investment (FDI) inflows. According to McCloud and Delgado (2018), it has been suggested that foreign direct investment can either exert upward or downward pressure on the domestic interest rate. This is because the relative weights of foreign investors on internal and external finance in relation to the local economy can have a significant impact on the direction of the pressure. Additionally, the degree of institutional uncertainty that exists within a nation might have an impact on the capacity of companies to acquire external financing. When we use corruption as a measure of institutional uncertainty, we discover that a one percent increase in foreign direct investment (FDI) flows (outflows) is more likely to drop the domestic interest rate by as much as 0.7 (1) percent across all nations under consideration. In accordance with McCloud and Delgado (2018), the empirical correlation between domestic interest rates and foreign direct investment flows is non-monotonically contingent on uncertainty.

Salamatu and Zuo 2017 did an investigation into the impact that interest rates have on foreign direct investment in the country of Sierra Leone. Foreign direct investment (FDI) has emerged as a leading indicator of economic growth over the course of the previous several years, particularly in economies that are still in the process of developing. On the other hand, research have shown that the amount of foreign direct investment (FDI) that Sierra Leone has been receiving is fluctuating and low. As a result of this context, the purpose of this research is to investigate the relationship between interest rates and foreign direct investment (FDI) inflows. In addition to this, it tried to

identify additional factors that had a major impact on foreign direct investment (FDI) inflows into Sierra Leone during the period of 1990-2016. In order to conduct the analysis, the Ordinary Least Square method was utilized, and secondary data was gathered from the World Development Indicators. It was shown that interest rates have a considerable impact on foreign direct investment (FDI) inflows, and as a result, they can be utilized for the purpose of policy making. According to the findings of the research, the most important factors that determine foreign direct investment in Sierra Leone are trade openness and GDP growth. As a result, if the economy is to obtain long-term inflows of foreign direct investment (FDI), favor policies that promote trade and assist GDP growth. The policies by the Sierra Leone government do not match those of Kenya and therefore the findings cannot be generalized for the Kenyan case, a gap this study sought to fill.

At the local level, Bett (2017) attempted to ascertain the impact that interest rates have on the amount of foreign direct investments that are entering Kenya. Over the course of ten years, beginning in January 2007 and ending in December 2017, the author meticulously gathered secondary data on a quarterly basis. For the purpose of analyzing the association between the variables, a descriptive study design and a multiple linear regression model were used. For the aim of doing data analysis, he utilized version 21 of the Statistical Package for Social Sciences (SPSS). Based on the findings of the research, the R-square value was calculated to be 0.320. This indicates that about 32 percent of the variance in foreign direct investment (FDI) inflows in Kenya may be attributed to the four independent variables that were chosen. On the other hand, 68 percent of the variation was related with other factors that were not investigated in this study. In addition, the research discovered that the independent variables showed a significant link with foreign direct investment (FDI) inflows (R=0.566). Due to the fact

that the p-value was lower than 0.005, the results of the ANOVA indicate that the F statistic was significant at the 5% level.

It is necessary to do additional study since the studies that were conducted to assess whether or not there was a connection between the interest rate and foreign direct investment (FDI) inflows in Kenya were comprehensive. In his 2017 study, Kiplaghat used secondary data spanning 44 years (1971-2014) to investigate interest rates and foreign direct investment (FDI) inflows in Kenya. He discovered that there was a positive association between interest rates and foreign direct investment (FDI) inflows. During the period of time spanning from 2007 to 2016, Mbui (2017) conducted research on the influence that interest rate inflows had on the energy and petroleum sector in Kenya. The findings of the study indicated that interest rates were not a significant factor in determining foreign direct investment in the energy industry in Kenya.

2.4 Conceptual Framework

A conceptual framework is a framework that offers information about the relationship between the independent factors and the dependent variable. According to Cooper and Schindler (2013), the term "predictor variable" refers to an independent variable that there is a presumption that will cause changes to the dependent variable. One way to explain the link between the variables in a study is through the use of a conceptual framework. For the purpose of this investigation, the three variables that are considered independent are the exchange rate, the inflation rate, and the interest rate. The variable that is considered dependent is foreign direct investment investments inflows.

According to figure 2.1 below, the determinants of FDI explaining the problem variable are; exchange rate, inflation rate and interest rate as the independent variables.

Therefore, the FDI inflows are deemed to be influenced by the three independent variables.

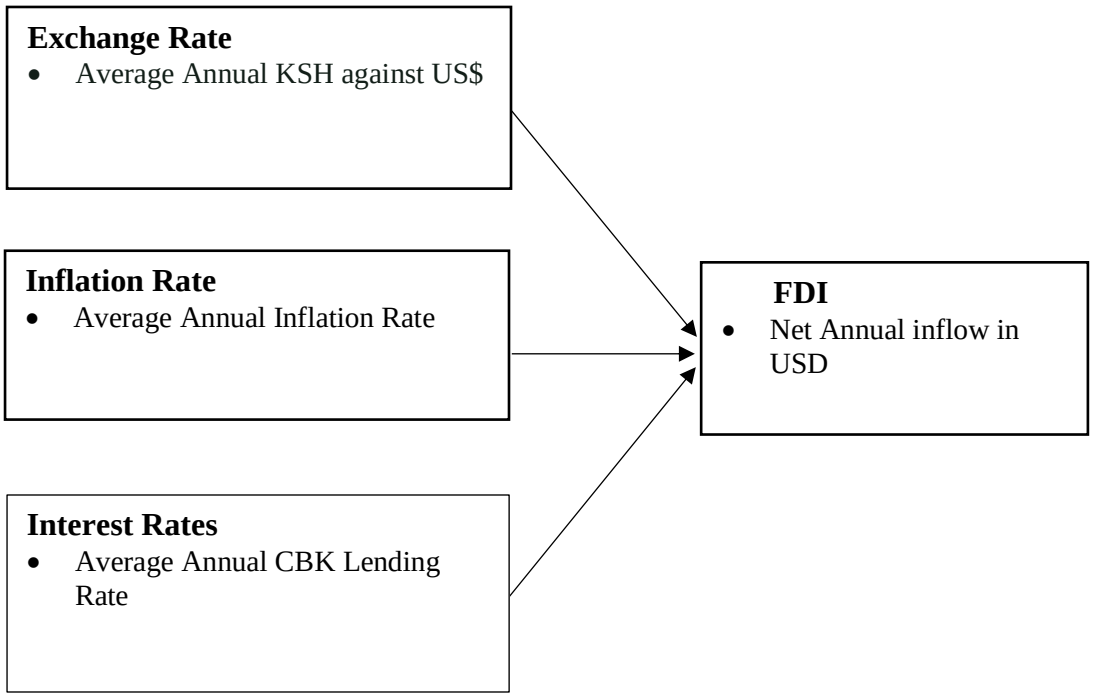


Figure 2.1: Conceptual Framework

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Overview

Research methodology is a plan to systematically follow in order to solve the research problem. Here, the methodology used in the study is presented. Areas covered include: research design, target population, collection of data, reasearch instruments and measuring tests. This chapter also discusses how data analysis and presentation styles were used in the study.

3.1 Research Design

The sequential order followed by the study in answering the research question is referred to as the research design. The research design thus entails the process that was undertaken in the process of data analysis and collection influenced by the type of data collected and the type of analysis preferred (Creswell & Creswell, 2003). Explanatory research design was used since it explains the relationship between variables and test hypotheses about causal relationships. The research design allows to test causal relationships between the study variables, by manipulating the independent variables and observing the effects on the problem or dependent variable, while controlling for other variables.

3.2 Target Population

According to Zikmund (2011) a target population is the entire group of individuals or items considered in any field of inquiry that have common characteristices. This study focused on Kenya's international in-flows (1986-2021), Average Annual KSH against US$ and Average Annual Inflation Rate on FDI.

3.3 Data Collection Procedure

Secondary data was used for the purposes of this research. The study used time series data on annual basis for the period between 1986-2020 respectively. Secondary data was collected using the data collection Sheet presented in Appendix A. For exchange rate and interest rate, data was obtained from CBK database while inflation rate and FDI inflows, data was obtained from Kenya National Bureau of Statistics (KNBS) publications.

3.4 Data Analysis

According to Zikmund (2011), data analysis is a methodical process that involves selecting, classifying, comparing, synthesizing, and interpreting data in order to produce answers for a particular phenomenon. We used both descriptive statistics and inferential statistics to conduct an analysis of the secondary data that we got from the CBK database and the publications of the KNBS. The mean, also known as the average, the standard deviation, and the range were all components of the descriptive analysis. The inferential analysis, on the other hand, contained the application of multiple regressions within the context of time-series data and Pearson's Product Moment Correlation Analysis (Jack, 2009). The effects of macroeconomic determinants on FDI in Kenya for 34 years from years 1986 to 2020 was done using multiple regression analysis.

The relationship that may exist between two or more study variables is tested by use of correlation analysis. Correlation of two or more variables is said to exist when a change in one or more of the independent variables causes a change in the other dependent variable. The test for the association between the variables was carried out using the Pearson’s Product Moment Correlation Coefficient. It is therefore imperative to have an understanding of both cross sectional and time series data analytical framework.

Analysis of the data was conducted using STATA 13 computer software to generate tables, graphs and other statistical parameter estimates.

3.5 Model Specification

For the purpose of determining the nature of the relationship that exists between the independent variables (exchange rate, inflation rate, and interest rate) and the dependent variable (FDI) in the study, an auto-regressive distributed lag (ARDL) regression model was utilized. According to Strom, Holly, and Diamond (1999), this model is an ordinary least square (OLS) based model that can be used to both non-stationary time-series and mixed order of integration. In order to implement a general-to-specific modeling framework, the ARDL model requires a sufficient number of lags to represent the process of data generation. ARDL models, which stand for autoregressive distributed lag, are frequently employed in the context of single-equation frameworks for the purpose of analyzing dynamic relationships with time series data. Both the present and historical values of extra explanatory variables, which are referred to as the distributed lag part, are permitted to influence the current value of the dependent variable. This is referred to as the autoregressive element of the model.

To separate the long-run and short-run impacts, as well as to test for cointegration or, more broadly, for the presence of a long-run connection among the variables of interest, the ARDL model can be utilized in its equilibrium correction (EC) representation. This allows for all of these to be accomplished. When estimating the model, the ARDL command makes use of the regress command that Stata provides. This study used the empirical statistical ARDL model adopted from a study done by Jagongo & Makori (2013). The regression model was as presented below:

$$\mathbf{LogY_t = log[\beta_0 + \beta_1 X_{1t} + \beta_2 X_{2t} + \beta_3 X_{3t} + \varepsilon_t]} \quad \text{(i)}$$

Yt = Value of Dependent variable at time t (FDI)

β_0 = Constant/ intercept of the equation

t = Time dimension 1986-2020

$\beta 1 = \beta 4$ is Coefficient of the various independent variables

$\mathbf{X_1}$= Exchange rate

$\mathbf{X_2}$= Inflation Rate

$\mathbf{X_3}$=Interest Rate

εt= Error term at time t

The study tested the research hypothesis using the regression findings. When the p-value from the coefficients table is less than the selected level of significance (0.05) the null hypothesis is rejected and the alternative accepted.

3.6 Definition and Measurement of Variables

Exchange rate: This is a monetary system that allows the exchange rate to be determined by supply and demand and it is measured by Average Annual KSH against US$

Foreign Direct Investment: This reflects the objective of establishing a lasting interest by a resident enterprise in another enterprise resident in an economy.

Inflation Rate: This variable is measured using the consumer price index given by the change in retail prices paid by consumers for a given basket of goods and services. It is determined by Average Annual Inflation Rate

Interest Rate: Interest rate is the price paid by the borrower on money received from the lender for a specified period of time. It is measured by Average Annual CBK lending Rate

3.7 Diagnostic Tests

Diagnostic tests are normally carried out prior to the execution of a time series regression analysis in order to identify any potential issues that may arise with residuals and model specification. In order to rely on the estimated coefficients while considering them to be accurate representations of the true parameters, it is essential that the assumptions of linear regressions that are defined in the Gauss-Markov theorem are satisfied. To guarantee that the panel regression model was adequate, the majority of the diagnostic checks that are listed below were carried out.

3.7.1 Test of Multicollinearity

The purpose of conducting a multicollinearity test was to determine whether or not two independent variables have a strong relationship. An extremely strong correlation exists when any two independent variables have a substantial relationship. To assess multicollinearity, variation inflation factors (VIF) were employed. With a VIF between 1 and 10, multicollinearity is not present. The violation of the multicollinearity assumption can result in substantial amplification of collinear variables, causing the model to demonstrate a false sense of high significance when, in reality, the significance is considerably lower.

3.7.2 Autocorrelation Test

In order to ascertain the statistical independence of the residuals over a ten-year period, an autocorrelation test was performed. Utilizing the Wooldridge test, autocorrelation was examined. A significance level below 0.05 suggests that the data are not autocorrelated. Autocorrelation should prompt the inclusion of an additional lag order in the panel regression model, provided that the violation is not significantly severe. In contrast, should the violation be of a significant nature, the research should assess the transformations that the independent and dependent variables would have undergone.

Subsequently, the research should improve the data's stationarity by implementing suitable differencing, logging, and deflating.

3.7.3 Stationarity Test

Chandra and Sharma (2013) assert that the examination of data stationarity is crucial, as the utilization of non-stationary data will result in spurious regression outcomes. Furthermore, conducting hypothesis tests on the validity of regression parameters is unattainable. Stationary series are characterized by the presence of a constant mean, autocovariance, and variance for each lag. Several unit root tests are applicable when examining series stationarity. The Dicey Fuller (DF) and augmented DF (ADF) tests are examples (Suleman, 2014). This research made use of the ADT test. ADF analyzes the data for a unit root in contrast to the null hypothesis. The magnitude of this negative statistic directly correlates with the strength of the null hypothesis rejection. The absence of a unit root in the data would suggest that it lacks stationarity. Managing this would have required logarithmic linear transformation or differencing.

