

**EFFECT OF INFLATION ON FOREIGN DIRECT
INVESTMENTS IN KENYA**

BY

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

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This research project has been submitted for examination with my approval as the University Supervisor.

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DEDICATION

I dedicate this work to my late mother; Esther Esuron Nakuwa and my children Kyla, Ignatius, Christine and Jackson Samal Jr. I thank you very much for the love, patience and sacrifices that you have made for me. I have been forced to be away from you most of the time and at the hour of need but with your understanding, patience and prayers, we have reached this far.

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LIST OF ABBREVIATIONS

CPI	Consumer Price Index
FDI	Foreign Direct Investments
GDP	Gross Domestic Product
MNC	Multi-National Corporation
SSA	Sub-Saharan Africa
USA	United States of America
USD	United States Dollar

ABSTRACT

The determinants of foreign direct investments have become an important topic not only for governments, policy makers but also for academicians. Both theory and empirical literatures hold that a country's growth has a direct link with the economy, which is made of many variables such as the GDP, remittances, foreign direct investment, interest rate, inflation, exchange rate, money supply, and many others. These variables are the backbone of any economy. Foreign direct investments inflows into a country are influenced by changes in many economic variables. This study sought to determine the effect of inflation on foreign direct investments-in Kenya. The independent variable was inflation measured by quarterly inflation rate. The control variables were interest rates as measured by the Central Bank of Kenya lending rate on a quarterly basis, economic growth as measured by quarterly GDP growth rate and exchange rates as measured by quarterly exchange rate between Ksh and Usd. FDI inflows in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the country on a quarterly basis. Secondary data was collected for a period of 10 years (January 2008 to December 2017) on a quarterly basis. The study employed a descriptive research design and a multiple linear regression model was used to analyze the relationship between the variables. Statistical package for social sciences version 21 was used for data analysis purposes. The results of the study produced R-square value of 0.650 which means that about 65 percent of the variation in FDI inflows in Kenya can be explained by the four selected independent variables while 35 percent in the variation was associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with FDI inflows ($R=0.806$). ANOVA results show that the F statistic was significant at 5% level with an F statistic of 16.260. Therefore the model was fit to explain FDI inflows in Kenya. The results further revealed that individually interest rates, economic growth and exchange rates are not significant determiners of FDI inflows in Kenya while inflation is a significant determiner. This study recommends that there is need for policy makers to regulate inflation levels prevailing in the country bearing in mind that they significantly influence FDI inflows in the country.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Foreign direct investment (FDI) not only offers nations the much-needed resources for domestic investment but also generates job opportunities, aid in transferring managerial expertise and technology all contributing to the advancement of the economy. Most governments have appreciated the critical role FDI plays and have established various ways of attracting it. Economists consider FDI as an essential component of economic progression. The need for better economies, technological advancement, economic growth, poverty eradication and better standards of living has seen Africa's nations endeavor to get Foreign Direct Investments pumped into their economies to help accomplish these (Mishkin & Eakins, 2009).

According to Kadongo (2011), it can be argued that risk averse foreign investors coupled with high levels of inflation will cause decreases in FDI in the host nation since investors are can't will to risk the profits that they expect from their investments. Given high uncertainty levels, investors are bound to demand high price levels in order to offset their exposure to inflationary risks which are bound to lower the volume of investment. Thus as a move to encourage investments, inflation rate stability is important (Gastanaga et al., 1998).

This study was guided by several theories such as the internalization hypothesis and eclectic paradigm theory that strive to explain the determinants of foreign direct investments in a given country. Internationalization theory suggests that licensing has major draw backs as a strategy for entering foreign markets as it does not take full advantage of resources available in the foreign country. The eclectic paradigm that

was championed by British Economist; John Dunning disputed that location-specific advantage has a substantial significance in determining the trend of FDI inflows (Charles, 2008).

Kenya like many other developing nations can count FDI as one of the key agents responsible for its economic growth. Foreign direct investment helps a growing economy to easily absorb spill-over effects. Foreign Direct Investment remittances are the largest form of foreign currencies in Kenya. These remittances totaled \$1691.4 million in 2017. The country relies heavily on the FDI for capital and employment, as is proven by the fact that the majority of banks in Kenya are owned by foreigners. FDI, therefore, is an integral part of the Kenyan economy (UNCTAD, 2017).

1.1.1 Inflation Rate

Inflation is the continued rise in the general price levels of goods and services in an economy over a period of time (Ariss, 2012). Inflation is mainly associated with structural factors such as; high debt obligation and nominal wages in the form of expansionary fiscal deficit and real income reduction caused by fluctuation in oil revenue (Taofik & Omosola, 2013). Changes in available supplies of a product and fluctuations in the demands of goods and services also lead to inflation (Ariss, 2012).

Inflation results lead to loss of the real value for money since it gradually reduces the purchasing power for money. According to Ahmad and Naseem, (2011), the consequences of higher inflation uncertainty include; higher discount rates, lower the discounted present value of expected future cash flows and higher required risk premium which leads to a decline in stock prices. Furthermore, inflation uncertainty significantly influences economic activity and since stock returns affect economic

activity, a negative association exists between inflation uncertainty and stock return (Azar, 2014). However, low and stable inflation rates prevents tax distortions, leads to lower need for costly price adjustments and enables the private sector to plan for the future which stabilize the business environment (Alimi, 2014).

Inflation is treated as a complex economic phenomenon since it represents tangible subjects and not only a macroeconomic variable such as investment and gross domestic product (Shukairi, 2012). According to Mohan and Chitradevi (2014), the common measurement of inflation is Consumer Price Index (CPI) measurement. Saleem, Zafar and Rafique (2013) explain that the rate of inflation is signified by the consumer price index (CPI) that essentially shows a rise in goods prices and service prices overall. The two inflation measures commonly used in Kenya are CPI and inflation deflator. The percentage change in a CPI is used as a measure of inflation, and can be measured monthly, quarterly or annually. The current study will use quarterly CPI as a measure of inflation.

1.1.2 Foreign Direct Investments

Bjorvatvatn (2000) defines foreign direct investment as an investment done to attain a long term investment in a foreign enterprise so as to have a voice in the enterprises management. Foreign direct investment can take three forms, horizontal foreign direct investment which occurs when a company undertakes the same activities abroad as at home, vertical foreign direct investment where different activities are added abroad and conglomerate where a company expands its operations abroad through either Greenfield or Acquisition (O'Connor, 2003).

According to Kariguh (2014), foreign investment is one of the main sources of capital flows in most economies that are still developing as they tend to bridge the gap of capital, managerial skills, technology, and formation of human capital as well as creating an environment for more business competition. However, according to Voorpijl (2011), there are consequences for increasing the FDI inflows whereby the multinationals can exploit the local capabilities more freely. Also, the promotion of private investment rather than public investments by many international donors leaves nothing to the host company when they decide to leave.

Foreign direct investment measurement is based on foreign direct investment stock which is expressed as a percentage of the GDP of a nation. It is normally published at the end of the year with its components being outward foreign direct investment stock that includes residences equity investments and credits to foreign countries and inward FDI stock which is foreigners' equity investment and credits to host economy (Voorpijl, 2011). The problem with this method is that developing economies do not possess the necessary systems and technology to collect these data efficiently. The current study will use percentage quarterly change in FDI inflows as the measure for foreign direct investment inflows.

1.1.3 Inflation Rate and Foreign Direct Investments

A high level of inflation indicates tensions in the economic environment of a country and is a depiction of the reluctance of the government to have a stable monetary policy. It can be argued that risk averse foreign investors coupled with high levels of inflation will cause a decreases in FDI in the host nation since investors are not willing to risk the profits that they expect from their investments (Kadongo, 2011).

Given high uncertainty levels, investors are bound to demand high price levels in order to offset their exposure to inflationary risks which are bound to lower the volume of investment. Thus as a move to encourage investments, inflation rate stability is key (Gastanaga et al., 1998).

Nwankwo (2006) emphasizes macroeconomic strategy weaknesses as deflecting FDI flows from Africa; he points that, poor monetary and fiscal policies cause unsustainable deficits in budgets and increase inflationary pressures thereby raising the production costs in the local country and thus creating instability in exchange rates and thereby the region becomes a risky destination for FDI as well as to make the region too risky as a destination for FDI. Flux in macroeconomic variables as evidenced by high inflation and extreme budget shortages, limits the country's ability to attract FDI.

However, Ayaya (2017) in his study on the effect of public debt on foreign direct investment inflows in Kenya found no linkage between FDI and inflation rates. His study used inflation rate as one of four independent variables that were expected to influence foreign direct investment inflows in Kenya. The results of regression analysis revealed that prevailing inflation rates had no significant effect on foreign direct investment inflows in Kenya. This finding was in support of an earlier research conducted by Wanjiru (2013) that found no significant effect between inflation volatility and foreign direct investment.

