

**DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN KENYA
(1970 – 2009)**


BY

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in Partial Fulfillment of the Requirements for the Degree of Master of
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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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DEDICATION

This project is dedicated to my father Isaiah Manyanza and my mother Loise Nthikwa for their inspiration and encouragement to continue with my studies. It is also dedicated to my pastor Rev. Munguti for his prayers and encouragement and all my brothers and my sisters especially Liz, for their support.

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ACRONYMS AND ABBREVIATIONS

ADF	-	Argumented Dickey Fuller
AR	-	Autoregressive
ARCH	-	Autoregressive Conditional Heteroskedasticity
ARMA	-	Autoregressive Moving Average
BOP	-	Balance of Payments
CEEB	-	Central Eastern European and Baltic Countries
CIS	-	Common Wealth of Independent States
CPI	-	Consumer Price Index
EAC	-	East African Community
EPZ	-	Export Processing Zone
FDI	-	Foreign Direct Investment
GDP	-	Gross Domestic Product
GLS	-	Generalised Least Square
GMM	-	Generalised Method of Moments
IBA	-	Industrial Building Allowance
IMF	-	International Monetary Fund
IPC	-	Investment Promotion Centre
IV	-	Instrumental Variable
LDCs	-	Less Developed Countries
LR	-	Likelihood Ratio
MEC	-	Marginal Efficiency of Capital
OLS	-	Ordinary Least Squares
UNCTAD	-	United Nations Conference on Trade and Development
VAT	-	Value Added Tax

ABSTRACT

The Kenyan government has employed policy incentives in order to encourage foreign direct investment (FDI) inflows into the country. Despite these measures, FDI inflows into the country have continued to be characterized by fluctuations. These fluctuations have been more marked from 1980's onwards.

The objective of the study was to examine the factors that influence FDI flows into Kenya, specifically, the wage rate, exchange rate, trade balance, savings rate, external debt, GDP growth rate, inflation, openness of the economy, policy incentives and macro-economic reforms. The study also sets out to measure the relative effects of these factors and to give policy recommendations based on the study findings.

To develop the model the flexible accelerator model by Chenery was used. Time series data was collected from secondary sources, which included statistical abstracts, economic surveys and World Bank development indicators for period 1970-2009. Regression analysis was employed, using Ordinary Least Squares (OLS) to estimate the linear model and best results reported.

The linear regression results revealed that the exchange rate was the most significant variable in determining FDI inflows in Kenya. Other significant variables were trade balance, wage rate, savings rate, openness of the economy and policy incentives. Of these, the trade balance and wage rate had a negative effect on FDI. In addition, the rate of inflation, GDP growth rate, external debt and macro-economic reforms had negative effect on FDI inflows.

Finally policy recommendations were also drawn from the regression results on the future of FDI inflows in Kenya. The need for Kenya to establish a conducive investment climate is an area that requires further research.

CHAPTER ONE

INTRODUCTION

1.1 Background

It is widely recognized that foreign direct investment (FDI) contributes greatly to a country's economic growth and its integration in the world economy. The domestic structure of a country's economy plays a major role in determining whether the net effects of FDI are positive or negative. FDI has grown and for some developing countries is the largest and most stable source of private capital for development, accounting for nearly 50 percent of all those flows (UNCTAD, 1999).

There are at least four different motives for firms to invest across their national borders. First, is market-seeking investment, which aims to access new markets that are attractive in size, growth or both. Second, is efficiency-seeking investment, which aims at production that is cost effective. Some of the factors these investments look at is the cost of labour, the skills of workforce, the cost and quality of infrastructure and administrative costs.

Third, is strategic-asset seeking investment, geared towards man-made assets which take the form of mergers and acquisitions where a foreign firm takes over a domestic company that possesses such assets. Finally, is natural-resource seeking investments, which seek to exploit the natural resource endowment of countries, such as, countries endowed with minerals (UNCTAD, 1998).

1.2 Trends in Foreign Direct Investment

Worldwide, FDI has shown a steady increase since the 1970's, with the exception of the spectacular increase in 2000 and a drop in 2003, after which it resumed its steady increase from 2004 (Table 1.1). For Africa, the FDI inflows have been very small and erratic varying from 0.6 percent in 2000 to 2.7 percent in 2006. After a very good show in the 1970's, it declined in 1980's where the average annual FDI inflows was 4.6 percent and 2.3 percent of world total respectively. In 2000, FDI inflows dropped to their lowest level, at 0.6 percent, and thereafter in 2000 Africa became an attractive FDI destination

again when inflows rose from the low of US\$ 9.69 billion in 2000 to the high of US\$ 19.98 billion in 2001. The inflows then declined to US\$ 13.57 billion in 2002 before rising steadily in 2003 to another high of US\$ 35.54 billion in 2006 (Table 1.1).