3.7.4 Normality Test

The assumption of normality is crucial in multivariate analysis (Hair et al., 2010). It presupposes that the variations in the forecasted value of Y (the variable that depends on other variables) follow a normal distribution. The data's normality was assessed by examining the skewness and kurtosis of the study variables. The study employed Kolmogorov-Smirnov tests and Shapiro-Wilk tests to assess the normality of the data (Ghasemi & Zahediasi, 2012). In addition, when the tests are significant, the data does not follow a normal distribution. Thus, in order for data to be deemed normal, the results of the K-S and S-W tests need not be statistically significant. Moreover, the study will employ histograms or normal probability plots to assess the normality of the data distribution.

3.7.5 Linearity Test

It assumed that the connection between independent and dependent variables is linear. Linearity refers to the extent to which the dependent variable varies in response to changes in the independent variables (Hair et al., 2010). Scatterplots were utilized to evaluate the degree of linearity between the independent and dependent variables in the study.

3.7.6 Heteroscedasticity Test

Heteroscedasticity arises when the variances of the error terms are not constant (Knaub, 2007a). According to Gujarati (2004), heteroscedasticity occurs in a regression model when the disturbances have unequal spread or variance. The problem of heteroscedasticity may affect regression findings which eventually lead to inefficient estimates if not rectified (Nyarko & Nakato, 2016) and that standard errors of such estimates would be biased (Baltagi, 2008). White General Tests were employed to assess the presence of heteroscedasticity. The underlying premise of this test is that the null hypothesis assumes a consistent variance. Consequently, if the chi-square value is used it indicates heteroscedasticity, hence signifies the presence of unequal variances (Williams et al., 2013). Baltagi (2008) states that in the presence of heteroscedasticity, regressions were conducted using robust standard errors.

3.7.7 The Lag selection criteria

The Akaike Information Criterion (AIC), Final Prediction Error (FPE), Hannan-Quinn Criterion (HQIC), and Schwartz Information Criterion (SIC) were utilized in order to establish the optimal lag time for the ARDL model in this particular piece of work. Yet, the AIC and FPE were both given a lot of focus and consideration. The Akaike Information Criterion (AIC) and Final Prediction Error (FPE) are the statistical methods that are most suited for use when dealing with small data sets or when the number of

observations is less than sixty (Liew, 2004). This is due to the fact that AIC and FPE both work to lower the likelihood of underestimating, which in turn, works to raise the possibility of reaching the optimal lag length in a model.

3.7.8 Model stability test

The method developed by Gregory and Hansen (1996) was implemented in the process of estimating and modeling the structural break in the models. An expansion of a test that is based on residuals, the co-integration test developed by Gregory and Hansen is described here. It determines whether or not a particular event has had an effect on the trend of a certain series. Here, the null hypothesis of the Gregory Hansen co-integration test is that co-integration does not exist against an alternative hypothesis of existence co-integration at the break point at 5% significance level. This is in contrast to the alternative hypothesis, which states that there is co-integration at the break point. The null hypothesis is deemed to be incorrect when the absolute values of the zt statistics are found to be higher than the crucial value of 5%. This lends credence to the idea that the linear combination of variables exhibits stable properties throughout the course of a lengthy period of time, albeit with structural fractures.

The cumulative sum of recursive residuals test (CUSUM) test, was utilized in order to assess the parameter stability test of the time series model. This test was carried out in order to determine whether or not there were any structural breaks in the model's residuals, which is another way of saying whether or not the coefficients of the time series model remain stable throughout time. In this case, the null hypothesis states that the cumulative residuals possess a mean of zero, which indicates that there certainly are no structural breaks. On the other hand, the alternative hypothesis states that the cumulative residuals are not equivalent to a mean of zero, which indicates that there are

structural breaks. In order to determine whether or not the model was stable (CUSUM) graph was utilized.

3.7.9 Cointegration test

In order to establish whether or not two variables are co-integrated, the Pesaran/Shin/Smith (2001) ARDL bound tests were carried out. The assumption was that no level relationship between the variables and as a result, no link between them over the long run was referred to as the test's null hypothesis. There was a level link between the variables, which implies that there was a long-term association existent, according to the alternative hypothesis regarding the relationship between the variables. The significance level for this study was determined to be 5%. The null hypothesis of no level association should be rejected at a level of significance of 5% if the F statistic is larger than the upper bound (I 1), while the null hypothesis should be accepted if the F statistics is less than the lower bound (I 0). This is because the upper limit should be greater than the lower bound. Additionally, the null hypothesis of no level relationship should be rejected if the t statistic is higher than the upper bound (I 1), and the null hypothesis should be accepted if the t statistic is lower than the lower bound (I 0). Both assumptions are based on the assumption that there is no level relationship.

3.8 Ethical Consideration

According to Collis and Hussey (2009), ethics is concerned with moral principles and how individuals ought to conduct themselves in interpersonal relationships.According to McNeill (2005), ethics can be defined as the norms or standards of behavior that facilitate moral decision-making regarding behavior. The study acknowledged sources from different information used in the study by citing and referencing all sources.

Before data collection, a letter from the institution for data collection was obtained and was used to apply for research permit from NACOSTI.

CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSION

4.0 Overview

This section covers the data analysis and the study's findings in light of its objectives. The data was compiled and shown using tables. The analysis and interpretation of the collected data were guided by the study objective. Data analysis process employed Stata alongside a number of other statistical techniques. This chapter also covers data analysis, results presenting and results interpretation. With conclusions being pertinent to the study objectives.

4.1 Summary Descriptive Statistics

The research variables under study for the years 1986 to 2021 are shown in Table 4.1 being summary descriptive statistics.

Table 4.1: Summary of Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Foreign Direct Investment	36	4.56e+07	9.51e+07	-1.42e+08	4.10e+08
Exchange rate	36	68.46807	27.67619	16.22574	109.6377
Inflation Rate	36	11.19071	8.956881	1.554328	45.97888
Interest Rate	36	7.845986	6.996322	-10.096	21.09633

Source: Author, 2023

From the table 4.1 above, the mean of Foreign Direct Investment was 4.56e+07 (standard deviation =9.51e+07; Minimum= -1.42e+08; Maximum= 4.10e+8. Difference between the minimum value and the maximum value of foreign direct investment was big as indicated by the minimum and the maximum values. With higher value of standard deviation (9.51e+07).

Exchange rate mean was 68.468 (standard deviation =27.676; Minimum= 16.226; Maximum= 109.638. With a big difference between minimum value and the maximum value of exchange rate. This was also supported by higher value of standard deviation of 27.676.

The mean of inflation rate was 11.191 (standard deviation =8.957; Minimum= 1.554; Maximum= 45.979. The gap between the minimum value and the maximum value of inflation rate volatility was big as indicated by the difference between the minimum and the maximum values. This was also supported by higher value of standard deviation of 8.957.

The mean of interest rate was 7.846 (standard deviation =6.996; Minimum= -10.096; Maximum= 21.096). This indicates that the interest rate on average was 7.846. The deviation from the mean of income inequality was relatively bigger as supported by a standard deviation of 6.996.

Further analysis in Figure 4.1 below, Foreign Direct Investment in Kenya from the year 1986 to the year 2020 reveals that between 1986 and 2010, FDI remained almost constant with few years recording a slight increase. However, there have been fluctuations in FDI between 2010 and 2020. A rise in FDI from the year 2010 to around 2013 which was followed by a decrease in foreign direct investment. This may be due to heightened political temperatures of 2013 Kenyan elections. A general decline in foreign direct investment between 2010 and 2020 has been observed.

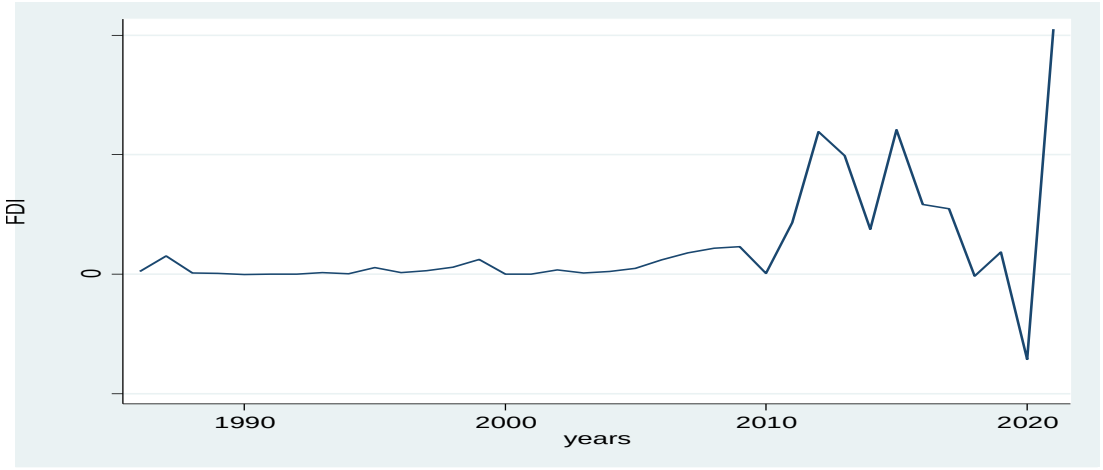


Figure 4.1: Trend of foreign direct investment

Figure 4.2 below shows a representation of exchange rate from the year 1986 to 2020. The exchange rate has ben fluctuating upwards from 1986 to 1995. From 1995 to 2010, there were fluctuations with some years recording a rise and some years recording a decrease. However, exchange rate has been increasing from the year 2010 to 2020.

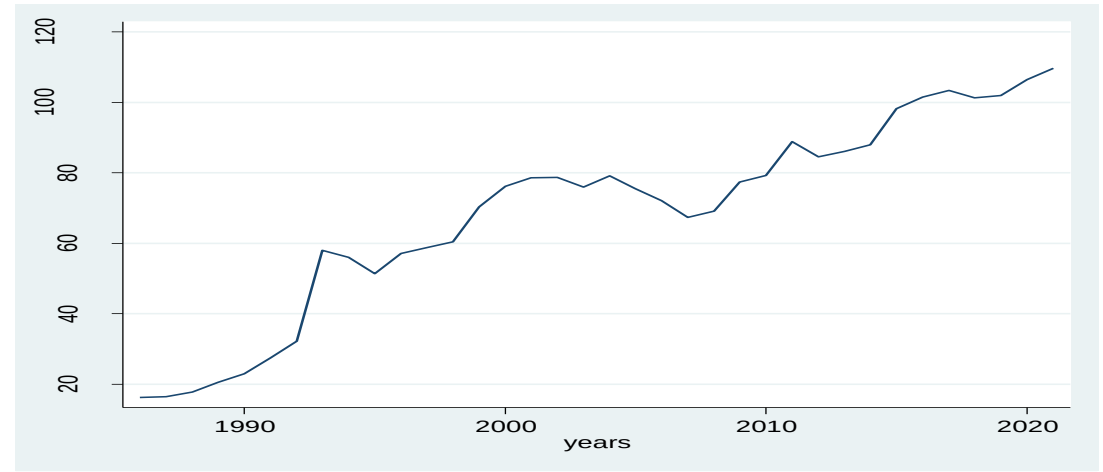


Figure 4.2: Trend of foreign exchange rate

Figure 4.3 below shows a representation of inflation rate from the year 1986 to 2020. Inflation rate increased sharply from 1986 to 1993. This may be due to recession of late 1980s and early 1990s. Inflation rate has since been fluctuating with some periods

recording a rise in inflation rate while some periods recording a drop in inflation rate. Highest inflation rate was experienced in the year 1993 while the lowest inflation rate was experienced in the year 1995.

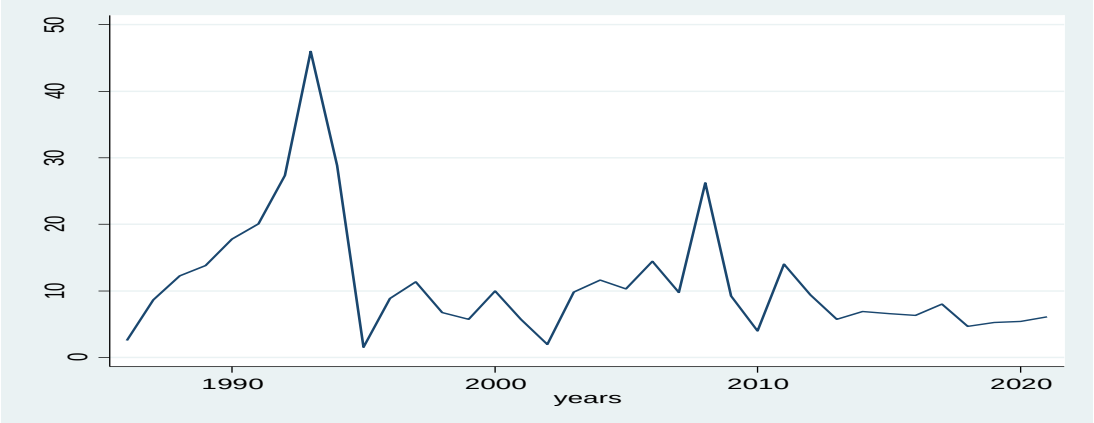


Figure 4.3: Trend of inflation rate

The Figure 4.4 below shows a representation of interest rate from the year 1986 to 2020. Interest rate has been fluctuating throughout all years with 1998 recording the highest interest rate at 21.096 while 2009 recording the lowest interest rate at -10.096. Between 2010 and 2020, interest rates have remained steadily constant with slight fluctuations.