1.1.4 Inflation and Foreign Direct Investments in Kenya

According to African Development Outlook launched by African Development bank (2015) due to improved investor preference, investment to Kenya doubled last year.

Consequently, Kenya has asserted its economy as the preferred regional business hub despite facing challenges in security which crippled the tourism sector. As a result of the improved foreign investment to Kenya, the country projects that 160,000 jobs will be created by 2019. The country also intends to create 2,000,000 jobs from direct foreign investment by 2030. Another strategy that the government is undertaking to attract direct foreign investment is through privatization of state owned corporations which improve efficiency and transparency, thus drawing foreign capital into Kenya (UNCTAD, 2016).

In the recent past (between 1997 and 2016), the Kenyan economy has witnessed some significant changes in inflation. Inflation has been varying between a high of 18.96 percent in September 2004 and a low of -0.44 percent in the month of January 1999 (World Bank, 2017). Consumer prices in Kenya rose from 3.73 percent on annual basis in April of 2018, which was lower than the 4.18 percent rise in the previous month. This was marked as the lowest inflation since 2013, as prices for non-alcoholic beverages and food declined despite favorable weather conditions and the stronger currency (CBK, 2018).

Kenya serves as the East African business hub for many international businesses. This translates to a dependence of FDI for capital inflow that in turn reflects on provision of jobs and an economy that is helped to grow by these foreign investments. Kenya's FDI average percentage growth between 2007 and 2016 was forty percent (40%) with the inflows primarily channeled into retail and consumer products, technology, media, telecommunications, minerals, oil and natural gas sector mainly from the UK, USA and India (Ernest & Young, 2016). This growth rate earned Kenya the status of a FDI

hotspot joining other African Countries such as Ghana, Tanzania, Zambia, Uganda, Nigeria, Mozambique, and Rwanda. In 2016, FDI inflows stood at USD 1076.9 million (KES 105.29 billion), up from USD 670 million (KES 65.51 billion) a year earlier which is a sixty per cent (60%) increase. This capital mainly went to oil, gas and the manufacturing industries (UNCTAD, 2016).

1.2 Research Problem

The determinants of foreign direct investments have become an vital topic not only for policy makers in the government but also for academic research (Mahiti, 2012). Both theory and empirical literatures hold that the growth of a country is directly associated with the economy, which consists of variables such as GDP, Remittances, Foreign Direct Investment, rate of interest, Inflation, rate of Exchange , Money supply, among others. FDI inflows movements into a country are influenced by fundamental economic changes and future economic prospects. FDI not only provides growing economies with the required capital for domestic investment, but also facilitates the transfer of managerial skills and technology and creates employment opportunities which all lead to economic development. Appreciating that that FDI can significantly contribute to economic development, the world market for this type of investment is extremely competitive and Kenya, particularly, aspire such investment to accelerate the country's development efforts (Mitullah, 2010).

Kenya has a long standing rich history with foreign firms dating back to the 1960s. For years Kenya has been seen as an attractive destination for foreign investors seeking to invest in the greater East and Central Africa region. However, the country has also seen multinational corporations that had well established operations in the

country leaving in unclear circumstances and this has negatively affected FDI inflows into the country. Sameer Africa bowed out in September 2016, in a bid for cheap and subsidized imports, in 2014, Eveready East Africa closed its Nakuru manufacturing plant to start battery import from its affiliate in Egypt due to tight competition from cheap illegal import and after two weeks, Cadbury Kenya exited the Kenyan market. This has been followed by subsequent exit of Kenyan market by companies such as Bridgestone, Procter and Gamble, Unilever, Johnson and Johnson, Colgate Palmolive and Reckitt Benckiser. Experts have attributed these exits to macro-economic variables such as inflation and this study will seek to investigate whether indeed inflation influences FDI inflows.

Empirical evidence is largely inconsistent and quite varied on the main determining factors of FDI inflows. Okafor (2012) evaluated whether home macroeconomic variables had material effect on foreign direct savings inflow in Nigeria. The outcome indicated that actual gross domestic product, rate of interest, and actual rate of exchange are key indicators of foreign direct investment in Nigeria. Omweri (2013) studied the factors determining foreign direct investment stock in the five countries of the East African Community, Kenya Uganda, Tanzania, Rwanda and Burundi, to find out why the region was recording very low increase of FDI. The study's findings showed that trade openness, inflation, and infrastructure facilities were the most crucial determinant factors of foreign direct investment to EAC countries. Mahiti (2012) investigated the factors that determine international corporate investments and found that infrastructure mainly in the transport sector plays a major role in attracting more foreign direct Investments.

Locally, several studies were conducted on the FDI in Kenya. Kinuthia (2010) investigated the determinants of FDI in Kenya. The study's findings revealed that most Kenyan foreign firms are marketing firms and the most important determinants are market size, economic and political stability, favourable climate and bilateral trade agreements. Wanjiru (2013) examined the impact of inflation volatility and growth of economy on FDI in Kenya. The findings revealed that no association exists between FDI and inflation, whereas a negative association exists between FDI and gross domestic product. Kiplagat (2016); Mbuyi (2017) and Bett (2017) carried out studies to establish the impact of interest rates on FDI. They concluded that interest rates have a negligible positive link with FDI that cannot be used to determine the extent of Kenyan FDI inflows. From the foregoing, it is evident that many studies have been carried out to investigate the determinants of foreign direct investments in the Kenyan context but most of them have not focused on inflation rates as a determinant. Although the study by Wanjiru (2013) focused on this relationship, she used a regression model which has its shortcomings such as erroneous and misleading results when the variable values change. The current study will seek to establish the effect of inflation rates on FDI inflows using a Vector Error Correction Model (VECM). The study intends to answer the subsequent research question; what is the effect of inflation on foreign direct investments in Kenya?

1.3 Objective of the Study

To determine the effect of inflation on foreign direct investments in Kenya

1.4 Value of the Study

The findings of this research forms a reference basis to researchers, scholars and students in the same area of study. The study will be valuable to them in identifying areas that need more research in the view of literature reviews and identifying existing gaps.

The findings are hoped to be of benefit to policy makers in developing investment strategy policies and developing the necessary institutional framework required to market Kenya as an ideal foreign investment destination. Also, it will help them in coming up with monetary policies that ensure maintaining inflation rates that are consistent with the objective of attracting foreign direct investments.

The research findings will benefit international investors in making informed decisions in venturing into the Kenyan Market. Investors with an interest in the Kenyan market will be able to make informed evaluation with regard to the influence of inflation on foreign direct investments in the country.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter reviews theories that form the foundation of this study. In addition, previous empirical studies that have been carried before on this research topic and related areas are also discussed. The other sections of this chapter include determinants of foreign direct investments, conceptual framework showing the relationship between study variables and a literature review summary.

2.2 Theoretical framework

The section presents a review of the relevant theories that explain the associations between inflation and foreign direct investment inflows. The theoretical reviews covered are; internalization theory, eclectic paradigm and the product lifecycle theory.

2.2.1 Internalization Theory

This theory was advanced by Casson and Buckley in 1976. Further development of the theory was by Hennart (1982) and benefitted from additional works of Casson (1983). The theory explains the growth of multinational corporations and their motivations. It demonstrates that multinational corporations organize their internal activities to achieve specific advantage and exploit them to enhance its competitiveness. According to Hymer (1976), FDI will occur only when the exploitation of firm specific advantage supersede the relative cost of investing abroad. In summary, he implies that FDI occur in imperfect markets and it is simply a strategy decision at firm level rather than a financial decision of the capital market.

Casson and Buckley (1976) argue that an FDI is only attractive if the ownership, location and internalization (OLI) conditions are met. First, the multinational must have an ownership advantage compared to the local firm's ownership. This may be in form of the multinational's specific organizational or technological knowledge. The government policies likely on the benefits of investing in a certain host country are also vital. In some cases the host government may pose regulations concerning the nature of foreign ownership. Such restrictions in effect reduce FDI inward inflows which will be accompanied by technology. Secondly, it must be advantageous for the multinational companies as well as other investors to produce in the host country if they can benefit from some comparative locational advantage. Secondly, it must be advantageous for the multinational companies as well as other investors to produce in the host country if they can benefit from some comparative locational advantage. Finally, it should be suitable to execute the activities within the host countries, as opposed to leasing or buying them from other firms. This theory is relevant to the current study as it acknowledges there exist some factors in the host country that determine whether there will be foreign direct investment inflows or not. This study seeks to investigate whether inflation rates are some of the factors that influence FDI inflows.