Table 1.1: Africa's Share of FDI Inflows (US \$Million)

Year	Africa	World	Percentage
1970 – 1979	1,124	24,365	4.6
1980 – 1989	2,202	93,878	2.3
1990 – 1999	6,625	403,802	1.6
2000	9,685	1,411,366	0.6
2001	19,979	621,995	3.2
2002	13,571	832,567	1.6
2003	18,677	544,078	3.4
2004	18,018	742,143	2.4
2005	29,648	945,795	3.1
2006	35,544	1,305,852	2.7

Source: UNCTAD, FDI Database (www.unctad.org), 2009

The recent surge of FDI to African region particularly over the period 2003 to 2006, was attributed to an upward spiral in commodity prices and a more positive investment climate in the region, backed by adoption of favourable policy frameworks for FDI, mainly on minerals like gold, diamonds, copper, bauxite, crude oil, uranium among others, and investment friendly export promotion policies pursued by the governments on exports from the continent (Wild, 2006).

However, inspite the many incentives offered by a number of African countries and great improvement in policies governing FDI, including economic reforms (liberalization), democratization, relative peace and stability, the FDI inflows to Africa have not been as promising compared to the other regions of the world such as South Asia and China. For example, despite the improvement in FDI inflows since 2001, Africa's share of global inflows has never reached the peak of the 1970's when it averaged 4.6 percent. The decline was attributed to structural obstacles on FDI especially in the manufacturing sector (UNCTAD, 2008).

1.2.1 Trends of FDI Inflows in Kenya (1970-2009)

FDI inflows to Kenya have been highly volatile. After rising steadily from US\$17.3 million in 1973 to the peak of US\$84.0 million in 1979, they generally fluctuated in the 1980's and 1990's despite the economic reforms that took place and the progress made in improving the business environment during the period. The worst year of fluctuation in the 1980's was 1988, when the FDI inflows as a percentage of gross national product (GDP) were zero (see Figure 1.1 and Table1:A1 in Appendix).

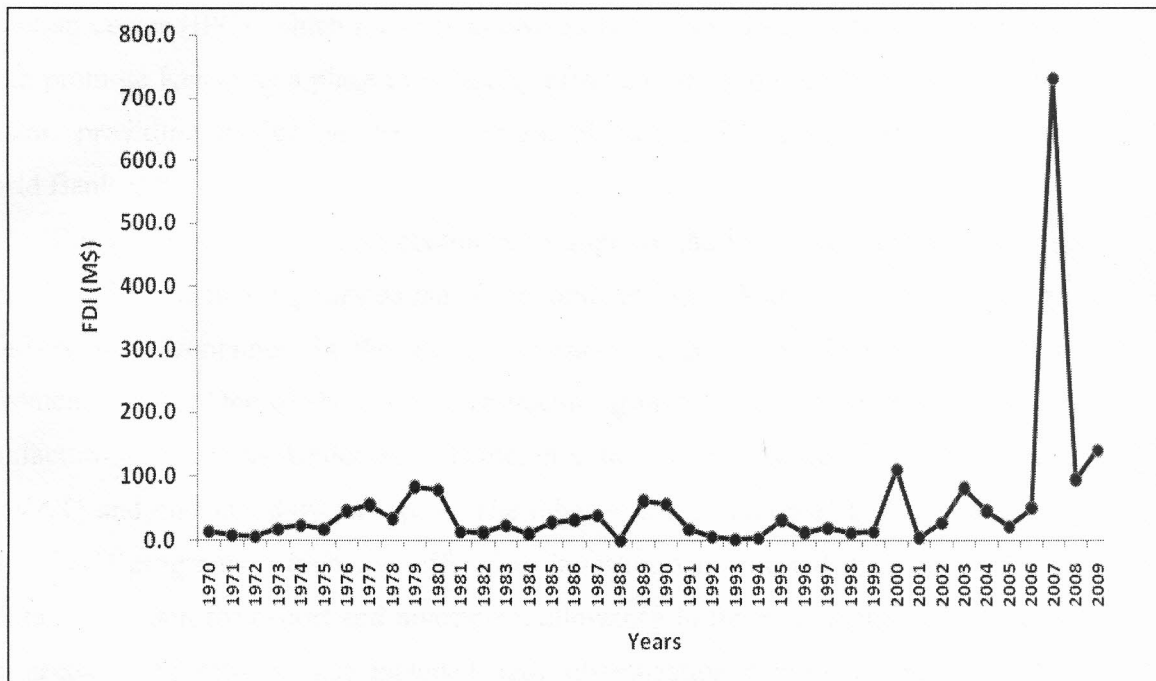


Figure 1.1 Trends in FDI Inflows in Kenya, 1970-2009 (Million of Dollars)

According to (Table1:A1 and Figure 1.1) the FDI net inflows increased to US\$ 110.9 million in the year 2000, but declined to US\$ 5.3 million in the year 2001. The highest inflows were US\$ 729 million in the year 2007 which declined to US\$95.6 Million in 2008 before increasing to US\$140.5 Million in the year 2009 (Figure 1.1).The decline in the year 2008 could be attributed to the political instability in the country resulting from the outcome of the December 2007 general elections, which caused a lot of uncertainty among the investors.