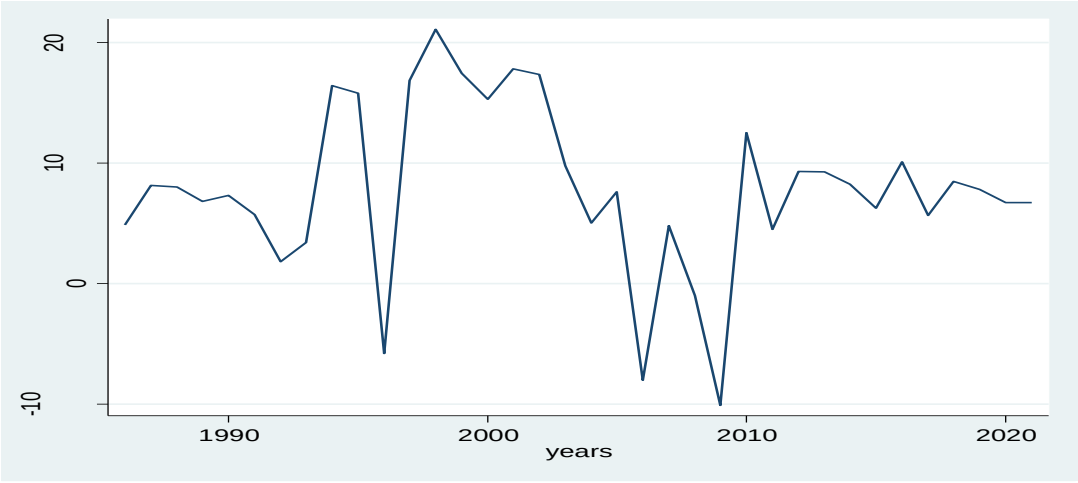


Figure 4.4: Trend of Interest rate

4.2 Pearson Correlation

An overview of the correlation results is provided in Table 4.2. Despite the fact that the independent variables have a high R-squared value, they may nevertheless result in very large standard errors, low t-statistics, and unexpected changes in the signs or magnitudes of the coefficients. As a result, the correlation between these variables undergoes evaluation. According to the pair-wise correlation matrix that is presented in Table 4.2 below, there are no independent variable pairings that exhibit a very high level of correlation. The fact that the empirical model is constructed in such a way as to ensure that the pairs are not utilized in the same equation is the reason why multicollinearity is not an issue.

The results in Table 4.2 indicate that Exchange rate is negatively related with Inflation rate ($r = -0.3294$, $p < 0.05$). Consequently the higher the exchange rate, the lower the inflation rate. The results further show that FDI is positively related with exchange rate ($r = 0.3948$, $p < 0.05$). Therefore, the higher the foreign direct investment, the higher exchange rate. Inflation rate was negatively correlated to interest rate but insignificant (($r = -0.2732$, $p >0.05$). Exchange rate was positively but insignificantly correlated to interest rate at 5 percent level of significance ($r = 0.0342$, $p < 0.05$). Foreign direct investment was negatively correlated to interest rate but insignificant ($r = -0.0606$, $p >0.05$). Foreign direct investment was negatively correlated to exchange rate but insignificant (($r = -0.2732$, $p >0.05$).

Table 4.2: Summary of correlation results

	Interest rate	Inflation rate	Exchange rate	Foreign direct Investment
Interest rate	1.0000			
Inflation rate	-0.2732	1.0000		
Exchange rate	0.0342	-0.3294*	1.0000	
Foreign direct Investment	-0.0606	-0.1643	0.3948*	1.0000

Source: Author, 2023

4.3 The Normality Test

Table 4.3 provides a summary of the findings obtained from the normality test performed on the residuals that were utilized in this investigation. At a significance level of 5%, the Shapiro-Wilk test of normality was taken into consideration. In the Shapiro-Wilk test, the alternative hypothesis states that the data do not follow a normal distribution. This is in contrast to the null hypothesis, which states that the data follow a normal distribution (Shapiro & Wilk, 1965). The null hypothesis of normal distribution is to be rejected if the p values are less than 0.05, which is the threshold of significance necessary to make this determination.

According to the findings of the residuals of the ARDL model, the residuals have a normal distribution at a level of significance of five percent. The p value of 0.5098, which is higher than the significance criterion of 5% ($p>0.05$), provides more evidence that this assumption is correct. Consequently, the accepting of the null hypothesis of normally distributed data led to the rejection of the alternative hypothesis.

Table 4. 1: Summary of Shapiro Wilk results

Variable	Observation	W	V	z	Prob>z
Residuals	36	0.93028	2.242	1.5	0.5098

Source: Author, 2023

4.4 Lag Selection Criteria

For the purpose of determining the best lag length of the ARDL model (SIC), this research utilized the Akaike Information Criterion (AIC), the Final Prediction Error (FPE), the Hannan-Quinn Criterion (HQIC), and the Schwartz Information Criterion (SIC). Even so, the Akaike Information Criterion (AIC) and the Final Prediction Error (FPE) were the ones that attracted the most attention. According to Liew (2004), the Akaike Information Criterion (AIC) and the Final Prediction Error (FPE) are the most appropriate statistical measures to use when dealing with very small data sets or when there are fewer than sixty observations overall. This is due to the fact that AIC and FPE reduce the risk of underestimating the data, which in turn increases the possibility of finding the ideal lag length in a model.

Table 4.4: Summary of lag selection criteria results

Lag	LL	LR	df	P	FPE	AIC	HQIC	SBIC
0	-2659.46				2.3e+67	166.467	166.527	166.65
1	-2631.9	54.985	16	0.000	1.1e+67	165.748	166.052	166.664
2	-2591.74	80.454	16	0.000	2.6e+66	164.781	164.781	165.883
3	-2560.3	62.885	16	0.000	1.2e+66	163.269	164.058	165.651
4	-2524.3	72.004*	16	0.000	4.4e+65*	162.019*	163.051*	165.133*

Source: Author, 2023

Results in Table 4.4 above shows that optimum lag selection for the ARDL model was employed in this study. With all indication that the model should have four lags.

4.5 Autocorrelation Test

Autocorrelation, according to Makkhan et al., is a measure of how similar a time series is to a lagged version of itself over a series of time intervals. In an ideal world, autocorrelation would quantify the link between the present and previous values of a variable. This involved analyzing the autocorrelation of the residuals using the Breusch-Godfrey Lm test. The study assessed the alternative hypothesis of serial correlation to

the null hypothesis of no serial correlation at a significance level of 5%. According to Breusch (1978) and Godfrey (1978), if the p values corresponding to the chi-square test statistics are less than the 5 percent level of significance, the null hypothesis of no serial correlation is rejected; conversely, if the p values corresponding to the chi-square are greater than the 5 percent level of significance, the null hypothesis of no autocorrelation is accepted. The results of the investigation were additionally validated using the Durbin Watson test of serial correlation.

Table 4.5 below shows the results of the DW test and the Breusch Godfrey Lm test for serial correlation. As a result, the chi-square corresponding p-value in the previously mentioned table, 0.8637, is greater than the 5% level of significance, supporting the acceptance of the null hypothesis that there is no serial association. Further support for the null hypothesis, according to which there is no serial connection, comes from the Durbin Watson test statistic of 1.967104. Furthermore, when the test statistic values are in the range between 1.5 and 2.5, there is no serial correlation according to the thumb rule.

Table 4.5: Summary of autocorrelation results

Source	chi2	Df	Prob>chi2
Breusch Godfrey LM test for Autocorrelation(lags(1))	36	1	0.8637
Durbin Watson Test d Statistic			1.967104

Source: Author, 2023

4.6 Homoscedasticity Test

To determine whether the residuals were homoscedastic, the Breusch Pagan test was employed. The null hypothesis of homoscedasticity was contrasted with the alternative hypothesis of heteroscedasticity. According to Breusch and Pagan (1979), if the appropriate p value of the chi-square test statistic is greater than the 5% threshold of

significance, the null hypothesis of homoscedasticity is accepted; if it is less than that level, it is rejected. The test yielded homoscedastic residuals for the model, as shown in Table 4.6 below. This is supported by the 0.8312 chi-square test findings, which have p values higher than the 5% level of significance (0.05). This suggests that the residuals in the model have a constant variance.

Table 4.6: Summary of homoscedasticity test results

Source	chi2	Df	Prob>chi2
Heteroscedasticity	15.05	9	0.0897
Skewness		3	
Kurtosis		1	
Total		13	

Source: Author, 2023

4.7 Multicollinearity Test

The phenomenon known as multicollinearity occurs when two or more of the explanatory variables that are used in a regression model are substantially associated with one another. The occurrence of a phenomena is characterized by a high degree of correlation between independent variables. In the estimate of the regression coefficients in a multiple regression model, the presence of a high degree of correlation between the predictor variables is a source of uncertainty. This leads to unexpected findings when one is attempting to ascertain the degree to which changes in the outcome variable are accounted for by independent variables (Creswell, 2014). According to Brooks (2008), correlation between explanatory variables almost always exist in a practical setting and will almost always be non-zero, but it will typically be quite benign and won't result in a significant loss of precision.

Expanded standard errors of beta evaluations are a result of multicollinearity, which leads in lower reliability quality and false results. Through the utilization of the

multicollinearity test, it was possible to ascertain whether or not there was a significant connection between one or more of the research variables and one or more of the independent variables. As a result of linear dependency on other explanatory factors, the variance inflation factor (VIF) was able to analyse the correlation between the predictor variables and determine the inflated variances that were a consequence of this dependence. A frequent rule is that significant multi-collinearity is indicated by VIFs of 10 or higher (conservatively over 5). (Newbert, 2008).

The results of VIF test yielded scores between 1.08 to 1.22. If the VIF number is more than 10 there is a multicollinearity problem (Dielman 2001; Gujarati 2003). Therefore, from the standpoint of the VIF, this study had no potential issues. The summary of multicollinearity test results are presented in table 4.7.

Table 4.7: Summary of multicollinearity results

Variable	VIF	1/VIF
Exchange rate	1.13	0.888165
Inflation	1.22	0.0822856
Interest rate	1.08	0.921898
Mean VIF	1.14	

Source: Author, 2023

4.8 Stationarity Test

For the purpose of determining the unit root, the Augmented Dickey Fuller (ADF) test was utilized. While the null hypothesis states that there is a unit root, the alternative hypothesis states that there is no unit root. This is in contrast to the null hypothesis and the alternative hypothesis. Within the scope of this study, the level of significance that was utilized was 5%. If the test statistic is lower than the critical value at the 5% level of significance, then the null hypothesis is accepted; however, if the test statistic is higher than the critical value at that level of significance, then the null hypothesis is rejected (Mushraq, 2011). This table 4.8 provides a summary of the effects that foreign

direct investment, the exchange rate, inflation, and interest rates have had on the economy.

The null hypothesis of unit root of foreign direct investment, exchange rate, inflation, and interest rate was rejected at a significance level of 5%, as shown by the results of the table 4.8 below. It can be argued from this that the foreign direct investment, exchange rate, inflation, and interest rate do not possess a unit root, which indicates that they continue to remain stationary. It was necessary to carry out an error correction model in order to investigate the relationship between the variables over the course of a long period of time.

Table 4.8: Summary of stationary results

Variable	Test Statistic	1% Critical Value	5% Critical Value	10% Critical Value
Fdi	-3.742	-3.682	-2.972	-2.618
Exchange rate	-1.209	-3.682	-2.972	-2.618
Inflation	-3.167	-3.682	-2.972	-2.618
Interest rate	-4.355	-3.682	-2.972	-2.618

Source: Author, 2023

4.9 Co-integration test

In order to carry out the co-integration test, the ARDL bound tests developed by Pesaran, Shin, and Smith (2001) were utilized. The null hypothesis associated with the test indicated that there were no level correlations, and hence, there were no long-term associations between the variables. The alternative explanation asserted that the variables had level correlations with one another, which indicated the presence of a link that existed over a lengthy period of time.

Table 4.9: Summary of Co-integration results

K-2	(I_0) (L_1)	(I_1) (L_1)	(I_0) (L_05)	(L_1) (L_05)	(I_0) (L_01)	(I_1) (L_01)
F-Statistic Case (3.541*)	3.17	4.14	3.79	4.85	5.15	6.36
t-statistics (-3.023*)	-2.57	-3.21	-2.86	-3.53	-3.43	-4.10

Source: Author, 2023

Table 4.9 above shows that the null hypothesis of no level relationship was accepted at 5 percent level of significance. Reason being that, the F statistics of 3.541 was less than the 5 percent critical value of the upper bound (I_1) of 4.85. These results indicate that there was no level relationship among variables and therefore only short run relationship existed. The t statistics supported the same results.

4.10 Structural Break Test

Gregory and Hansen's (1996) technique was used to estimate and model the structural break in the models. It determines if a certain series' trend has been impacted by an event. The Gregory Hansen Co-integration test's null hypothesis, which is that co-integration does not exist at the break point, is tested at a level of significance of 5%. When the zt statistics' absolute values exceed the 5% critical value, the null hypothesis is rejected. Conducively suggesting that the linear combination of the variables demonstrates long-term stability with structural fractures. The zt test statistics were used to evaluate the structural break.

Table 4.10: Structural break test results

	Test Statistic	Breakpoint	Date	5% Asymptotic Critical Value
ADF	-7.86	19	2005	-5.57
Zt	-7.86	26	2013	-5.57

Source: Author, 2023

The results of Gregory Hansen test for break in the level and constant are displayed in Table 4.10 above. The absolute 5% asymptotic critical values of 5.57 are less than the absolute values for zt test statistics of 7.86. This indicates that, at a 5 percent level of significance, the null hypothesis that there was no structural break in the level and constant was rejected. The results indicate there was a structural break in the year 2013.

This may be due to the 2013 election in Kenya where a negative effect on exchange rate, interest rate and inflation were witnessed.

4.11 Model Stability Test

The CUSUM test was used to check the consistency of the model's variables. With an expanding sample size of the data being used to perform the estimation, it allowed for the tracking of the evolution of the coefficients that were being estimated. There are two standard error bands on either side of the estimated coefficients. There is a definite indication that the system is unstable if there is a significant variation in the coefficient when new information is added to the estimation equation. In addition, there is no stability if the blue line is outside of the two red lines, which is an obvious sign. The CUSUM sum of squares results are shown in Figure 4.5. On the graph, the blue lines could be seen inside the red lines. Indicating that the model's input variables maintained their stability throughout time.