2.2.2 Eclectic Paradigm Theory

Dunning (1993) came up with this theory which is in itself a mix of three different but correlated theories. These theories are ownership, location and internalization (OLI) which are used to describe how the factors therein contribute to changes in foreign direct investments. Ownership related advantages are those provided by intangible assets. These assets must however be considered as exclusive possessions held and

owned by the company and are transferable to other firms at prices that would lead to reduction of costs to the company, or would lead to the company registering high rates of return. In his arguments, Dunning (2005) argues that when all other factors are held constant, a company with a higher level of competitive advantages, in comparison with its competitors, has a higher chance in increasing its overall production and hence increasing its global presence.

Location benefits, as explained by Denisia (2010) are used to compare the different economies, as per their strengths and opportunity. The end result of this analysis is that the most suitable country is selected to be a host country for the activities of multinational firms. The correlation existing between location and ownership advantages is that when a multinational corporation is able to host itself in the most suitable economy, it is now able to engage in the exploitation of its ownership related abilities, and thus leading to the firm engaging in foreign direct investment.

Internalization establishes a need for the firm to be able to have an established business in each of the economies that the company sells its products or services. The firm must derive ways through which it can benefit further through foreign production as compared to the meager fees that are earned in international trade activities such as exporting and franchising. Dunning (2005) states that a corporation is more likely to get higher returns if it engages in foreign production as opposed to the extension of its production rights to other countries. The eclectic paradigm is therefore in support of the establishment of production markets by a corporation through exploitation of its competitive advantages and the selection of suitable locations. In doing this, the corporations are not only engaging in foreign direct investments but also gaining

much more than their competitors. The current study aims to investigate whether prevailing inflation rates in a given country determine FDI inflows.

2.2.3 Product Lifecycle Theory

Vernon (1966), defines production life cycle as a process that consists of four phases of production which include innovation, growth, maturity and decline. A business entity would first come up with an idea about a product or a service. The product or idea then goes through a growth stage and finally attains maturity. It then begins to decline. The product decline is mainly caused by competition in the market place as well as inability of the business to innovate. Companies that are directly involved in FDI bring production equipment to foreign countries so as to be near the target market and ensure a sustainable market share is attained and maintained (Dunning, 1993).

The production life cycle described by Vernon is typically applied in countries that are engaged in manufacturing and exporting products. Sometimes, the countries may lose the market share to competitors who imitate the products and end up being the main exporters of the product. The theory explains that diffusion of technological innovations takes place at a much slower rate. As a result, differences are likely to occur in terms of the production technologies used by different countries. However, it is important to emphasize that the production life cycle described by Vernon is only applicable to certain kinds of products especially those targeting high income earners and products that have alternative labor and capital sources. Critiques have argued that Vernon's theory is silent on industrial innovation which is important in taking transitional advantages on innovations that require a significant amount of rent to develop (Dunning, 1993).

Vernon's evaluation of foreign direct investment solely focused on a product. A summary of the process shows that a product is first invented in the home country. The home country, where the foreign investor resides has advantages in terms of innovation and technology capabilities. The innovator produces local market product first which is later exported to foreign countries with little innovative capacity and technology to develop similar products. Consequently, the product becomes standardized and eventually matures. At this stage of the product development, labor becomes and critical production input. Consequently, the investor has to attract value input from local materials and people in the foreign country. As a result, FDI is viewed as a critical stage in the product development life cycle (Chen, 1983). This theory is relevant to the current study as it recognizes a firm's lifecycle stage as the main determinant of FDI inflow. If this theory holds, then inflation rates would not be significant determiners of FDI inflows in a given country.

2.3 Determinants of Foreign Direct Investments

FDI involves real assets and this ensures that an investor will be active in managing the assets he is acquiring. A number of issues exist which cause the attractiveness of one country to be more than the other and these factors can also vary from one period to another. These determinants have contributed to studies on why some given countries are more prosperous than others nations in attracting FDI. Quite many researches have been carried out on the determinant factors of FDI but so far there is yet to be a definite consensus. The different approaches to the determinants of FDI do not cancel each other out but expound on various issues of a similar phenomenon (Kinuthia, 2010).

2.3.1 Inflation

In order to manage the macroeconomic environment and fiscal governance, inflation is very key. It is determined by shifts in the consumer price index which is essentially a weighted average price of goods and services consumed (Nwankwo, 2006). Tensions in the economic environment of a nation occurs when the inflation level is high and it depicts the government's reluctance to have a stable monetary policy. It can be argued that risk averse foreign investors coupled with high levels of inflation will cause decreases in FDI in the hosting nation since investors are not willing to risk the profits that they expect from their investments (Kadongo, 2011).

Given high uncertainty levels, investors are bound to demand high price levels in order to offset their exposure to inflationary risks which are bound to lower the volume of investment. Thus, as a move to encourage investments, inflation rate stability is paramount (Gastanaga et al., 1998). Nwankwo (2006) has stressed macroeconomic policy failures as deflecting FDI flows from Africa; he points that, poor monetary and fiscal policies cause unsustainable deficits in budgets and increase inflationary pressures thereby raising the production costs in the local country and thus creating instability in exchange rates and thereby the region becomes a risky destination for FDI (Onyeiwu & Shrestha, 2004).

2.3.2 Interest Rates

Agiomirgianakis (2003) explained FDI as capital inflow into a nation due to investment from multinational business entities. From the economic theory, financial resources have a tendency to flow to nations that have a higher return on investment as compared to countries with lower rates of return (Pholphirul, 2002). Consequently,

investment is higher in nations that give better returns on investment and security in terms of lower rates of interest and a better environment of business. Therefore, capital tends to move from nations with low rate of return to nations with high rate of return.

Singhania (2011) argues that interest rates are normally adjusted to reflect changes in inflation. As a result, interest rates are critical determinants of foreign direct investment. Traditionally, investors will shop for low cost credit sources or lower rates of interest and invest it in economies that promise higher returns. According to Vesarach (2014), who conducted a study on the role of interest rates in attracting FDI in the Asian economies; the results showed that the determinants of FDI are interest rates, inflation, GDP, exchange rates, labor cost, money growth and political rights. The researcher concluded that countries should offer competitive interest rates to attract foreign direct investments in their country.

2.3.3 Exchange Rates

Exchange rate is an essential component affecting FDI. Asiedu (2002) stated that different currency areas were responsible for the generation of FDI. Dunning stated that greater fixed capital stakes of an investment showed the possibility of taking into account future movements in exchange rates (Dunning, 1993). Goldberg (2011) agrees that exchange rates volatility impact location decisions of MNCs. Other research indicates that exchange rate risk contributes significantly in explaining FDI (Gastanaga et al., 1998).

Exchange rate volatility may negatively affect and reduce direct investment. Gastanaga et al., (1998) based on an analysis of macroeconomic factors, institutional

and legal frameworks and risk in determining FDI, proved that market size, fiscal deficit, inflation and exchange regime and trade openness were all significant. According to earlier research, exchange rate movements have shown to be relevant and significant to FDI because exchange rate volatility contributes directly to uncertainty in the transaction plan from the countries investing (Behera, 2008).

2.3.4 Economic Growth

Many scholars have been attracted to the issue on the role played by economic development in attracting foreign direct investment. According to Charkrabarti (2001) better improved opportunities for gaining profits are attributed to by a rapidly growing economy as compared to those that are growing slowly or not increasing at all. Mishkin and Eakins (2009) find a high outcome of growth on FDI, while Gastanaga et al., (1998) gains a stiff back up for the hypothesis between 1983 and 1986, but only a weak link between 1975 and 1978.

Basing on the same guidelines, Aoki (2007) established that for the less developed countries, a weak positive and negative relationship exists for the developed countries. Asiedu (2002) asserted that lagged growth for the full sample and non-Sub-Saharan African countries are affected positively, whereas there the Sub-Saharan Africa sample has an insignificant impact. Gastanaga et al., (1998) found significant positive effects of growth on FDI.

2.4 Empirical Review

Many empirical studies both locally and internationally support the Association between inflation and foreign direct investments, but these studies have produced mixed results.

2.4.1 Global Studies

Omweri (2013) studied the determinant factors of foreign FDI stock in the five countries of the East African Community i.e. Uganda, Kenya, Tanzania, Burundi as well as Rwanda to find out why the region was recording very low increase of FDI. The research employed panel data analysis methods. The study used trade openness, Gross Domestic Product per Capita, Gross Domestic Product growth, telephone line (per 100 people); a proxy for infrastructural facilities, inflation, return on investment and natural resource endowment as independent variables and the stock of FDI as the dependent variable. The analyzed data was between 1991 and 2012. The study's findings showed that trade openness, inflation, and infrastructure facilities were the most crucial determinant factors of foreign direct investment to EAC countries.

Okafor (2012) studied the value of domestic macroeconomic variables influence the Nigerian FDI inflows. Prediction that foreign capital flows could stimulate economic growth of nations is the major finding of the study. The study used ordinary least square method as an estimation technique. Foreign direct investment in Nigeria is majorly determined by real gross domestic product, interest rate, and real exchange rate as per the findings. FDI inflow is majorly determined by domestic macroeconomic variables. The benefits and flow of the Nigerian FDI can be achieved when policy makers should strive to improve the macroeconomic environment.

Parajuli (2012) observed the association between the foreign direct investment, exchange rate and trade in the developing economy of Mexico from the Organization for Economic Corporation and Development countries and how exchange rates and the volatility of exchange rates impact the flow of FDI from 1994 to 2008. The results showed a positive correlation between the expectations of exchange rates and FDI.

The exchange rate coefficient variables showed that appreciation in the home currencies encourage outward FDI flows from members of OECD countries to Mexico.

Piteli (2009) conducted a study on the determinant factors of FDI by multinational corporations (MNCs) in developed economies. Using the estimated equation derived from economic theory, which compares the main determinants of demand and supply-side of FDI, the researcher compared between EU and non-EU countries. Application of different proxies for demand and supply-side factors, comparison between European and non-European developed countries and testing for the relative importance of total factor productivity (TFP) as a determining factor of FDI are the ways in which these research contributes to literature. The findings indicate the value of TFP as the determining factor par excellence of FDI in developed countries.

Bende - Nabende (2008) studied the macro locational as determinant factors of FDI in Sub-Saharan Africa (SSA) by carrying out an analysis of long-run relationships between FDI and its determinants. The study used not only individual country data but also panel data analyses techniques which comprised of 19 SSA states over the 1970 - 2000 periods. The study found out that market size and real effective exchange rates are the main determinants of FDI followed by openness of the economy. The study further found that liberalization of FDI regimes and broadening of export bases improves the long-run FDI position.

2.4.2 Local Studies

Bett (2017) sought to investigate the effect of rates of interest on foreign direct investments inflows in Kenya. The independent variable was interest rates as

measured by quarterly CBK lending rate. The control variables were inflation rates as measured by quarterly CPI, exchange rates as measured by quarterly exchange rate between KSH/USD and economic growth as measured by quarterly GDP. FDI inflows in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the country on a quarterly basis. Secondary data was collected for a period of 10 years (January 2007 to December 2017) on a quarterly basis. Descriptive research design was used and a multiple linear regression model was applied in analyzing the relationship between the variables. Further, it was revealed that individually, interest rate, inflation rates, exchange rates and economic growth are not significant determiners of FDI inflows in Kenya.

Mbui (2017) sought to investigate the impacts of rates of interest on FDI inflows in the energy and petroleum industry in Kenya. The independent variable was interest rates as measured by quarterly CBK lending rate. The control variables were economic growth as measured by quarterly GDP, inflation rates as measured by quarterly CPI and exchange rates as measured by quarterly exchange rate between ksh and usd. FDI inflows into the energy and petroleum industry in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the energy and petroleum industry on a quarterly basis. Secondary data was collected for a period of 10 years (January 2007 to December 2016) on a quarterly basis. Descriptive research design was used and a multiple linear regression model was applied in analyzing the relationship between the variables. It was revealed that individually, interest rate and exchange rates are not significant determiners while economic growth and inflation rates of FDI inflows into the energy and petroleum industry in Kenya are significant.

Kibugu (2017) sought to determine the effect of cost of labour on foreign direct investments inflows in Kenya. The independent variable was cost of labour as measured by hourly wage on a quarterly basis. The control variables were economic growth as measured by quarterly GDP, exchange rates as measured by quarterly exchange rate between KSH/USD and inflation rates as measured by quarterly CPI. FDI inflows in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the country on a quarterly basis. Secondary data was collected for a period of 10 years (January 2007 to December 2016) on a quarterly basis. The results revealed that individually, interest rates, economic growth, are not significant determiners of FDI inflows while exchange rates and inflation rates were found to be statistically significant determiners of FDI inflows in Kenya.

Kiplagat (2016) conducted a study to determine the effect of interest rates on Kenyan FDI. The study employed the descriptive research design to establish the association between interest rates and FDI in Kenya. The 44 data points constituted the sample frame which included time series annual data of both the independent and dependent variables from the period 1971 to 2014. FDI while the dependent variable whereas inflation, interest rates, GDP and exchange rates were the independent variables. The data utilized was collected from secondary sources and analyzed using SPSS version 17.0. Descriptive and inferential data analysis were applied in analyzing the data. The study's overall findings and conclusion was that there is a positive correlation between interest rates and inflation with FDI although negligible in ascertaining the FDI inflows' level in Kenya.

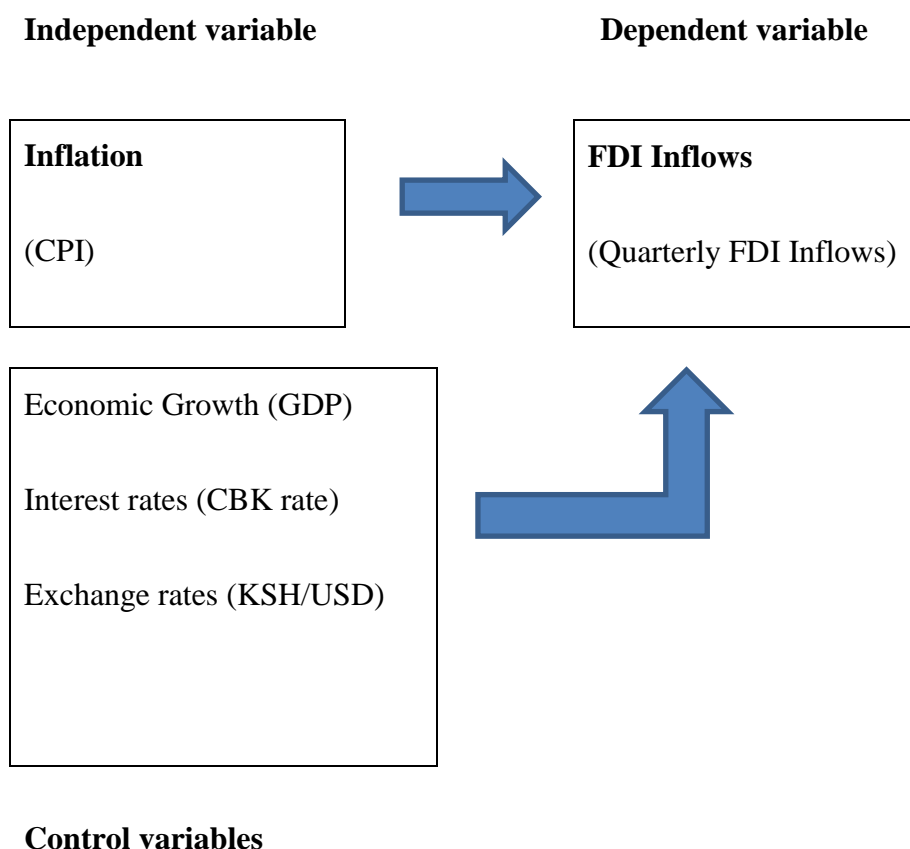
Wanjiru (2013) examined the effects of volatility of inflation and growth in the economy on FDI. FDI was treated as the dependent variable while GDP and inflation

was considered the independent variables. The association between inflation, FDI and GDP flows was established through linear regression analysis. The findings suggest that there is no connection between FDI and inflation, whereas there is a negative connection between FDI and GDP. This study emphasized on the intervening effect of inflation on the impact of economic growth on FDI.

2.5 Conceptual Framework

The conceptual model developed below portrays the expected relationship between the study variables.

Figure 2.1: The Conceptual Model



Source: Researcher (2018)

The factors characterized here are inflation rates and foreign direct investments. The independent variable is inflation rate as measured by quarterly CPI. The control variables are interest rates as measured by CBK quarterly lending rate, exchange rates as measured by quarterly exchange rate between KSH and USD and economic growth as measured by quarterly GDP. Foreign direct investment is the dependent variable which the study seeks to explain and it will be measured by quarterly FDI inflows.