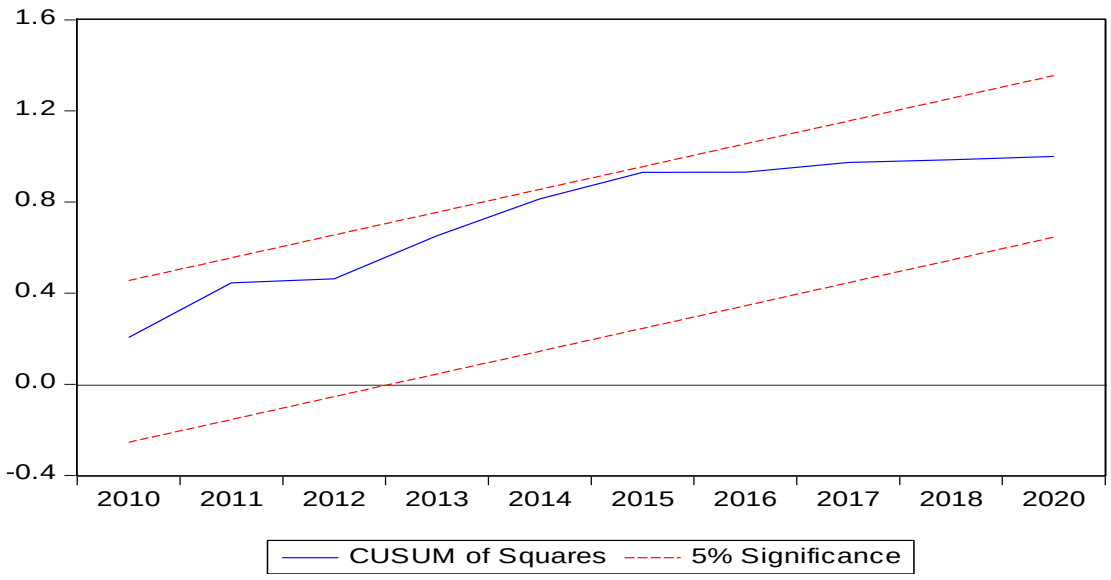


Figure 4.5: CUSUM graph

4.12 Discussion of the Results

Findings of the relationship between exchange rate and Foreign direct investment.

Results in table 4.11 below shows the findings of relationship between exchange rate and foreign direct investment in Kenya. The results indicate that exchange rate has a significant positive relationship with Foreign direct investment in Kenya ($\beta_1 = 0.0067$, $\rho<0.05$). This shows that a 1 unit increase in exchange rate has a 0.0067 unit increase effect in foreign direct investment. The results of this study were in agreement with the study done by Ullah, Haider and Azim, (2012) and Osinubi (2016). According to a study by Polodoo (2011), currency rate fluctuations have proven to be relevant and significant to FDI since they directly affect how reliable the home states' business strategies for repaying foreign investment are. Exchange rates have an impact on the relative prices of identical manufactured items produced in other states because doing business abroad necessitates exchanging local currency for foreign currency, which may not be in the investor's advantage. The movement of exchange rates influences FDI activity. The amount of FDI and the volatility of the currency rate are important considerations. The entire amount of FDI inflows and how these funds are used may depend on the rates. Two different effects can be seen when the value of one currency falls in relation to another. One is a decrease in labor and production costs. Second, investments in production capacity are attracted by the depreciating currency. For these reasons, it is believed that a currency in decline will provide foreign investors a favorable rate of return. Risks related to a country's currency and trade are present in international transactions. Currency risks happen when currency values rise or fall relative to one another, whereas country risks happen when financial claims and business commitments cease to be enforceable. Foreign exchange markets were created to make it possible to exchange money for different currencies (Kidwell et al., 2008).

In Kenya, the foreign exchange market does not have a physical location because no real products are ever exchanged there; instead, an over-the-counter market that connects bank currency traders are used. A foreign exchange market is described by Mishkin and Eakins (2009) as a location where currency and bank deposits are traded. The currency rate, one of the macroeconomic factors, is what attracts international investors to the host nation. According to empirical research, exchange rates favour foreign direct investment. The theory behind the idea is that in order to draw in international investors, the host currency should be lower. This will boost economic growth in the host nation and stimulate capital inflows and mobility. The cost of production for domestic businesses will be higher than it would be with a stronger currency due to the lower currency. However, missing from the literature is the exact impact of exchange rate changes on FDI inflows, and how they affect rate increases and decreases.

Empirically, it is necessary to determine and forecast whether government policies on foreign exchange rates, such as devaluation or other changes, would favorably effect FDI. The purpose of interest rates is to draw in foreign investors, and after they have been drawn in effectively, direct investment is anticipated to boost economic growth and productivity. The study therefore concludes that exchange rate fluctuations may positively influence foreign direct investment in Kenya. This may be the case if the Kenyan currency depreciates against a foreign currency The depreciation of currency exchange rate can boost exports and provide gains from resource seeking foreign direct investments.

Findings of the relationship between inflation and Foreign direct investment.

Results in Table 4.11 below shows the findings of relationship between inflation and foreign direct investment in Kenya. The results indicate that inflation rate has a significant positive relationship with Foreign direct investment in Kenya ($\beta_2 = 0.0238$, $\rho<0.05$). These results show that a 1 unit increase in inflation rate has a 0.0238 unit increase effect in Foreign direct investment. The results of this study were in agreement with the study done by Awan and Zaman (2010). Moderate levels of inflation are advantageous to foreign direct investors because they support domestic growth, lower the value of supplier debts, and, through currency depreciation, improve the competitiveness of exports. High levels of inflation, on the other hand, may scare away investors because they reduce the value of assets pegged to the local currency and cause currency depreciation in relation to foreign currency. While high inflation causes uncertainty and economic instability where aslow inflation is frequently an indication of economic stability. The level of foreign investment can be significantly influenced by the economic stability of the host nation, as economic crises or unpredictability might prevent investment. Foreign direct investment carries a certain amount of risk; as a result potential investors will typically steer clear of nations with unresolved political issues because the high risk is a significant deterrentgenerally economic stability is an indicator of political stability in a nation. Only when high levels of inflation are sustained for an extended period of time will there be a concern that FDI would decline, as moderate levels of inflation may be both desirable and even advantageous for foreign investors.

Whenever there is uncertainty, foreign investors will assert a high value as a precaution against inflation concerns, hence lowering the long-term magnitude of capital outlay. An important element in luring foreign investment is a consistent rate of inflation

(Nwankwo, 2006). Kadongo (2011) contends that "Africa is viewed as hazardous for FDI due to unreliable monetary and fiscal policies that have led to the growth in the cost of production"; this lack of FDI into Africa is a result of macroeconomic policies' failure to achieve their intended goals. The value of FDI in a specific country is decreased by macroeconomic variables' instability, which is manifested by an ongoing rise in prices and significant budget deficits (Kadongo, 2011). Because inflation is highly variable, transaction prices rise, which negatively affects investors' long-term goals and reduces immediate and future rewards (Muema, 2013). Inflation draws more investors when it is less erratic (Gastanaga et al., 1998). It is projected that FDI influx and low inflation will go hand in hand (Madura & Fox, 2011).

The study therefore concludes that Low inflation is viewed as a reflection of the host nation's domestic economic stability. Any type of instability creates an element of uncertainty that distorts how investors perceive the nation's future economic success. As demonstrated by Wint and Williams (1994), countries that encourage FDI as a source of capital flow prefer an environment with low inflation.

Findings of the relationship between interest rate and Foreign direct investment.

Results in table 4.11 below shows the findings of relationship between interest rate and FDI in Kenya. The results indicate that there is a positive and significant relationship between Interest rate and Foreign direct investment in Kenya ($\beta_3 = 0.0167$, $\rho<0.05$). meaning that, a 1 unit increase in interest rate has a 0.0167 unit increase effect in foreign direct investment. The results of this study were in agreement with the study done by Hunady and Orviska (2014). The cost of borrowing is more properly referred to as the interest rate, which is the price for the usage of money. The amount of FDI that enters a country is positively impacted by the host country's comparatively high interest rate.

The impact could, however, go in the opposite direction if foreign investors rely on the capital markets of their host nations to raise FDI funds. Usually, more FDIs are attracted by the higher rate. This is due to the fact that international investors prefer to concentrate their funds in nations where investments offer higher rates of return.

An increase in interest rates is beneficial to the value of a nation's currency. Higher interest rates often attract international investment, which in turn raises the demand for the currency of the nation that is hosting the investment as well as the value of the currency. One of the most important and complicated variables is the connection that exists between rising interest rates and inflation prices. It is possible for an unfavorable exchange rate in the host nation to attract more foreign direct investment (FDI) because it will be less expensive for the multinational to purchase assets. On the other hand, fluctuating currency rates can discourage investment.That capital tends to flow to nations that have a higher rate of return on investment than those that have higher interest rates is a central tenet of the economic theory that attempts to explain how money moves through a global economy. State governments that offer higher investment returns and security in the form of lower interest rates and an improved business climate attract a substantial amount of investment as a consequence of this. According to Phophrul (2002), this indicates that capital commonly moves from countries with low return rates to countries with high return rates through capital transfers.

As a result of higher interest rates, a nation's currency tends to gain when those rates are high. This is due to the fact that higher rates attract more capital from outside the country. Both the value of the currency and the exchange rates will increase as a direct consequence of this occurrence. Generally speaking, when interest rates are higher, a

nation has a greater chance of attracting investment from different countries. Attracting foreign investment is more likely to occur when there is the possibility of earning higher interest rates. This, in turn, increases the demand for the currency of the nation that is hosting the investment, which in turn raises the value of the currency. The higher interest rate will attract international investors if they are able to earn a bigger return on their investment than they would get from their local market. This is because overseas investors expect to receive a higher return on their investment. One strategy that foreign investors commonly use to take advantage of increased interest rates is the practice of borrowing money locally at a lower rate and investing it in abroad markets at a higher rate. This is one approach that foreign investors frequently use. It would be possible to determine earnings by taking into account the fluctuation in interest rates on the money. A scenario that is more likely would include the possibility of changes in exchange rates as well as other considerations.

Table 4. 2: ARDL results

Sample: 1986-2021				Number of obs	=	35
				F(2,358)	=	1841.99
				Prob > F	=	0.0000
				R-squared	=	0.9997
				Adj R-squared	=	0.9991
Log likelihood = -506.70715				Root MSE	=	2.976e+06
Variable	Coef.	Std. Err.	T	p>t	[95% Conf.	Interval]
FDI						
L1	-.0393888	.4261559	-0.09	0.928	-.9679027	.8891251
L2	-.8460007	.4871913	-1.74	0.108	-1.907499	.215498
L3	-.4200573	.1855808	-2.26	0.043	-.8244031	-.0157116
L4	-.040609	.2102259	-0.19	0.850	-.4986519	.4174339
EXG	.0066978	.000422	15.87	0.000	.0057783	.0076173
L1	-.0010866	.0039584	-0.27	0.788	-.0097113	.007538
L2	.0074402	.0042342	1.76	0.104	-.0017854	.0166657
L3	5.54e-06	.0012692	0.00	0.997	-.0027599	.002771
L4	-.000226	.001313	-0.17	0.866	-.0030868	.0026349
INFL	.0237817	.0054266	4.38	0.001	.0119581	.0356053
L1	.0304449	.0078837	3.86	0.002	.0132679	.047622
L2	.0054996	.0125634	0.44	0.669	-.0218736	.0328729
L3	.0319144	.0112873	2.83	0.015	.0073215	.0565073
L4	.006035	.0134882	0.45	0.663	-.0233533	.0354233
INTR	.0167409	.0049397	3.39	0.005	0.005	.0275035
L1	-.0030653	.006723	-0.46	0.657	-.0177135	.0115828
L2	.0159475	.0099097	1.61	0.134	-.0056438	.0375388
L3	.0203652	.0072915	2.79	0.016	.0044783	.0362521
L4	.0017744	.0078018	0.23	0.824	-.0152243	.0187732
Cons	131066.9	1147124 2630436	0.11	0.911	-2368330	

Source: Author, 2023

4.13 Testing of Hypotheses

H_{01}: Exchange rate has no significant effect on Foreign Direct Investment in Kenya

According to the findings (β_1 =0.0067, p=.000<0.05), hypothesis 1 was rejected; and the study concluded that exchange rate has a significant positive relationship with foreign direct investment in Kenya. The findings of this study are consistent with those found in the research carried out by Ullah, Haider, and Azim (2012) as well as Osinubi

(2016). According to a study that was conducted by Polodoo (2011), variations in currency rates have been shown to be crucial and significant in terms of FDI due to the fact that they directly affect how reliable the business strategies of home states are in terms of repaying foreign investments. Ideally, Exchange rates affect the relative prices of identically manufactured items that are produced in other states. This is due to the fact that conducting business in other countries requires exchanging the investor's home currency for a different currency, which may not work out in the investor's favor. In other words, the flow of FDI is affected by changes in the rate applied. Both the volume of FDI and volatility of the applicable currency rate should be considered.

H_{02}: Inflation rate has no significant effect on Foreign Direct Investment in Kenya

On inflation effects results (β_1 =0.0238, p=.001<0.05), hypothesis 2 was rejected; and the study concluded that there was a positively significant relationship between inflation and FDI in Kenya. The findings of this investigation were consistent with those found in the research conducted by Awan and Zaman (2010). A level of inflation that is considered to be moderate is beneficial to foreign direct investment because it encourages domestic growth, reduces the value of supplier indebtedness, and improves the competitiveness of exports through currency depreciation. On the other side, high levels of inflation may put off potential foreign investors. This is because high levels of inflation induce depreciation which affects the value of a country's currency, hence, lowering the value of assets that are valued in that currency. Low inflation is frequently an indication of economic stability, in contrast to high inflation, which could be an indication of uncertainty and economic instability. It is possible for the volume of foreign investment to be greatly impacted by the degree to which the economy of the host nation is stable and predictable. Economic instability or unpredictability may discourage investment.

H_{03}: Interest rate has no significant effect on Foreign Direct Investment in Kenya

As per ther findings (β_1 =0.0167, p=.005<0.05), hypothesis 3 was rejected. Therefore, the study concluded that there was a positive significant relationship between Interest rate and FDI in Kenya. The findings of this investigation were consistent with those found in Hunady and Orviska's previous research (2014). The cost of borrowing money is more accurately described as the interest rate.