2.6 Summary of the Literature Review

The chapter has focused on the theories that form the foundation for this study. The theories discussed here are namely; product life cycle theory, internalization theory and the eclectic paradigm theory. The chapter has also focused on some of the factors that are expected to determine foreign direct investments. There have been previous studies carried out either in this area and/or related areas and their findings have been discussed under empirical review. From the foregoing, it is evident that many researches have been carried out to investigate the determinants of foreign direct investments in the Kenyan context but these studies have focused on other determinants of FDI other than inflation (Bichanga, 2016; Njuguna; 2016; Kiplagat, 2016; Mbui; 2017 and Ruhii, 2017). It is this gap in literature that the research sought to leverage on by studying the effect of inflation on foreign direct investments in Kenya. The study intended to answer the subsequent research question; what is the effect of inflation on foreign direct investments in Kenya?

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines how the research was carried out. The chapter has four sections namely; research design, data collection, diagnostic tests and analysis of data.

3.2 Research Design

In this study a descriptive research design was applied to determine the effect of inflation on FDI inflows in Kenya. Descriptive design was utilized as the researcher is interested in finding out the state of affairs as they exist (Khan, 2008). This research design was appropriate for the study as the researcher is familiar with the phenomenon under investigation but wants to know more in terms of the nature of relationships between the study variables. In addition, a descriptive research aims at providing a valid and accurate representation of the study variables and this helps in responding to the research question (Cooper & Schindler, 2008).

3.3 Data Specification

Data used for the study was the FDI remittances into Kenya per quarter, average inflation rate per quarter, average exchange rate (KSH/USD) per quarter, average CBK lending rate per quarter and economic growth per quarter for the period between January 2008 and December 2017.

3.4 Data Collection

Data was exclusively collected from a secondary source. The study used secondary data from KNBS publications as well as from the CBK website. The quantitative data collected included total FDI remittances into Kenya from 2008 to 2017 collected on a

quarterly basis. Data on interest rates and exchange rates was collected from the CBK website on a quarterly basis from 2008 to 2017. Data on inflation was the CPI while data on economic growth was Kenya's GDP, both collected for every quarter from 2008 to 2017 from KNBS.

3.5 Diagnostic Tests

The linearity test was obtained through the scatterplot testing or F-statistic in ANOVA. Stationarity test is a process where the statistical properties such as mean, variance and autocorrelation structure do not change with time. Stationarity was obtained from the run sequence plot. Normality is a test for the assumption that the residual of the response variable are normally distributed around the mean. This was determined by Shapiro-walk test or Kolmogorov-Smirnov test. Autocorrelation is the measurement of the similarity between a certain time series and a lagged value of the same time series over successive time intervals. It was tested using Durbin-Watson statistic (Khan, 2008).

Multicollinearity is said to occur when there is a nearly exact or exact linear relation among two or more of the independent variables. This was tested by the determinant of the correlation matrices, which varies from zero to one. Orthogonal independent variable is an indication that the determinant is one while it is zero if there is a complete linear dependence between them and as it approaches to zero then the multicollinearity becomes more intense. Variance Inflation Factors (VIF) and tolerance levels were also be carried out to show the degree of multicollinearity (Burns & Burns, 2008).

3.6 Data Analysis

After collecting data from different sources, it was organized in a manner that can help address the research objective. Statistical Package for Social Sciences (SPSS) version 22 was utilized for the analysis of data. Both descriptive and regression analyses were carried out. In descriptive statistics, the minimum, maximum, mean, standard deviation, skewness and kurtosis was computed for each variable. In inferential statistics, both regression and correlation analysis were carried out. Correlation analysis involved determining the extent of relationship between the study variables while regression analysis involved establishing the cause and effect between the independent and dependent variables. A multivariate regression analysis was used to determine the association between the dependent variable (foreign direct investments) and independent variables: inflation rate, economic growth, exchange rate and interest rate.

3.6.1 Analytical Model

Using the collected data, the researcher conducted a regression analysis to establish the extent of the relationship between inflation rates and foreign direct investments. The study applied the regression model below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon.$$

In which: Y = Foreign direct investments as measured by natural logarithm of FDI inflows on a quarterly basis

β_0 = y intercept of the regression equation.

β_1, β_2 and β_3 , =are the slope of the regression

X_1 = Average quarterly inflation rate as measured by CPI

X_2 = Average quarterly exchange rate between USD and Ksh in natural logarithm form. The researcher will use the USD because it is most traded foreign currency

X_3 = Economic growth as measured by quarterly GDP growth rate

X_4 = Quarterly interest rates as measured by CBK lending rate

ε =error term

3.6.2 Tests of Significance

The researcher carried out parametric tests to establish the statistical significance of both the overall model and individual parameters. The F-test was used to determine the significance of the overall model and it was obtained from Analysis of Variance (ANOVA) while a t-test was used to establish statistical significance of individual variables.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

The chapter presents the results and findings of the study based on the research objective. Using descriptive statistics, correlation analysis and regression analysis, the results of the study are presented in the form of tables for easy interpretation.

4.2 Diagnostic Tests

Before conducting a regression model, diagnostic tests were carried out. The tests carried out were the Heteroscedasticity tests, Multicollinearity tests and Autocorrelation test. These tests are conducted so as not to get faulty regression results.

4.2.1 Autocorrelation Test

Serial correlation tests were run for checking for correlation of error terms across time periods. Serial/auto correlation is tested by use of the Breusch-Godfrey serial correlation LM test. The null hypothesis is that no first order serial /auto correlation exists. The p value of 0.1792 means that we don't dismiss the null hypothesis of no serial correlation and conclude that serial correlation doesn't exist. Data do not suffer from serial correlation which is desirable. Table 4.1 displays the findings

Table 4.1: Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.848674	Prob. F(4,26)	0.1792
Obs*R-squared	3.871241	Prob. Chi-Square(2)	0.1443

Source: Research Findings (2018)

4.2.2 Heteroscedasticity Test

Heteroscedasticity test was run for testing if the error terms are correlated across observation in the time series data. The error terms from a regression model need to have a constant variance called Homoskedastic. Thus to ensure if the residuals meet this criteria the Breusch-Pagan test was used for Heteroskedasticity where the null hypothesis under this test is that residuals are Homoskedastic. If the p-value is >0.05 , there is constant variance. The null hypothesis was thus not rejected at a critical p value of 0.05 since the reported value was 0.4851. Thus the data didn't suffer from statistically significant heteroscedasticity as revealed in Table 4.2.

Table 4.2: Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.744004	Prob. F(4,26)	0.4851
Obs*R-squared	1.569856	Prob. Chi-Square(2)	0.4562
Scaled explained SS	2.407661	Prob. Chi-Square(2)	0.3000

Source: Research Findings (2018)

4.2.3 Multicollinearity Test

A test of Multicollinearity was undertaken. Tolerance of the variable and the VIF value were used where values more than 0.2 for Tolerance and values less than 10 for VIF implies that there is no Multicollinearity. For multiple regressions to be applicable there should not be strong relationship among variables. From the findings,

all the variables had a tolerance values >0.2 and VIF values <10 as shown in table 4.3 indicating that there is no Multicollinearity among the independent variables.

Table 4.3: Multicollinearity Test for Tolerance and VIF

Variable	Collinearity Statistics	
	Tolerance	VIF
Inflation	0.398	1.982
Interest rates	0.360	1.382
Economic growth	0.392	1.463
Exchange rates	0.646	1.434

Source: Research Findings (2018)

4.4 Descriptive Analysis

Descriptive statistics gives a presentation of the mean, maximum and minimum values of variables applied together with their standard deviations in this study. Table 4.4 below shows the descriptive statistics for the variables applied in the study. An analysis of all the variables was obtained using SPSS software for the period of ten years (2008 to 2017) on a quarterly basis. FDI inflows had a mean of 49.695 with a standard deviation of 36.252. Inflation had a mean of 8.556 and standard deviation of 3.721. Interest rate had a mean of 15.810 and a standard deviation of 1.955. Economic growth resulted to a mean of 6.215 with a standard deviation of 3.488 while exchange rate resulted to a mean of 1.939 with a standard deviation of 0.055.

Table 4.4: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
FDI inflows	40	17.480	210.920	49.69500	36.251814
Inflation rate	40	4.030	16.830	8.55850	3.720589
Exchange rate	40	1.797	2.015	1.93938	.055269
Interest rate	40	13.653	20.213	15.80990	1.954510
Economic growth	40	.300	12.500	6.21500	3.487895
Valid N (listwise)	40				

Source: Research Findings (2018)

4.3 Correlation Analysis

Pearson correlation was employed to analyze the level of association between FDI inflows and the independent variables for this study (rates of inflation, rates of interest, economic growth and foreign exchange rates). From correlation analysis, the relationship between inflation and FDI inflows was found to be strong and negative ($r = -.798$, $p < 0.005$). This implies that movement in the inflation rate is negatively correlated to FDI inflows and in a significant manner.

The relationship between economic growth and FDI inflows was found to be weak, positive and insignificant ($r = .152$, $p > 0.005$). This implies that movement in economic

growth is positively correlated to FDI inflows but not in a significant manner. The study further revealed that there is a strong negative correlation between exchange rates and FDI inflows ($p = -.637, p < .005$). This shows that exchange rates have a strong negative association with FDI inflows and the association is significant. The relationship between interest rate and FDI inflows was found to be weak, positive and insignificant ($p = .053, p > 0.005$). This implies that movement in interest rates is positively correlated to FDI inflows but not in a significant manner.

Table 4.5: Correlation Analysis

		FDI inflows	Inflation rate	Exchange rate	Interest rate	Economic growth
FDI inflows	Pearson Correlation	1	-.798**	-.637**	.053	.152
	Sig. (2-tailed)		.000	.000	.745	.350
	N	40	40	40	40	40
Inflation rate	Pearson Correlation	-.798**	1	.640**	.201	-.092
	Sig. (2-tailed)	.000		.000	.214	.571
	N	40	40	40	40	40
Exchange rate	Pearson Correlation	-.637**	.640**	1	.416**	.056
	Sig. (2-tailed)	.000	.000		.008	.730

N	40	40	40	40	40
Pearson Correlation	.053	.201	.416**	1	.367*
Interest rate Sig. (2-tailed)	.745	.214	.008		.020
N	40	40	40	40	40
Pearson Correlation	.152	-.092	.056	.367*	1
Economic growth Sig. (2-tailed)	.350	.571	.730	.020	
N	40	40	40	40	40

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Source: Research Findings (2018)

4.5 Regression Analysis

FDI inflows were regressed against five predictor variables; rates of inflation, rates of interest, growth in the economy and rates of exchange. The study obtained the model summary statistics as shown in table 4.6 below.

Table 4.6: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.806 ^a	.650	.610	22.634773	1.668

a. Predictors: (Constant),), Growth in economic , rate of exchange, rate of interest, rate of inflation

b. Dependent Variable: FDI inflows

Source: Research Findings (2018)

From the outcome in table 4.5 above, the value of R square was 0.650, a discovery that 65 percent of the deviations in FDI inflows into the country are caused by changes in inflation rates, interest rates, economic growth and exchange rates. Other variables not included in the model justify for 35 percent of the variations in FDI inflows to the country. Also, the results revealed that there exists a strong relationship among the selected independent variables and FDI inflows as shown by the correlation coefficient (R) equal to .806. A Durbin-Watson statistic of 1.668 indicated that the variable residuals were not serially correlated since the value was more than 1.5.

From the analysis of variance, the significance value is 0.000 which is less than $p=0.05$. This implies that the model was statistically significant in predicting how inflation rates, interest rates, economic growth and exchange rates affect FDI inflows in the country. Given 5% level of significance, critical value from the table is 2.74, table 4.5 above shows computed F value as 16.260. This is a confirmation that overall the multiple regression model is statistically significant, in that it is a suitable prediction model for explaining how rates of inflation, rates of interest, growth in the economy and rates of exchange affects FDI inflows in the country.

Table 4.7: Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	33321.913	4	8330.478	16.260	.000 ^b
	Residual	17931.654	35	512.333		
	Total	51253.566	39			

a. Dependent Variable: FDI inflows

b. Predictors: (Constant) Growth in economic , rate of exchange, rate of interest, rate of inflation

Source: Research Findings (2018)

The study applied t-test to determine the significance of individual variables applied in this study as predictors of FDI inflows in the country. The p-value under sig. column was used as an indicator of the significance of the relationship between the dependent and the independent variables. At 95% confidence level, a p-value of less than 0.05 was interpreted as an indicator of statistical significance. As such, a p-value above 0.05 indicates a statistically insignificant relationship between the dependent and the independent variables. The results are as shown in table 4.8.

Table 4.8: Model Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		

(Constant)	30.964	238.249		.130	.897
Inflation rate	-8.049	1.908	-826	-4.220	.000
Interest rate	-1.689	2.263	-.091	-.746	.460
Exchange rate	-10.725	136.906	-.016	-.078	.938
Economic growth	.427	1.140	.041	.375	.710

a. Dependent Variable: FDI inflows

Source: Research Findings (2018)

From the above results, it is evident that of the four selected independent variables, only inflation is a significant determiner of FDI inflows as shown by a p value less than 0.05. The other variables (interest rates, economic growth and exchange rates) were found to be statistically insignificant.

The following regression equation was estimated:

$$Y = 30.964 - 8.049X_1 - 1.689X_2 - 10.725X_3 + 0.427X_4$$

Where,

Y = FDI Inflows

X₁ = Inflation rate

X₂ = Interest rate

X₃ = Exchange rate

X₄ = Economic growth

On the estimated regression model above, the constant = 30.964 shows that if selected dependent variables (inflation rate, interest rates, economic growth and foreign exchange rates) were rated zero, FDI inflows would be 30.964. A unit rise in inflation rate would cause a drop in FDI inflows in the country by 8.049. The other selected variables (interest rates, economic growth and exchange rates) do not have a significant influence on FDI inflows as shown by high p values.

4.6 Discussion of Research Findings

The study sought to determine the effect of inflation rate on FDI inflows in the country. The independent variable was inflation- FDI inflow was the dependent variable which the study sought to explain and it was measured by quarterly FDI inflows in Kenya. The effect of each of the independent variables on the dependent variable was analyzed in terms of strength and direction.

The Pearson correlation coefficients between the variables revealed existence of a strong negative and significant correlation between inflation rate and FDI inflows into the country ($r = -.798$, $p < 0.005$). The relationship between economic growth and FDI inflows was found to be weak, positive and insignificant ($r = .152$, $p > 0.005$). The study also showed that there exist a strong negative correlation between exchange rates and FDI inflows ($r = -.637$, $p < 0.005$). The relationship between interest rate and FDI inflows was found to be weak, positive and insignificant ($r = .053$, $p > 0.005$). This implies that movement in interest rates is positively correlated to FDI inflows but not in a significant manner

The model summary revealed that the independent variables: inflation rate, interest rates, economic growth and exchange rate explains 65% of changes in the dependent

variable as indicated by the value of R^2 meaning that there are other factors that this model does not include which account for 35% of changes in FDI inflows in Kenya. The model was found to be fit at 95% level of confidence since the F-value of 16.260 is higher than the critical value. This implies that overall the multiple regression model is statistically significant, in that it is an adequate prediction model for explaining FDI inflows in Kenya.

The findings of this study are in agreement with Mbui (2017) who sought to establish the impacts of interest rates on foreign direct investments inflows in the energy and petroleum industry in Kenya. The independent variable was interest rates as measured by quarterly CBK lending rate. The control variables were economic growth as measured by quarterly GDP, inflation rates as measured by quarterly CPI and exchange rates as measured by quarterly exchange rate between ksh and usd. FDI inflows into the energy and petroleum industry in Kenya were the dependent variable which the study sought to explain and it was measured by FDI inflows in the energy and petroleum industry on a quarterly basis. Secondary data was collected for a period of 10 years (January 2007 to December 2016) on a quarterly basis. The results revealed that individually, interest rate and exchange rates are not significant determiners while economic growth and inflation rates of FDI inflows into the energy and petroleum industry in Kenya are significant.

This study is in agreement with Njuguna (2016) who examined the relationship between exchange rates and FDI in Kenya. The study was conducted over a period of ten years from January 2006 to December 2015 using secondary data on FDI remittances as well as the spot rate for exchange rate over that period with data being collected monthly. Inflation and economic growth were used as control variables. A

correlation analysis of the two variables revealed a strong positive association showing that a rise in one variable was likely to cause a rise in the other. This study concluded that exchange rates, inflation and economic growth do influence the levels of FDI in Kenya. The model summary revealed that the independent variables: exchange rates, inflation and economic growth have a correlation of 94.3% with the dependent variable which implies that they are significant predictors of foreign direct investment in Kenya.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of research findings, the conclusions made from the results, and the recommendations for policy and practice. The chapter also discusses a few limitations encountered and suggestions for future research.

5.2 Summary of Findings

The study sought to investigate the effect of inflation rate on FDI inflows in Kenya. The independent variables for the study were, economic growth, rate of exchange, rate of interest, rate of inflation. The study adopted a descriptive research design. Secondary data was obtained from CBK and KNBS and was analyzed using SPSS software version 21. The study used quarterly data covering a period of ten years from January 2008 to December 2017.