A relatively high interest rate in the host nation has a beneficial effect on the quantity of FDI that flows into the country. Yet, if foreign investors depend on the capital markets of their host nations in order to raise FDI money, the influence could have the opposite effect. It is predicted that the higher rate will attract a greater volume of FDI. This is as a result of the fact that international investors choose to concentrate their cash in nations where investments give higher rates of return on investment capital. Table 4.12 below presents the summary of hypothesis.

Table 4.12: Summary of hypothesis

Hypotheses	β	P<5%	Decision
$H_{01:}$ Exchange rate has no significant effect on Foreign Direct Investments in Kenya	0.0070	0.000	Rejected
$H_{02:}$ Inflation rate has no significant effect on Foreign Direct Investments in Kenya	0.0238	0.001	Rejected
$H_{03:}$ Interest rate has no significant effect on Foreign Direct Investments in Kenya	0.0167	0.005	Rejected

Source: Author, 2023

CHAPTER FIVE

DISCUSSION OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Overview

This chapter provides a summary of the study, a conclusion drawn from the study findings, recommendations to various stakeholders in the economy who may benefit from the recommendations provided, limitations that the researcher encountered while conducting this study, and suggestions for further future research in this area of study.

5.1 Summary of the Findings

The first objective of the study - Exchange rate, was measured by comparing the annual weighted average currency of Kenya against the annual weighted average US dollar. The study found evidence to support the notion that exchange rate does have a substantial impact on foreign direct investment. The results of the ARDL model showed a positive correlation, which was also statistically significant. The findings suggest that a one percentage point increase in exchange rate will result in a 0.0067 increase in foreign direct investment. Findings of this study are consistent with those found in the research carried out in 2012 by Ullah, Haider, and Azim as well as Osinubi in 2016. According to a study that was conducted by Polodoo (2011), variations in currency rates have been shown to be crucial and significant in terms of FDI due to the fact that they directly affect how reliable the business strategies of home states are in terms of repaying foreign investment. Rates of foreign exchange have an effect on the comparative prices of identically manufactured items produced in other states. This is due to the fact that conducting business in other countries requires exchanging the investor's home currency for a different currency, which may not work out in the investor's favor. FDI flow is affected by exchange rates volatility and both variables should be taken into consideration. The rates may have an effect not only on the total

quantity of FDI inflows but also on how these funds are utilized. When value of one currency decreases in reference to another currency, two distinct positive effects might be observed as stated below:

- Reduction in the expenses of labor and production.
- Encourages investors to put money into increasing manufacturing capacity.

The second objective of the study- Inflation, was measured using the consumer price index, which is the percentage change in the consumer price index. The study found evidence to support the notion that inflation rate does have a substantial impact on foreign direct investment. The results of the ARDL model showed a positive correlation, which was also statistically significant. The findings suggest that a one percentage point increase in inflation rate will result in a 0.0238 increase in FDI. The findings of this investigation were consistent with those found in the research conducted by Awan and Zaman (2010). A level of inflation that is considered to be moderate is beneficial to foreign direct investment because it encourages domestic growth, reduces the value of supplier indebtedness, and improves the competitiveness of exports through currency depreciation. On the other side, high levels of inflation may put off potential foreign investors. This is because high levels of inflation induce a depreciation in the value of a country's currency in relation to other currencies, hence lowering the value of assets that are valued in that currency. Low inflation is frequently an indication of economic stability, in contrast to high inflation, which could be an indication of uncertainty and economic instability. It is possible for the volume of foreign investment to be greatly impacted by the degree to which the economy of the host nation is stable and predictable. Economic instability or unpredictability may discourage investment. Investors will often avoid countries that have unsolved political issues because the high risk is a substantial barrier. This is because foreign direct investment includes a certain

amount of risk; as a result, investors will typically steer clear of nations with unresolved political concerns. According to the findings of the study, one can draw the conclusion that low inflation is seen as a reflection of the domestic economic stability of the host nation. The perception that investors have of the nation's potential for future economic success is distorted with each new type of instability that emerges. As Wint and Williams in 1994 established, nations that support FDI as a source of capital flow prefer an environment with low rate inflation rate.

The third objective of the study – Interest rate, measured the amount the lender charges for amounts borrowed. This study found evidence supporting the notion that interest rate does have a substantial impact on foreign direct investment. The results of the ARDL model showed positive correlation, which was statistically significant. The findings suggest that a one percentage point increase in interest rate will result in a 0.0167 increase in foreign direct investment. The findings of this investigation were consistent with those found in the research conducted by Hunady and Orviska (2014). A relatively high interest rate in the host country has a beneficial effect on the quantity of foreign direct investment (FDI) that flows into that country. Nevertheless, this may have the opposite effect if international investors relied on the financial systems of the countries in which they invested in order to bring in foreign direct investment (FDI). It is predicted that the increased rate will attract a greater amount of direct investment from overseas companies. This is because international investors like to concentrate their capital in countries where investments give higher rates of return on their investments. The value of a nation's currency rises in direct proportion to the level of interest rates. Typically, increased interest rates attract overseas investment, which raises both demand for and the value of the currency of the nation that is hosting the investment. One of the primary factors that contribute to the complexity of the situation

is the correlation between rising interest rates and rising prices. Because it will be cheaper for the multinational corporation to buy assets in the host nation, a bad exchange rate has the potential to attract more foreign direct investment (FDI). Yet, fluctuations in currency rates may discourage potential investors.

5.2 Conclusion

The study concluded that the foreign direct investment is influenced by foreign exchange rate, inflation rate and interest rate. The findings of the study therefore lead one to the conclusion that changes in the currency exchange rate may have a favorable impact on FDI in Kenya. It's possible that this will occur if the value of the Kenyan shilling drops in comparison to another currency. A currency exchange rate that is falling in value could potentially increase exports and offer profits from resource-seeking foreign direct investments. It is vital to establish if government actions on foreign exchange rates, such as devaluation or other adjustments, would have favorable effects on foreign direct investment and to make projections regarding those effects.

Secondly, According to the findings of the study, one can draw the conclusion that low inflation is seen as a reflection of the domestic economic stability of the host nation. The perception that investors have of the nation's potential for future economic success is distorted with each new type of instability that emerges. As Wint and Williams (1994) established, nations that support foreign direct investment (FDI) as a source of capital flow prefer an environment in which inflation is kept at a low rate. Investors will often avoid countries that have unsolved political issues because the high risk is a substantial barrier. This is because foreign direct investment includes a certain amount of risk; as a result, investors will typically steer clear of nations with unresolved political concerns. The degree to which a nation's economy is stable can frequently be taken as an indicator of that nation's political stability. It is only when high levels of inflation

are maintained for an extended period of time that there will be concern that FDI will decline; moderate levels of inflation may be desirable and even advantageous for foreign investors. The only time this concern will arise is when high levels of inflation are sustained for an extended period of time.

Third, when interest rates are high, a nation's currency gains because higher rates attract more foreign money. This is because higher rates encourages economic growth in the nation. As a direct consequence of this, exchange rates will rise, which leads to an increase in the value of the currency. When interest rates in a country are higher, there is a greater possibility that investors from other countries may choose to invest in that country. It is more likely that FDI will be attracted due to the possibility of earning higher interest rates; this in turn, enhances demand for local currency of the hosting nation. They will be drawn to higher interest rate if able to obtain a better return on investment than they would get from local market. Reason for this is, the return on investment that they would earn from local market is typically lower. Foreign investors frequently take use of higher interest rates by, for example, borrowing money locally at a lower interest rate and investing it in abroad markets at a higher interest rate. This is a strategy that may be used to leverage from higher interest rates. The amount of profits achieved would be determined by analyzing the range of available interest rates on the available funds. Alterations in the exchange rates, together with other circumstances, would be a component of a scenario that is more realistic.

5.3 Recommendations

5.3.1 Policy Recommendations

Direct foreign investments, also known as DFIs, are one of the primary factors contributing to the phenomenon known as globalization, and they are an essential component of the global economy in its current state. DFIs encourage restructuring of

industry at both regional and global levels, and as a result, they create an enabling environment for integration of a national economy into the world economy more successfully than trade does. DFIs stimulate economic growth and development by supplying economies in transition not only with financing for development but also with new technologies, improved management techniques, and access to international markets. DFIs are also responsible for the introduction of new ideas into the economic sphere. In addition to this, DFIs are responsible for integrating the various production systems with one another. The development finance institutions (DFIs) have the potential to play a significant part in the growth of transition economies and the economies' speedy incorporation into the global community through this method.

Although theoretical arguments arrive at the conclusion that an increase in exchange rate may lead to an increase in the proportion of total investment that is located overseas, this does not imply that an increase in exchange rate will lead to a decrease in the activity level of domestic investment. In order to arrive at the conclusion that domestic aggregate investment decreases, one must first demonstrate that the rise in domestic outflows is not compensated for by a rise in foreign inflows. Only then can one come to this conclusion. The fluctuation in the value of the dollar relative to other currencies has not led to a significant reduction in overall investment in the United States economy. In general, the existing level of knowledge indicates that fluctuations in exchange rates can help to the internationalization of production activity without a corresponding negative effect on economic activity in the home market.

The findings made it possible to draw crucial conclusions about how policy should be designed to attract FDI. The decision-makers in Kenya should, in general, give special emphasis to obtaining foreign direct investment as a means of offsetting the negative impact that is being caused by interest rates and stock prices. In this context, some

policies that are geared towards the real economy might be put into place in order to guarantee that Kenya will continue to attract foreign direct investments. In this regard, as is commonly emphasised in the relevant literature, major policy options may include upgrading the physical infrastructure of energy, transportation, and communication; boosting the degree of incentives for foreign investments; and enhancing the skilled workforce. In addition, the development of legal and institutional arrangements that support the functioning of free markets, the development of rules and controls for the protection of intellectual property rights, and the strengthening of the country's political and social stability can all be preferred as other policy options. These can all be thought of as complementary to one another and can be seen as complementary policy options.

5.3.2 Theoretical Recommendation

The study recommends that policy makers make use of dynamic macroeconomic foreign direct investment theory. The theory explains why time is such a crucial factor, stating that the optimal moment to make investments is determined by the macroeconomic climate of the host nation at the time of the investment, as well as the degree of openness and rate of economic growth in that nation. The macroeconomic environment is made up of the gross domestic product, domestic investment, real exchange rate, productivity, and openness; these are the factors that determine the flow of foreign direct investment (FDI). Because the macro environment of a country is unique to that country, it is essential for a foreign investor to analyze and comprehend the investment climate of the country in which they plan to invest, as well as the risks that are associated with that investment climate. This is because the macro environment is country specific, and the effect of one variable will not be the same as it would be in another economic environment.

Additionally, policy makers should make use of the capital market theory. The theory of capital markets posited three reasons why less developed countries are likely to benefit from foreign direct investment (FDI). Foreign direct investment (FDI) is attracted to countries that have exchange rates that are undervalued relative to those of other countries. This is because it enables lower production costs in the host countries. Governments can deliberately undervalue their exchange rate in order to attract foreign direct investment into the country.

5.4 Recommendations for Further Research

The selected macroeconomic variables that influence foreign direct investment in Kenya served as the primary focus of this research. This research focused on the volatility of the exchange rate, the rate of inflation, and the interest rate as its selected macroeconomic determinants of foreign direct investment. In subsequent research investigations, the other macroeconomic indicators that have the potential to have a substantial influence on foreign direct investment in Kenya should be studied. Economic growth, balance of payments, unemployment rate, money supply and government expenditure are all examples of macroeconomic determinants that can be employed in future studies. The results of an investigation that takes into account all of these determinants affecting the economy would produce conclusions that are understandable and would serve to guide policy in Kenya.

Furthermore, moderator variables that affect the relationship between selected macroeconomic determinants and foreign direct investment in Kenya may be used in future research. The degree of economic corruption as well as the strength of the rule of law, institutional quality and the regulatory framework is some of the moderator variables. An in-depth analysis of the link between the selected macroeconomic

determinants and foreign direct investment in Kenya would be possible with the use of the indicated moderator variables.

Several countries in East or Sub-Saharan Africa, in addition to Kenya, might also be good candidates for inclusion in a thorough study along with the country of focus, which is Kenya. In order to accomplish this, a panel analysis of the selected macroeconomic determinants and foreign direct investment from other countries would be required. The utility of such an investigation would consist in determining the extent to which the selected macroeconomic determinants have an effect on foreign direct investment in this region. In order to determine the degree of similarity that exists between the countries that make up this region, it is also possible to do comparative research and analysis.

In conclusion, subsequent research could make use of different approaches to analysis besides the ones that were used in this study. There are a wide variety of approaches to data analysis, including autoregressive distributed lag (ARDL), hierarchical regression model for panel data with a moderator variable, and vector error correction model. Some of these approaches are described below (VECM). These other methods of analysis could be utilized, and the results could be compared to those obtained using the methodology utilized in this study. In order to investigate how macroeconomic indicators influence shifts in foreign direct investment in various regions, threshold variables could also be utilized in the research process. That is, during times when there was economic stability and times when there was economic instability.

REFERENCES

Abdioglu, N. (2016). *The Effect of Corporate Tax Rate on Foreign Direct Investment: A Panel Study for OECD Countries.* Ege Academic Review.

Abdulla, S. (2010). An empirical analysis of Libyan business environment and foreign direct investment. Unpublished PhD thesis, Durham University, RSA.

Acquah, A. M., & Ibrahim, M. (2020). Foreign direct investment, economic growth and financial sector development in Africa. *Journal of Sustainable Finance & Investment*, *10*(4), 315-334.

Adam, C. (2009). The conduct of monetary policy in Uganda: an assessment. *Government of Uganda Publication Review*, 65

Adina, D: Dumitri, C & Carol, I.B. (2012). The impact of recent global crisis on foreign direct investment. Evidence from Central and Eastern European Countries. *Journal of economics and finance, 3(2012)*

Ahmad, S., & Sial, M. (2016). Taxes and economic growth in Pakistan. *European Journal of Business and Social Sciences*, 5(2), 16-29.

Aliber, R.Z. (1970). *Theory of foreign direct investment, in C.P.Kindeleberger(ed), The International Corporation.* MIT Press, Cambridge, MA, United States.

Almfraji, A.M. & Almsafir, K.A. (2014). Foreign direct investment and economic growth, literature review from 1994-2012. *Procedia-Social and Behavioral Sciences*, 19, 1040-1045.

Andinuur, J. (2013). Inflation, Foreign Direct Investment and Economic Growth in Ghana. *Master Thesis*. University of Ghana

Aremu, J.A. (2005). Foreign Direct Investment and Performance. Paper Delivered At A workshop on Foreign Investment Policy and Practice Organized by the Nigerian

Asiedu, E. (2015). On the determinants of foreign direct investment to developing countries. *World Development Report*, 30 (1), 107-119

Atems B. 2015. Another look at tax policy and state economic growth: the long and short run of it, *economic letters*, 127(1), 64-67.

Babatunde A., Ibukun, O., & Oyeyemi, G. 2017. Taxation revenue and economic growth in Africa. *Journal of Accounting and Taxation*, 9(2), 11-22.

Baltagi, B. (2008). *Econometric analysis of panel data*. John Wiley & Sons.

Beghum, J., & Sannassee R, (2009), *Exchange Rate Regime, Real Exchange Rate, Trade Flows and Foreign Direct Investments*: The Case of Morocco. African Development Bank.

Bengoa, M., & Sanchez, B. (2013). Foreign direct investment and economic growth: New evidence from Latin America. *European Journal of Political Economy* 19(3), 529- 45.

Besley, T., & Persson, T. (2014). Why Do Developing Countries Tax So Little? *Journal of Economic Perspectives*, 28(4), 99-120.

Binh, N.H & Houghton, J. (2002). Trade Liberalization and Foreign Direct Investment in Vietnam. *ASEAN Economic Bulletin,* 19(3), 302

Blanchard, O. (2019). Public debt and low interest rates. *American Economic Review*, *109*(4), 1197-1229.

Borensztein, E., De Gregorio, J. & Lee, J.W. (2013). How foreign direct investment does affect economic growth, *Working Paper*, 5057

Boungou, W. (2022). "Negative-for-long" interest rates and customer deposit rate. *Finance Research Letters*, *46*, 102298.

Boyd, J.H., Levine, R., & Smith, B.D. (2014). The impact of inflation on financial sector performance. *Journal of Monetary Economics*, 47, pp. 221-248.

Brandey, R.S. (2008). *The macroeconomics today*. McGraw Hill, New York.

Brandley, T. W. (2008). Why does a trait evolve multiple times within a clade? Repeated evolution of snake-like body form in squamate reptiles. *Evolution* 60:123–141.

Buckley, P & Casson, M. (1976). The Internalisation Theory of the Multinational Enterprise: A Review of the Progress of a Research Agenda after 30 years. *Journal of International Business Studies*. 40. 1563-1580. 10.1057/jibs.2009.49.

Camara, S. (2021). Spillovers of us interest rates: Monetary policy & information effects. *arXiv preprint arXiv:2111.08631*.

Casson, M. C. (1979). *Alternatives to the Multinational Enterprise*. London 1979.

Casson, M. C., (1983). The Conceptual Framework. In: Mark C. Casson (Ed.),*The Growth of International Business. London* 1983, pp. 1–33.

Central Bank of Kenya. (2017). *Monetary Policy statement.* Nairobi: Central bank.

Chakrabarti, A. (2014). A theory of the special distribution of foreign direct investment. *International Review of Economics & Finance*, 12, 149-169.

Chandra, R., & Sharma, K.D. (2013). *Quantitative Determination Of Paracetamol And Caffeine From Formulated Tablets By Reversed Phase-Hplc Separation Technique*.

Chindengwike, J. (2022). The effect of foreign direct investment on poverty alleviation in East Africa countries. *Journal of Global Economy*, *18*(1), 53-66.

Collis, J. & Hussey, R. (2009), *Business Research A Practical Guide for Undergraduate and Postgraduate Students*. 3rd Edition, Palgrave Macmillan,

Connaway, L. S., & Powell, M. L. (2010). (*Forthcoming). Basic research methods in library and information science (6 th ed.).* Littleton, CO: Libraries Unlimited.

Cooper, G. & Schindler, K. (2013). *Applied Statistics in Business and Economics* (*3rd Ed*.). New York, NY: McGraw-Hill Irwin.

De Mello, M. M. (2019). "The interdependence between the saving rate and technology across regimes: evidence from South Africa," *Empirical Economics, Springer*, 56(1), 269-300,

Delaney, J. T. & Huselid, M. A. (2006). The impact of human resource management practices on performance in for-profit and nonprofit organizations', *Academy of Management journal, 39, 949–969*

Demirhan, E., & Masca, M. (2008). Determinants of foreign direct investment flows to developing countries: a cross sectional analysis. *Prague economic papers, 4(4), 356-369*

Devereux, M.B., & Yetman, J. (2002*)*. Price setting and interest rate pass through*: Theory and evidence. Price Adjustment Monetary Policy, 121), 347-371*

Durovic, H. & Todorovic, J. (2010). Javne finansije, Prvo izdanje, Ekonomski fakultet Niš.

Economic Survey 2018. http://www.knbs.or.ke.

Eriksson, Päivi & Kovalainen, Anne. (2008). *Qualitative Methods in Business Research*. Publisher: SAGE Publications Ltd; Series: Introducing Qualitative Methods.

Feldstein, S. (2019). "*The Global Expansion of AI Surveillance*." Accessed April 14, 2021. https://carnegieendowment.org/files/WP-Feldstein-AISurveillancefinal1.pdf

Froot, K. & Stein, J. (2016). Exchange rate and foreign direct investment an imperfect capital markets approach. *Quarterly Journal of Economics* 12(6), 1191-1217.

Ghasemi, A., & Zahediasl, S. (2012). Normality Tests for Statistical Analysis: A Guide for Non-Statisticians. *International Journal of Endocrinology and Metabolism*, 10, 486-489. https://doi.org/10.5812/ijem.3505

Gillman, M. & Kejak, M. (2005). Inflation and Balanced-Path Growth with Alternative Payment Mechanisms. *Economic Journal*, 115(11), 247-270.

Goldberg, S.L. (2011). Exchange rate uncertainty and foreign direct investment in the United States. *Review of World Economics* 124(2), 322–334

Gujarati, N. (2004). (4th Ed). *Basic Econometrics.* New York: The McGraw-Hill.

Hailu, Z. (2010). Demand side factors affecting the inflow of foreign direct investment to African countries: Does capital market matter? *International Journey of Business and Management, vol.5*

Hair, J.F., Black, W.C., Babin, B.J. and Anderson, R.E. (2010). *Multivariate Data Analysis*. 7th Edition, Pearson, New York.

Hasli, A., Nurhani, A. I., & Catherine S. H. (2017). "The Effect of Financial Crisis and Macroeconomic Factors on FDI in Developing Countries." *International 48 Journal of*

Hennart, J.F. (1982). *A Theory of the Multinational Enterprise*. University of Michigan Press, Ann Arbor.

Hong, T. Y., & Ali, D. H. A. (2020). The Impact of Inflation Towards Foreign Direct Investment. http://www.econjournals.com/index.php/ijefi/article/download/3091/pdf.

Hunady, J & Orviska, M. (2014). Determinants of foreign direct investments in EU Countries: Do interest rates really matter? *Procedia Economics and Finance*12 (3), 243-250

Hymer, S.H. (1976), *the International Operations of National Firms: A Study of Direct Investment*. MIT Press, MA, Cambridge.

in Malaysia And Iran. *International Journal of Academic Research in Business and Social Sciences*, 10(6), 210–216.

International Monetary Fund (2017): *World Development Report Entering the 21st Century, the Changing Development Landscape*; Oxford University Press; Oxford.

Itskhoki, O. (2021). The story of the real exchange rate. *Annual Review of Economics*, *13*, 423-455.

Itskhoki, O., & Mukhin, D. (2022). *Sanctions and the exchange rate* (No. w30009). National Bureau of Economic Research.

Jack, A. (2009). *E-Factory Correlation to Real World Seating Reach and Effort Applications*. 10.4271/2005-01-2707.

Joosung Jun, (1994). "*How taxation affects foreign direct investment (country - specific evidence),"* Policy Research Working Paper Series 1307, The World Bank

Kahouli, B., Miled, K. & Aloui Z. (2017). Do energy consumption, urbanization, and industrialization play a role in environmental degradation in the case of Saudi Arabia? *Energy Strategy Rev.*, 40 100814

Kahouli, B., Omri, Anis, (2017). "Foreign direct investment, foreign trade and environment: New evidence from simultaneous-equation system of gravity models," *Research in International Business and Finance, Elsevier*, 42(C), 353-364.

Kasau, K., & Marks, C. (2011). Understanding Inflation and Controlling it. *The American Economic Review, 99,* 16-29.

KenInvest. (2016). *Strategic plan* 2015-2018

Khamis Hareb Alshamsi, Mohd Rasid bin Hussin & Muhammad Azam (2015). The impact of inflation and GDP per capita on foreign direct investment: the case of United Arab Emirates. *Investment Management and Financial Innovations*, 12(3-1), 132-141

Kimunyi, P. M. (2014). International trade negotiations approaches: the case of Kenya, 1963 – 2012. University of Nairobi

Kinuthia, Bethuel. & Kinyanjui (2019). Does Foreign Direct Investment (FDI) accelerate growth? Evidence from Malaysia. *International Journal of Liability and Scientific Enquiry*. 3. 10.1504/IJLSE.2010.031826.

Kiplaghat, P. (2017). *The Effect of Interest Rates on Foreign Direct Investments in Kenya.* Unpublished MSC Project, University of Nairobi.

Knaub, J.R., Jr. (2007a), "*Heteroscedasticity and Homoscedasticity*" in Encyclopedia of Measurement and Statistics, Editor: Neil J. Salkind, Sage, Vol.

Kodi, A. (2017). *Influence of Economic Policies in Business Tourism: A Comparative Case Study of Kenya and South Africa.* Unpublished MBA, USIU.

Kyereboah-Coleman, A., & Agyire-Tettey, K.F. (2008), "Effect of exchange-rate volatility on foreign direct investment in Sub-Saharan Africa: The case of Ghana", *Journal of Risk Finance,* Vol. 9 No. 1, pp. 52-70. https://doi.org/10.1108/15265940810842410

Lal, M., Kumar, S., Pandey, D. K., Rai, V. K., & Lim, W. M. (2023). Exchange rate and international trade. *Journal of Business Research*, *167*, 114156.

Li, J.F., & Lin, Z.X. (2015). The impact of sales tax on economic growth in the United States: an ARDL bounds testing approach. *Applied Economics Letters*, 22(15), 1-5

Luther, N. A. (2014). Causality analysis of foreign direct investment, exchange rate and interest rate volatility in Ghana. *Policy*, 5(9).

Luther, N.A. & Emmanue, A. (2014). Causality Analysis of foreign direct investment, exchange rate and interest rate vitality in Ghana. *Policy*, 5(9).

Madura, J. & Fox, R. (2011). *International Financial Management.* (2nd Ed.). Cengage Learning.

Makori, D.M., & Jagongo, A.O. (2014). *Working Capital Management and Firm Profitability* : Empirical Evidence from Manufacturing and Construction Firms Listed on Nairobi Securities Exchange , Kenya.

Mbui, P. (2017). *The effect of interest rates on foreign direct investments inflows in the energy and petroleum sector in Kenya.* Unpublished MSc. Project, University of Nairobi.

McCloud, Nadine & Delgado, Michael. (2018). *Domestic Interest Rate and Foreign Direct Investment under Institutional Uncertainty.*

McNeill, D. (2005). *Gesture and thought.* University of Chicago Press.

McNeill, P. (2005). *Business Research Methods.* (3rd Ed). London: Routledge.

Mwega, F. & Ngugi, R.W. (2006). *Foreign direct investment in Kenya*. *OECD Publishing, OECD Benchmark Definition of Foreign Direct Investment (4th Edition, 2008)*

Nayak, D. & Choudhury, R.N. (2014). A Selective Review of Foreign Direct Investment Theories, 143, ARTNet Working Paper Series

Ndung'u, N. (2018). *Annual Conference of the Cambridge Centre for Alternative Finance (CCAF)*: Reimagining Alternative Finance: Global Perspectives and Local Insights

Ndungu, S.N. (2017). Price and exchange rate dynamics. an empirical investigation. *AERC Research Paper Series.*

Njoroge, L. (2021). "Capital Inflows and Economic Growth in Selected COMESA Member Countries," *Journal of Finance and Investment Analysis, SCIENPRESS Ltd,*. 10(4), 1-3.

Nyarko, S.A. & Nakato, L. (2016). *The influence of international ownership on the performance of microfinance institutions*. Universitetet i Agder; University of Agder

Ojong, C.M., Anthony, O., & Arikpo, O.F. (2016). The impact of tax revenue on economic
growth: evidence from Nigeria, IOSR Journal of Economics and Finance, 7(1), 32-38.

Okpe, A. E., & Ikpesu, F. (2021). Effect of Inflation on Food Imports and Exports. *The Journal of Developing Areas*, *55*(4), 1-10.

Osei, M. J., & Kim, J. (2020). Foreign direct investment and economic growth: Is more financial development better?. *Economic Modelling*, *93*, 154-161.

Ouma, A.L. (2016). *Determinants of Foreign Direct Investment inflow in Hospitality industry in Kenya (1990-2014)*. Unpublished MBA, University of Nairobi

Padovano, F., Galli, E. (2002). Comparing the growth effects of marginal vs. average tax rates and progressivity. *Europäische Zeitschrift für politische Ökonomie,* 18 (3), 529-544

Polodoo, V. (2011). Exchange rate and macroeconomic performance in small island developing states

Rana, P.B. & Dowling, J. (2014). The impact of foreign capital on growth: evidence from Asian developing countries.. *The Developing Economies*, 26 (1), 3-11

Robson, C. (2002). *Real World Research.* (2nd Ed.). Oxford: Blackwell.