From the results of correlation analysis, a strong negative correlation was found to exist between inflation rate and FDI inflows in Kenya and the correlation was significant as indicated by a p value less than 0.05. The relationship between exchange rate and FDI inflows in Kenya was found to be strong, negative and significant while interest rates had a weak negative but insignificant relationship with FDI inflows in Kenya. Economic growth exhibited a weak positive and insignificant correlation with foreign direct investment inflows as shown by a p value that was more than 0.05.

The co-efficient of determination R-square value was 0.650 which means that about 65 percent of the variation in FDI inflows in Kenya can be explained by the four selected independent variables while 35 percent in the variation of FDI inflows in Kenya is associated with other factors not covered in this research. The study also found that the independent variables had a strong correlation with FDI inflows in Kenya ($R=0.806$). ANOVA outcomes reveal that the F statistic was significant at 5% level with a $p=16.260$. Therefore the model was fit to explain the relationship between the selected variables.

The regression results show that when all the selected dependent variables (inflation rate, interest rate, economic growth and exchange rates) are rated zero, FDI inflows in Kenya would be 30.964. A unit increase in inflation rate would lead to a decrease in FDI inflows in the country by 8.049. The other selected variables (rates of interest, growth in the economy and rates of exchange) don't have a significant influence on FDI inflows as shown by high p values.

5.3 Conclusion

From the study findings, a conclusion is drawn that FDI inflows in Kenya have a negative association with inflation rate. The study therefore concludes that high inflation rates lead to reduced FDI inflows in the country and to a significant extent. Economic growth was also found to be positively related to FDI inflows in the country and therefore an increase in economic growth leads to an increase in FDI inflows in the country. The study found that interest rates and exchange rate had a negative correlation with FDI inflows in the country and we can therefore conclude

that higher interest rates and exchange rates tend to discourage foreign direct investment inflows in Kenya.

This study concludes that independent variables selected for the study inflation rate, interest rates, economic growth and exchange rates influence FDI inflows in the country to a significant extent as they account for 65 percent of the changes in FDI inflows in the country. The fact that the four independent variables explain 65% of changes in FDI inflows in Kenya imply that the variables not included in the model explain 35% of changes in FDI inflows in the country. The overall model was found to be significant as explained by the F statistic. Thus, it is adequate to conclude that these variables significantly influence FDI inflows in the country as shown by the p-value in ANOVA summary.

This finding concurs with Njuguna (2016) who examined the relationship between exchange rates and foreign direct investment in Kenya. The study was conducted over a period of ten years from January 2006 to December 2015 using secondary data on FDI remittances as well as the spot rate for exchange rate over that period with data being collected monthly. Economic growth and inflation were used as control variables. A correlation analysis of the two variables showed a strong positive association meaning that an increase in one variable was likely to result in an increase in the other variable. The study concluded that exchange rates, inflation and economic growth do influence the levels of FDI in Kenya. The model summary revealed that the independent variables: exchange rates, inflation and economic growth have a correlation of 94.3% with the dependent variable which implies that they are significant predictors of FDI in Kenya.

5.4 Recommendations

The study established that there is a negative and significant influence of inflation rate on FDI inflows in the country. This study recommends that there is need for policy makers to regulate the inflation levels prevailing in the country bearing in mind that they influence FDI inflows in the country. Economic growth was also found to have a positive effect on FDI inflows and therefore this study recommends that policy makers should develop measures to boost economic growth as it attracts foreign direct investments.

The study found that exchange rates have a negative influence on FDI inflows in the country. This study recommends that policy makers should regulate prevailing exchange rates as depreciation in exchange rates may lead to decreased FDI inflows into the country. Interest rate was also found to have a negative relationship with FDI inflows in the country. The variables were however found to be insignificant determinants of FDI inflows in the country. This study recommends that policy makers should pay attention to the prevailing rates of these selected independent variables as they can negatively affect FDI inflows in the country.

5.5 Limitations of the Study

The scope of this research was for ten years 2008-2017. It has not been determined if the results would hold for a longer study period. Furthermore it is uncertain whether similar findings would result beyond 2017. A longer study period is more reliable as it will take into account major economic conditions such as booms and recessions.

Data quality is one of the study limitations. The data that has been used is only assumed to be accurate. The measures used may keep on varying from one year to

another subject to prevailing condition. The study used secondary data that had already been obtained and was in the public domain, unlike the primary data which is first-hand. The study also considered selected determinants and not all factors affecting FDI inflows mainly due to limitation of data availability.

For data analysis purposes, the researcher applied a multiple linear regression model. Due to the shortcomings involved when using regression models such as erroneous and misleading results when the variable values change, the researcher cannot be able to generalize the findings with certainty. If more and more data is added to the functional regression model, the hypothesized relationship between two or more variables may not hold.

5.6 Suggestions for Further Research

This study focused on inflation rate and FDI inflows in Kenya and relied on secondary data. A research study where data collection relies on primary data like in-depth questionnaires and interviews covering the different sectors that receive FDI is recommended so as to complement this research.

The study was not exhaustive of the independent variables affecting FDI inflows in Kenya and this study recommends that further studies be conducted to incorporate other variables like money supply, cost of labour, technological advancement, education levels, political stability and other macroeconomic variables. Establishing the effect of each variable on FDI inflows will enable policy makers know what tool to use when controlling FDI inflows.

The study concentrated on the last ten years since it was the most recent data available. Future studies may use a range of many years e.g. from 1970 to date and

this can be helpful to confirm or disapprove the findings of this study. The study limited itself by focusing in Kenya. The recommendations of this study are that further studies be conducted on other contexts such as other East Africa countries. Finally, due to the shortcomings of regression models, other models such as the Vector Error Correction Model (VECM) can be used to explain the various relationships between the variables.

REFERENCES

- Abala, D. (2014). Foreign Direct Investment and Economic Growth. An Empirical Analysis of Kenyan Data. *DBA African Management Review*. 4(1), 62-83.
- Ahmad, M. I. & Naseem, M. A. (2011). Does Inflation Hurt the Stock Market Returns? *Journal of Finance*, 2(9), 241-249
- Alfaro L., A. Chanda, S. Kalemli-Ozcan and S. Sayek. (2003). FDI and Economic Growth: The Role of Local Financial Markets. *Journal of International Economics*, 12(2), 219-227.
- Alimi, R. S. (2014). Inflation and Financial Sector Performance: the Case of Nigeria. *Timisoara Journal of Economics and Business*, 7 (1), 55-6
- Ariss, R. T. (2012). Understanding Inflation and Revising National Price Data. Lebanese Economic Association, Beirut- Lebanon
- Asiedu, E. (2002). On the determinants of foreign direct investment to developing countries: Is Africa different? *World development*, 30 (1), 107-119.
- Ayaya, V. W. (2017). *The effect of public debt on foreign direct investment inflows in Kenya*. Unpublished MSC Project: University of Nairobi
- Azar, S. A. (2014). The Determinants of US Stock Market Returns. *Open Economics and Management Journal*, 1, 1-13
- Behera, H., Narasimhan, V. & Murty, K.N. (2008). "Relationship between Exchange Rate Volatility and Central Bank Intervention. An Empirical Analysis for India". *South Asia Economic Journal*, 4(2), 12-19

- Bende-Nabende, A., J. Ford, B. Santoso, & S. Sen (2003). The Interaction between FDI, Output and the Spillover Variables: Cointegration and VAR Analyses for APEC, 1965-1999. *Applied Economics Letters*, 10 (3): 165-172.
- Bett, L. (2017). *The effect of interest rates on foreign direct investment in Kenya*. Unpublished MSC Project, University of Nairobi
- Buckley, P. J & Casson, M. C. (1976). The internalization theory of the multinational enterprise: A review of the progress of a research agenda after 30 years. *Journal of International Business Studies* 40 (9), 1563-1580
- Burns, N. & Burns, S. (2008). *The Practice of Nursing Research: Conduct, Critique and Utilization: 5th Edition*: St Louis, Elsevier Saunders
- Casson, M. (1983). Economic analysis of international supply chains: an internalization perspective. *Journal of Supply Chain Management*, 49(2), 8-13
- Central Bank of Kenya (2018). *Statistical bulletin*, Central Bank of Kenya, Nairobi.
- Charkrabarti, A. (2001). The Determinants of Foreign Direct Investment: Sensitivity Analyses of Cross-Country Regressions. *Kyklos*, 54(1), 89-114.
- Chen, Y.E (1983). *Multinational Corporations, Technology, and Employment*. London: The Macmillan Press Ltd.
- Chingarande, A. (2011). The Impact of Interest Rates on Foreign Direct Investment: A Case Study of the Zimbabwean Economy. *International Journal of Management Sciences and Business Research*, 1(5), 2226-8235
- Cooper, R., & Schindler, S. (2008). *Business research methods*. New York: McGrawhill