Rogman J.T. (2012). *Determinants of foreign direct investments in the Middle East North Africa Region.* Unpublished PhD. Thesis, Nyenrode: Nyenrode Business University

Romer, D. (2009). . *Advanced Macroeconomics.* New York: McGraw-Hill

Rudger D. & Stanley, K, (2009). "Flexible Exchange Rates in the Short Run," Brookings Papers on Economic Activity, Economic Studies Program, *The Brookings Institution*. 7(3), 537-584

Rudiger, D & Stanley, F. (2009). Macroeconomic

Sanjaya,A. (2010), Trade liberalisation and inequalities in Nepal: A CGE analysis, *Economic Modelling*, 29, (6), 2543-2557

Saunders, M. Thornhill, A & Lewis, P. (2007). *Research Methods for Business Students,*

Sayek, S. (2009). Foreign Direct Investment and Inflation. *Southern Economic Journal*, 76(2), 419–443. http://www.jstor.org/stable/27751474

Shaban, A. R. A., (2016, July 2). Nairobi to host 14th UN Conference on Trade and Development. Retrieved: http://www.africanews.com/2016/07/02/nairobi-tohost-14th-un-conference-on-trade-and-development

Silksept, L. (1973, September 30). Monetary notebook from Nairobi. The New York Times. Retrieved from: http://www.nytimes.com/1973/09/30/archives/ monetary-notebook-from-Nairobinotebook-from-nairobi.html

Strom, S. Holly, A. & Diamond P. (1999), *Econometrics and Economic Theory in the 20th Century:* The Ranger Frisch Centennial Symposium, Cambridge University Press, Cambridge (1999)

Tien, N. H. (2021). Relationship between inflation and economic growth in Vietnam. *Turkish Journal of Computer and Mathematics Education (TURCOMAT)*, *12*(14), 5134-5139.

Todaro, M. & Stephen, S. (2011). Foreign direct investment and economic growth: ADRL and causality analysis for South Africa. *Research in International Business and Finance*, 41, 434-44.

Uddin, G & Alam, A. (2009). Relationship between interest rates and Stock Price: Empirical Evidence from developing and developed countries. *International Journal of Business and Management 4(3), 43-51*

Ullah, S., Haider, S. Z., & Azim, P. (2012). Impact Of Exchange rate On Foreign Direct Investment: A Case Study of Pakistan. *Pakistan Economic and Social Review*, 50(2), 121–138. http://www.jstor.org/stable/43855777

UNCTAD (2015). *National Trade Facilitation Bodies in the World. United Nations publication. UNCTAD/DTL/TLB/2014/1*. New-York and Geneva.

UNCTAD (2015). World Investment Report, Transnational Corporations, Extractive Industries and Development. http//uncatad.org/en/publicationsLibrary/wir2015-enpdf

United Nations Conference on Trade and Development. (2012). World Investment Report 2012, UNCTAD

Uyagur, P. C. (2015). Determinants Of Foreign Direct Investment To Turkey: A Sectoral Approach. *Topics in Middle Eastern and African Economies*. 17. 1-28.

Uygur (2015). Determinants and importance of FDI for Turkey for the period of 1992-2004

Valogo, M. K., Duodu, E., Yusif, H., & Baidoo, S. T. (2023). Effect of exchange rate on inflation in the inflation targeting framework: Is the threshold level relevant?. *Research in Globalization*, *6*, 100119.

Wanjiru, S. (2014). *Impact of inflation volatility and economic growth on foreign direct investment in Kenya*. Unpublished MBA Thesis, University of Nairobi

Williams AD, Andrews G. (2013). The effectiveness of Internet cognitive behavioural therapy (iCBT) for depression in primary care: a quality assurance study. *PLoS One*.;8(2):e57447. doi: 10.1371/journal.pone.0057447. Epub 2013 Feb 22. PMID: 23451231; PMCID: PMC3579844.

Wnjiru, S. (2013). Impact of inflation volatility and economic growth on foreign direct investment in Kenya. Unpublished MBA Thesis, University of Nairobi

World Bank (2014). *The East Asian Miracle: Economic Growth & Public Policy;* Oxford University Press; Oxford.

World Trade Organization (2016). *World Development Repor*t; 2015, Washington DC: The World Bank.

Zikmund, W.G. (2011). *Business Research Methods.* (6th Ed). Fort Worth, TX: Dryden Press.

APPENDICES

Appendix A: Sample of Data Collection Sheet

years	Interest Rates Average CBK Lending Rate	Average Annual Inflation Rate	Average Annual KSH against US$
1986	4.864495046	2.534275989	16.22574167
1987	8.157389637	8.63767319	16.45449167
1988	8.026232319	12.26496305	17.7471
1989	6.815211935	13.78931728	20.57246667
1990	7.332797066	17.78181443	22.91476667
1991	5.745512648	20.08449558	27.50786667
1992	1.825329188	27.33236445	32.21683333
1993	3.413472407	45.9788813	58.00133333
1994	16.42810989	28.81438943	56.050575
1995	15.80164834	1.554328161	51.42983333
1996	-5.77658854	8.864087416	57.11486667
1997	16.87956849	11.36184505	58.73184167
1998	21.09632603	6.722436508	60.3667
1999	17.45404878	5.742001095	70.32621667
2000	15.32743345	9.980025154	76.17554167
2001	17.81250097	5.738598143	78.563195
2002	17.35814064	1.961308217	78.74914167
2003	9.770510927	9.81569063	75.93556944
2004	5.045257597	11.62403554	79.17387606
2005	7.609987546	10.31277836	75.55410945
2006	-8.009866971	14.45373421	72.10083502
2007	4.819090788	9.75888023	67.31763812
2008	-0.984996972	26.23981664	69.17531982
2009	-10.09600357	9.234125924	77.3520123
2010	12.52695849	3.961388891	79.2331517
2011	4.526185832	14.02249396	88.81076997
2012	9.313511345	9.377767482	84.52960176
2013	9.29394636	5.71749357	86.1228789
2014	8.249078992	6.878154993	87.92216381
2015	6.268805783	6.582174403	98.17845333
2016	10.11812871	6.297157525	101.5043695
2017	5.656747616	8.005722791	103.4100045
2018	8.487960475	4.689819761	101.301574
2019	7.831100748	5.235859994	101.9912984
2020	6.729227166	5.404814672	106.4507802
2021	6.73823386	6.110909164	109.6377466

Appendix B: NACOSTI Licence

REPUBLIC OF KENYA

NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Ref No: **108718**

Date of Issue: **16/March/2023**

RESEARCH LICENSE

This is to Certify that Ms.. STELLA KAGENDO NDWIGA of Moi University, has been licensed to conduct research as per the provision of the Science, Technology and Innovation Act, 2013 (Rev.2014) in Nairobi on the topic: SELECTED MACRO-ECONOMIC DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN KENYA for the period ending : 16/March/2024.

License No: **NACOSTI/P/23/24236**

108718

Applicant Identification Number

Director General
NATIONAL COMMISSION FOR SCIENCE,TECHNOLOGY & INNOVATION

Verification QR Code

NOTE: This is a computer generated License. To verify the authenticity of this document, Scan the QR Code using QR scanner application.

See overleaf for conditions

THE SCIENCE, TECHNOLOGY AND INNOVATION ACT, 2013 (Rev. 2014)
Legal Notice No. 108: The Science, Technology and Innovation (Research Licensing) Regulations, 2014

The National Commission for Science, Technology and Innovation, hereafter referred to as the Commission, was the established under the Science, Technology and Innovation Act 2013 (Revised 2014) herein after referred to as the Act. The objective of the Commission shall be to regulate and assure quality in the science, technology and innovation sector and advise the Government in matters related thereto.

CONDITIONS OF THE RESEARCH LICENSE

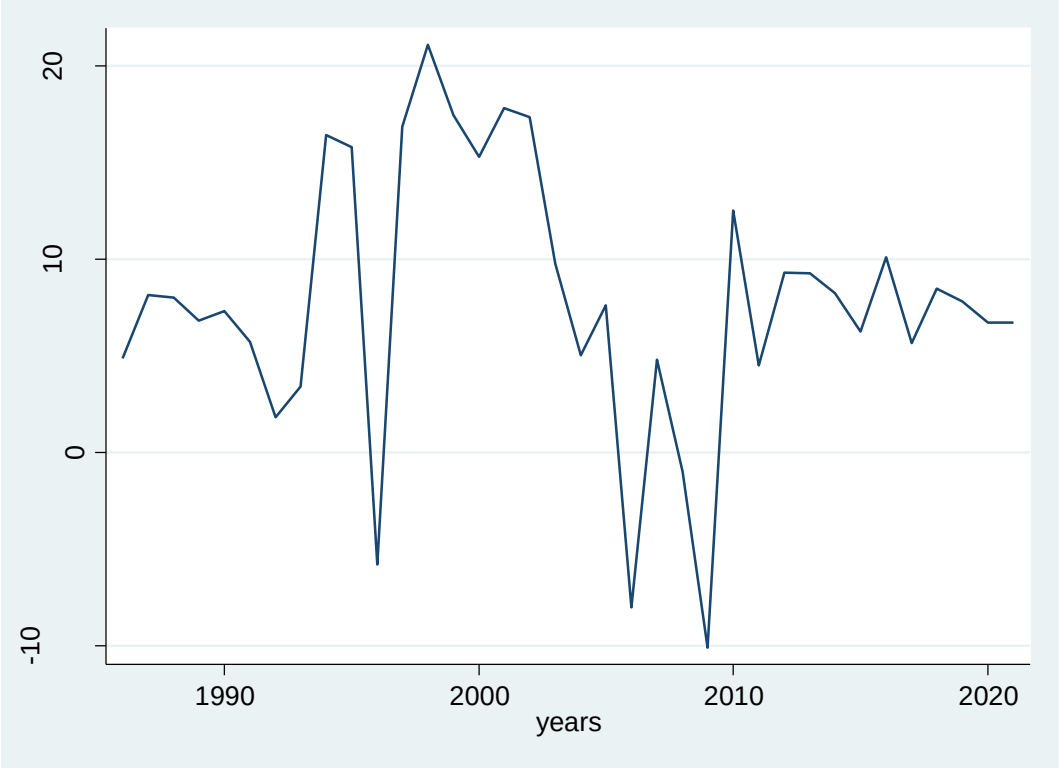
1. The License is granted subject to provisions of the Constitution of Kenya, the Science, Technology and Innovation Act, and other relevant laws, policies and regulations. Accordingly, the licensee shall adhere to such procedures, standards, code of ethics and guidelines as may be prescribed by regulations made under the Act, or prescribed by provisions of International treaties of which Kenya is a signatory to
2. The research and its related activities as well as outcomes shall be beneficial to the country and shall not in any way;
    i. Endanger national security
    ii. Adversely affect the lives of Kenyans
    iii. Be in contravention of Kenya's international obligations including Biological Weapons Convention (BWC), Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO), Chemical, Biological, Radiological and Nuclear (CBRN).
    iv. Result in exploitation of intellectual property rights of communities in Kenya
    v. Adversely affect the environment
    vi. Adversely affect the rights of communities
    vii. Endanger public safety and national cohesion
    viii. Plagiarize someone else's work
3. The License is valid for the proposed research, location and specified period.
4. The license any rights thereunder are non-transferable
5. The Commission reserves the right to cancel the research at any time during the research period if in the opinion of the Commission the research is not implemented in conformity with the provisions of the Act or any other written law.
6. The Licensee shall inform the relevant County Director of Education, County Commissioner and County Governor before commencement of the research.
7. Excavation, filming, movement, and collection of specimens are subject to further necessary clearance from relevant Government Agencies.
8. The License does not give authority to transfer research materials.
9. The Commission may monitor and evaluate the licensed research project for the purpose of assessing and evaluating compliance with the conditions of the License.
10. The Licensee shall submit one hard copy, and upload a soft copy of their final report (thesis) onto a platform designated by the Commission within one year of completion of the research.
11. The Commission reserves the right to modify the conditions of the License including cancellation without prior notice.
12. Research, findings and information regarding research systems shall be stored or disseminated, utilized or applied in such a manner as may be prescribed by the Commission from time to time.
13. The Licensee shall disclose to the Commission, the relevant Institutional Scientific and Ethical Review Committee, and the relevant national agencies any inventions and discoveries that are of National strategic importance.
14. The Commission shall have powers to acquire from any person the right in, or to, any scientific innovation, invention or patent of strategic importance to the country.
15. Relevant Institutional Scientific and Ethical Review Committee shall monitor and evaluate the research periodically, and make a report of its findings to the Commission for necessary action.