- Cuthbertson, K. (2004). *Quantity Financial Economics: Stocks, bonds and Foreign Exchange*. Chichester: Wiley, Corporation.
- Denisia, V. (2010). Foreign direct investment theories: an overview of the main FDI theories, *European Journal of Interdisciplinary Studies*
- Devereux, M. B., & Yetman J., (2002). Price setting and exchange rate pass through: Theory and evidence. *In the book price adjustment and monetary policy*, 347-371,
- Dunning, J. (1993). *Foreign Direct Investment and Governments: Catalysts for economic restructuring*. London: Routledge.
- Dunning, J.H. (2005). *Transnational Corporations and Growth of Services: Some conceptual and theoretical issues*. New York: United Nations.
- Durevall, D., & Sjo, B. (2012). The Dynamic Model of Inflation in Ethiopia and Kenya. *African Development Bank Group Working Paper*, 151
- Ernst & Young (2016). *Attractiveness Survey; Africa*.
- Gastanaga V., Nugent J., & Pashamiova B. (1998). Host Country Reforms and FDI Inflows: How Much Difference Do They Make? *World Development* 26(7), 1299-1314.
- Government of Kenya (2015). *Economic Surveys*, various Issues. Nairobi. Government Printer.
- Hooda, J. (2011). *A study of FDI and Indian Economy*. Department of Humanities and Social Sciences National Institute Of Technology (Deemed University).

- Hunady, J., & Orviska, M. (2014). Determinants of Foreign Direct Investment in EU Countries: Do Corporate Taxes Really Matter? *Procedia Economics and Finance*, 12, 243-250.
- Ismaila, M. & Imoughele, L.E. (2010). *Macroeconomic Determinants of Economic Growth in Nigeria: A Co-integration Approach*.
- Kadongo, C.O. (2011). *Foreign Exchange Risk and the Flow of International Portfolio Capital: Evidence from Africa's Capital Markets*. Unpublished PhD thesis, Witwatersrand: University of the Witwatersrand.
- Kariguh, B. W. (2014). *The relationship between foreign investment activity and market return at the NSE*. Unpublished MSC Project: University of Nairobi.
- Kasemo, S. M. (2015). *The relationship between interest rates and real estate development cost in Mombasa County*. Unpublished MBA Project. Nairobi: University of Nairobi.
- Khan, J. A. (2008). *Research Methodology*. New Delhi. APH Publishing Corporation
- Kibugu, M. (2017). *The effect of interest rates on foreign direct investment in Kenya*. Unpublished MSC Project, University of Nairobi
- Kinaro, E.O (2006). *Determinants of Foreign Direct Investment in Kenya Institute African de Development Economiqueet de planification*. Dakar
- Kinuthia, B.K. (2010). *Determinants of Foreign Direct Investment in Kenya; New Evidence*. Paper submitted for the annual African International Business and Management (AIBUMA) Conference in Nairobi in August 2010

- Kinuthia, M.M.E. (2012). *Determinants of Foreign Direct Investment in Kenya*. Unpublished MSC project, University of Nairobi.
- Kiplagat, P. (2016). *The effect of interest rates on foreign direct investment in Kenya*. Unpublished MSC Project, University of Nairobi
- Mahiti, F.M. (2012), *Determinants of Foreign Direct Investments (FDIs) in East Africa Countries of Tanzania and Kenya*, Unpublished MSc-A&F Thesis, Mzumbe University.
- Mbui, P. (2017). *The effect of interest rates on foreign direct investment inflows in the energy and petroleum sector in Kenya*. Unpublished MSC Project, University of Nairobi
- Mishkin, F.S. & Eakins S. (2009). *Financial Markets and Institutions* (6thed.). Pearson Prentice Hall.
- Mohan, C. & Chitradevi, N. (2014). Impact of Inflation and Exchange Rate on Stock Market Performance in India. *Indian Journal of Applied Research*, 4 (3), 230-232
- Mohey-ud-din. G. (2007). Impact of FCI on Economic Growth, *Journal of Independent Studies and Research (JISR)*, 5(1), 24–29.
- Muema, J. (2013). *An Analysis of the Determinants of Foreign Direct Investment in Kenya*. Unpublished MBA project, University of Nairobi.
- Mugambi, M. & Okech, T. C. (2016). Effect of Macroeconomic Variables on Stock Returns of Listed Commercial Banks in Kenya. *International Journal of Economics, Commerce and Management*, 4 (6), 390-418

- Mwega, F.M and Ngugi, R.W. (2007). *Foreign Direct Investment in Kenya, Foreign Direct Investment in Sub Saharan Africa: Origins, Targets, Impact and Potential*. Africa Economic Research Consortium.
- Ngugi, R. (2001). *Development of the Nairobi Stock Exchange: a historical perspective* (No. 27). Kenya Institute for Public Policy Research and Analysis
- Nwankwo, A. (2006). *The Determinants of Foreign Direct Investment Inflows (FDI) in Nigeria*. 6th Global Conference on Business & Economics.
- Nyamwange, C. (2009). *The relationship between real exchange rates and international trade in Kenya*. Unpublished MBA project. University of Nairobi.
- Ochieng, V. & Anyango, A. (2012). The Effect of Exchange Rate Volatility on Foreign Direct Investments in Kenya. *International Journal of Education and Research*, 1(9), 12-21.
- OECD. (2002). Tax Effects on Foreign Direct Investment. *Policy Brief*, 1-8.
- Oganda, J. A. (2012). *The relationship between exchange rates and foreign direct Investment in the horticulture industry in kenya*, Unpublished MBA project, University of Nairobi.
- Okafor, H. O. (2012). Do domestic macroeconomic variables matter for foreign direct investment inflow in Nigeria. *Research journal of finance and accounting*. 3, 9-21.
- Olson, M. (2008). *The rise and decline of nations: Economic growth, stagflation, and social rigidities*. Yale University Press.

- Omweri, V. M. (2013). *Determinants of foreign direct investment stock to countries of the east African community*, Unpublished MSC project. University of Nairobi
- Onyeiwu, S. (2005). *Analysis of FDI flows to Developing Countries: Is the MENA Region Different?* Unpublished PhD Thesis, Meadville: Allegheny College.
- Pholpirul, R. (2002). Foreign Direct Investment, Exchange Rate pass-through, and Exchange Rate Volatility: A perspective of Spatial Panel Data.
- Piteli, E.N (2009), Foreign Direct Investment in Developed Economies: A Comparison between European and non – European Countries, *DYNREG Working papers*.
- Ryan B. (2006). *Corporate finance and valuation*. Cengage Learning EMEA.
- Saleem, F. Zafar, L. & Rafique, B. (2013). Long Run Relationship between Inflation and Stock Return: Evidence from Pakistan. *Social Sciences and Humanities*, 4 (2), 407 – 415
- Shiblee, L. (2009). The Impact of Inflation, GDP, Unemployment, and Money Supply on Stock Prices. Arab Bank – Syria
- Shukairi, N.M., Waleed, A., AbdulBaset, H. & Marwan M. A. (2012). The Relationship between Inflation and Stock Prices (A Case of Jordan). *IJRRAS*, 10 (1), 46-52
- Singhania, Monica, & Akshay G. (2011). Determinants of Foreign Direct Investment in India. *Journal of International Trade Law and Policy*, 10(1), 64-82.

- Sireesha, P. B. (2013). Effect of Select Macro Economic Variables on Stock Returns in India. *International Journal of Marketing, Financial Services & Management Research*, 2 (6), 197-207
- Spats, J. & Nunnenkamp, P. (2002). *Determinants of FDI in developing countries: Has Globalization changed the rules of the game?* Germany: Kiel Institute for World Economics.
- Taofik, M. I. & Omosola, M. A. (2013). The Relationship between Stock Return and Inflation in Nigeria. *European Scientific Journal*, 9 (4), 146 – 157
- UNCTAD (2016). *World investment report*, New York and Geneva: United Nations
- United Nations Conference on Trade and Development (1998). *World Investment Report*
- United Nations Conference on Trade and Development (2008). *World Investment Report*.
- United Nations Conference on Trade and Development (2016). *World Investment Report*.
- Vesarach, K. (2014). The Role of Interest Rates in Attracting FDI: A Study on ASEAN 5 Economics. *International Journal of Technical Research and Applications*
- Voorpijl, R. (2011). *Foreign direct investment in Kenya: The gains and losses of foreign involvement*. Radbound University Nijmegen. MSC Project. Nijmegen
- World Bank (2012). Kenya Economic Update: Kenya at work: *Energizing the economy and creating jobs*