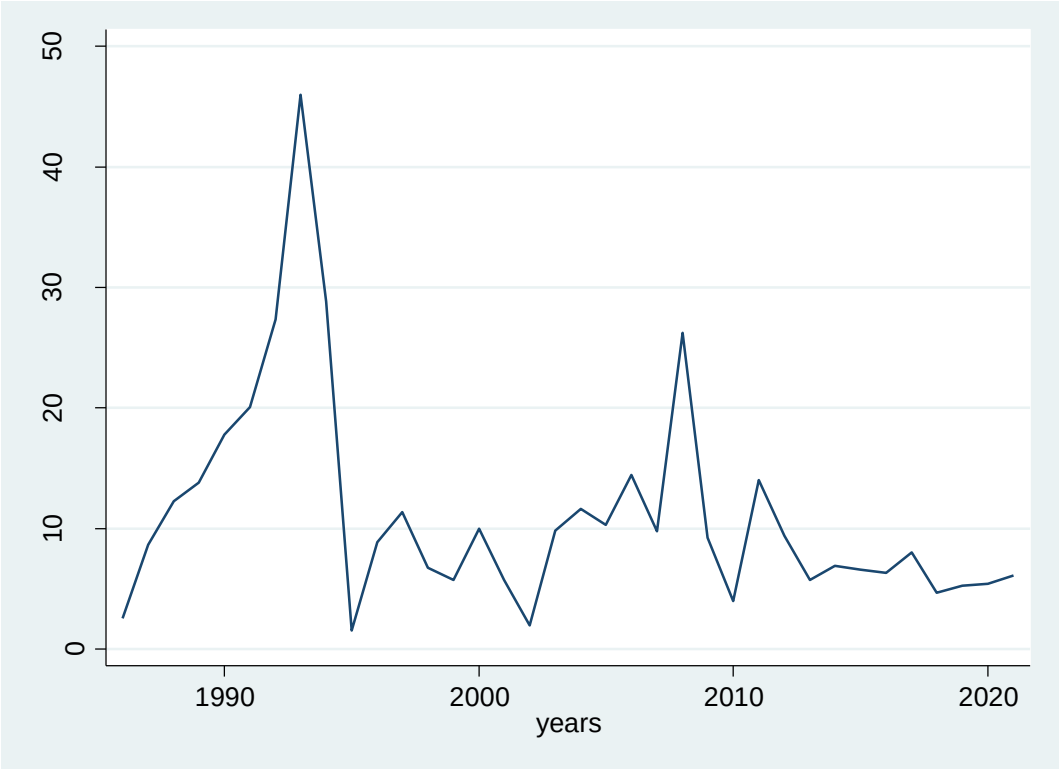
National Commission for Science, Technology and
Innovation(NACOSTI),
Off Waiyaki Way, Upper Kabete,
P. O. Box 30623 - 00100 Nairobi, KENYA
Telephone: 020 4007000, 0713788787, 0735404245
E-mail: dg@nacosti.go.ke
Website: www.nacosti.go.ke

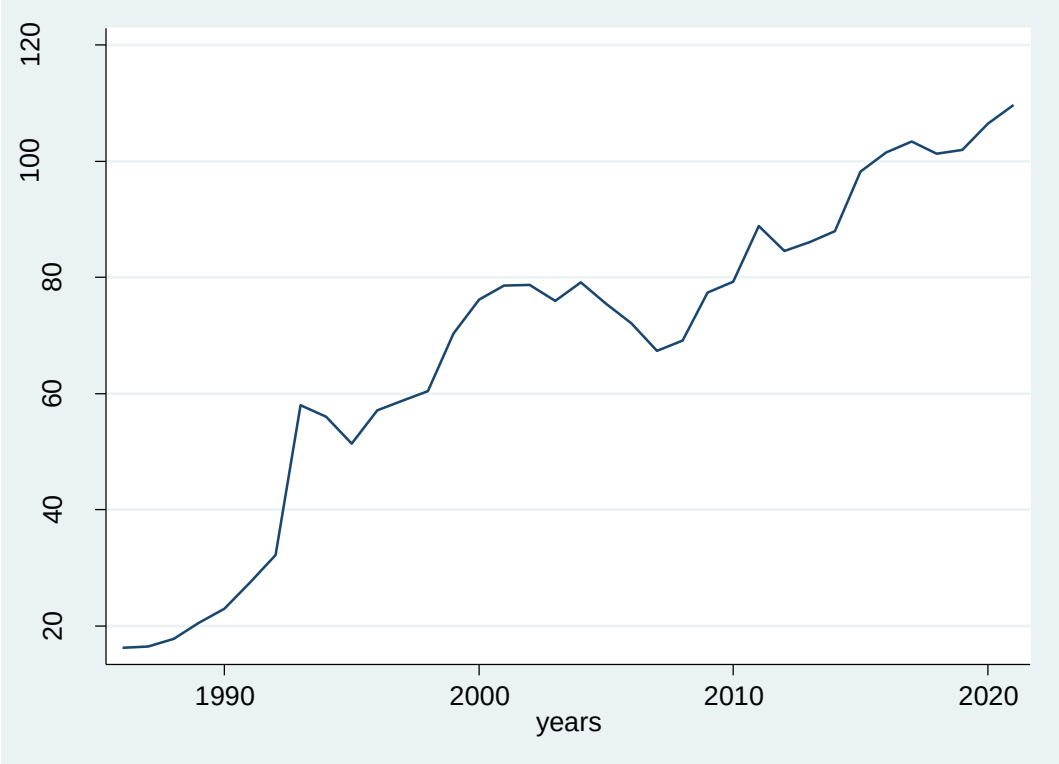
Appendix C: Stata Output

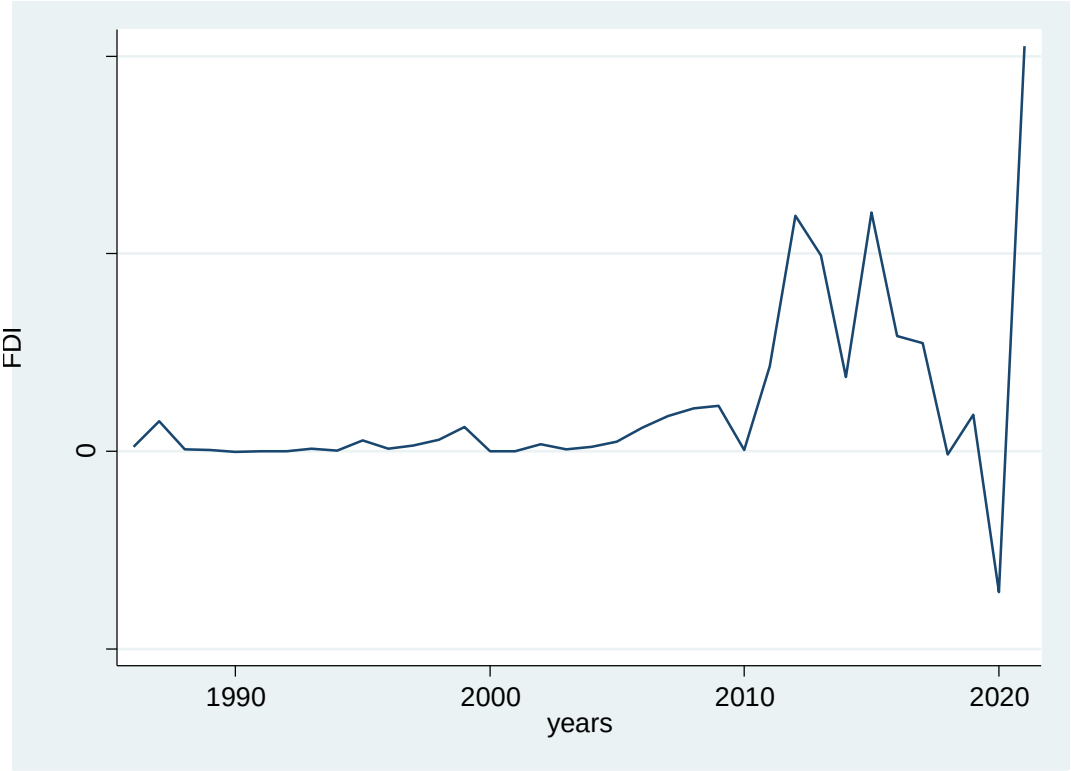
```
. sum fdi exchangerate inflation interest
```

Variable	Obs	Mean	Std. Dev.	Min	Max
fdi	36	4.56e+07	9.51e+07	-1.42e+08	4.10e+08
exchangerate	36	68.46807	27.67619	16.22574	109.6377
inflation	36	11.19071	8.956881	1.554328	45.97888
interest	36	7.845986	6.996322	-10.096	21.09633




0
10
20
30
40
50
1990
2000
2010
2020
years


20
40
60
80
100
120
1990
2000
2010
2020
years



	years	interest	inflation	exchangerate	fdi
years	1.0000				
interest	-0.1095	1.0000			
inflation	-0.3654*	-0.2732	1.0000		
exchangerate	0.9462*	0.0342	-0.3294*	1.0000	
fdi	0.4582*	-0.0606	-0.1643	0.3948*	1.0000

. varsoc fdi exchangerate inflation interest

Selection-order criteria
Sample: 1990 - 2021 Number of obs = 32

lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
0	-2659.46				2.3e+67	166.467	166.527	166.65
1	-2631.97	54.985	16	0.000	1.1e+67	165.748	166.052	166.664

```
  |  2 | -2591.74  80.454   16  0.000  2.6e+66   164.234   164.781   165.883
|
  |  3 |  -2560.3  62.885   16  0.000  1.2e+66   163.269   164.058   165.651
|
  |  4 |  -2524.3  72.004*  16  0.000  4.4e+65*  162.019*  163.051* 165.133*
|
  +--------------------------------------------------------------------------
--+
   Endogenous:  fdi exchangerate inflation interest
    Exogenous:  _cons
. estat imtest, white
. vif

    Variable |       VIF       1/VIF
-------------+----------------------
   inflation |      1.22    0.822856
exchangerate |      1.13    0.888165
    interest |      1.08    0.921898
-------------+----------------------
    Mean VIF |      1.14

. dfuller fdi

Dickey-Fuller test for unit root                Number of obs   =        35

                                 ---------- Interpolated Dickey-Fuller -------
--
                 Test         1% Critical       5% Critical      10%
Critical
               Statistic           Value             Value             Value
--------------------------------------------------------------------------
--
 Z(t)             -3.742            -3.682            -2.972         -2.618
--------------------------------------------------------------------------
--
MacKinnon approximate p-value for Z(t) = 0.0036

. dfuller exchangerate
```

```
Dickey-Fuller test for unit root                Number of obs   =        35

                                ---------- Interpolated Dickey-Fuller -------
--
                 Test         1% Critical       5% Critical      10%
Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
--
 Z(t)             -1.209            -3.682            -2.972         -2.618
------------------------------------------------------------------------------
--
MacKinnon approximate p-value for Z(t) = 0.6695

. dfuller inflation

Dickey-Fuller test for unit root                Number of obs   =        35

                                ---------- Interpolated Dickey-Fuller -------
--
                 Test         1% Critical       5% Critical      10%
Critical
               Statistic           Value             Value             Value
------------------------------------------------------------------------------
--
 Z(t)             -3.167            -3.682            -2.972          -2.618
------------------------------------------------------------------------------
MacKinnon approximate p-value for Z(t) = 0.0220

. dfuller interest

Dickey-Fuller test for unit root                Number of obs   =        35

                                ---------- Interpolated Dickey-Fuller -------
                 Test         1% Critical       5% Critical      10%
Critical
               Statistic           Value             Value         Value
------------------------------------------------------------------------------
 Z(t)             -4.355            -3.682            -2.972         -2.618
------------------------------------------------------------------------------
```

```
MacKinnon approximate p-value for Z(t) = 0.0004

White's test for Ho: homoskedasticity
         against Ha: unrestricted heteroskedasticity

         chi2(9)      =     15.05
         Prob > chi2  =    0.0897

Cameron & Trivedi's decomposition of IM-test

---------------------------------------------------
              Source |       chi2     df      p
---------------------+-----------------------------
  Heteroskedasticity |      15.05      9    0.0897
            Skewness |          .      3         .
            Kurtosis |          .      1         .
---------------------+-----------------------------
               Total |          .     13         .
---------------------------------------------------

. estat dwatson

Durbin-Watson d-statistic( 20,    32) =  1.967104

. estat bgodfrey, lag(1)

Breusch-Godfrey LM test for autocorrelation
-------------------------------------------------------------------------------
    lags(p)  |          chi2               df                 Prob > chi2
-------------+-----------------------------------------------------------------
       1     |          0.029               1                   0.8637
-------------------------------------------------------------------------------

. swilk resid
```

Shapiro-Wilk W test for normal data

Variable	Obs	W	V	z	Prob>z
resid	36	0.93028	2.542	1.951	0.02552

. ardl fdi exchangerate inflation interest, lags(4 4 4 4) aic

ARDL(4,4,4,4) regression

Sample: 1990 - 2021	Number of obs	=	32
	F(19, 12)	=	1841.99
	Prob > F	=	0.0000
	R-squared	=	0.9997
	Adj R-squared	=	0.9991
Log likelihood = -506.70715	Root MSE	=	2.976e+06

fdi	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
fdi						
L1.	-.0393888	.4261559	-0.09	0.928	-.9679027	.8891251
L2.	-.8460007	.4871913	-1.74	0.108	-1.907499	.215498
L3.	-.4200573	.1855808	-2.26	0.043	-.8244031	-.0157116
L4.	-.040609	.2102259	-0.19	0.850	-.4986519	.4174339
exchangerate						
--.	.0066978	.000422	15.87	0.000	.0057783	.0076173
L1.	-.0010866	.0039584	-0.27	0.788	-.0097113	.007538
L2.	.0074402	.0042342	1.76	0.104	-.0017854	.0166657
L3.	5.54e-06	.0012692	0.00	0.997	-.0027599	.002771
L4.	-.000226	.001313	-0.17	0.866	-.0030868	.0026349
inflation						
--.	.0237817	.0054266	4.38	0.001	.0119581	.0356053
L1.	.0304449	.0078837	3.86	0.002	.0132679	.047622
L2.	.0054996	.0125634	0.44	0.669	-.0218736	.0328729

L3.	.0319144	.0112873	2.83	0.015	.0073215	.0565073
L4.	.006035	.0134882	0.45	0.663	-.0233533	.0354233
interest						
--.	.0167409	.0049397	3.39	0.005	.0059783	.0275035
L1.	-.0030653	.006723	-0.46	0.657	-.0177135	.0115828
L2.	.0159475	.0099097	1.61	0.134	-.0056438	.0375388
L3.	.0203652	.0072915	2.79	0.016	.0044783	.0362521
L4.	.0017744	.0078018	0.23	0.824	-.0152243	.0187732
_cons	131066.9	1147124	0.11	0.911	-2368302	2630436

Appendix D: Plagiarism Certificate

SR430

ISO 9001:2019 Certified Institution

THESIS WRITING COURSE

PLAGIARISM AWARENESS CERTIFICATE

This certificate is awarded to

STELLA KAGENDO NDWIGA NDUNG'U

SBE/PGE/2007/15

In recognition for passing the University's plagiarism

Awareness test for Thesis: SELECTED MACROECONOMIC DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN KENYA With a similarity index of 8% and striving to maintain academic integrity.

Word Count: 20,827

Awarded by:

Prof. Anne Syomwene Kisilu
CERM-ESA Project Leader Date: 19/12/2023