1.2.2 Policy Measures to Attract FDI in Kenya

In Sessional Paper No.10 of 1965 on African Socialism and its Application to Planning in Kenya, the government of Kenya outlined various policy incentives and macro economic reforms in order to promote FDI. During 1965-1985 period the government implemented the import-substitution strategy of industrialization. This strategy was reversed by Sessional Paper No.1 of 1986 on economic Management for Renewed Growth. The latter embraced export-oriented industrialization in place of import substitution. In the same year (1986) the government established the investment promotion center (IPC), which today is known as Ken Investment Centre. Its main role was to promote Kenya as a place to invest by providing the required information to any investor, providing advice on the investment climate and licensing new businesses (World Bank, 2003).

The government of Kenya continues to improve the investment environment by adopting and implementing various macroeconomic reforms. Some of the policy reform initiatives were contained in the Kenya investors guide, as published by the Ken Investment Centre. One of these was manufacturing under bond in order to encourage manufacturing for export. Under this scheme, investors were exempted from value added tax (VAT) and customs duty on inputs. The other was the launch of Export processing Zones (EPZ) programs, which was offered to investors who located their operations in EPZ, tax remission for export and investment allowance in the manufacturing and in the hotel sectors. The reforms also included trade liberalization measures, which included abolishing import and export licensing, reducing import tariffs, abolishing price controls, privatizing and restructuring loss making enterprises. Other reform measures included liberalization of exchange rates and interest rates and opening of capital markets for foreign participation (Republic of Kenya, 2001).

Kenya's Vision 2030 is the new long-term development blue print for the country. The plan aims at creating globally competitive and prosperous country with a high quality of life for residents by 2030. The vision is anchored on three pillars: economic, social and political governance, which have important implications on FDI inflows. Under Vision 2030, the Kenya government plans to maintain macro-economic

stability, which has played a major role in the country's economic stability and recovery since 2003.

The macro-economic stability aims at low levels of inflation, stable exchange rate and low interest rates. Confidence among Kenyan and foreign investors is on the upward swing, which the government is striving to maintain. Other reforms that will influence the future of FDI in Kenya are continuity in governance reforms, investment in infrastructure, generation of more energy, and innovation, land reforms and human resource development (Republic of Kenya, 2007).

1.2.3 Investment Climate in Kenya since 1970

In 1970's, although the country suffered from macro-economic instability, it received relatively high capital inflows to the peak of US\$84.0 million in 1979. This was partly due to Kenya's market size and her central position in the larger East African Community (EAC). However, the EAC collapsed in 1977 (Ajayi, 2007), putting in jeopardy this attraction.

The investment climate in Kenya deteriorated rapidly in the 1980's. The decade that saw sharp fluctuations in net FDI inflows as a percentage of GDP, where it declined to US\$0.4 million in the year 1988 (see table1:A1). In addition to the collapse of EAC, this decline was attributed to several factors such as, uncertainty from policy reversals and the shift from import-substitution strategy to export-oriented industrialization, the oil crisis of 1980-1983, the attempted coup of 1982 and introduction of single party state which reduced the level of democracy in the country in the same year (Republic of Kenya, 1986). The period was also characterized by high levels of corruption and deterioration in balance of payments (BOP), made worse by the decision of the multi-lateral agencies like the International Monetary Fund (IMF) and World Bank to cut off donor funding (Ajayi, 2007).

The 1990's decade was a period that the country experienced political instability due to land clashes of 1992 and 1997 and uncertainties during the electioneering years. This period also experienced the reintroduction of multi-party elections and high levels of insecurity with the bombing of American Embassy in Nairobi and the Israeli tourists at

the Coast. These incidents played a major role in scaring away investors. The country also experienced other economic problems during this period. For example, the increase in money supply to finance 1992 elections led to severe inflation. The rate of inflation increased to more than 60 percent in 1994. The inflationary pressure was also accelerated by 1994 drought and famine. The 1990's saw the county's economic performance severely weakened accompanied by a major decline in FDI inflows (Muthoga, 2003).

Due to pressure from the IMF and World Bank, the 1990's also saw the initiation of the comprehensive reform process in the economy, including liberalization of interest rates (1991, floating exchange rates (1993) and abolition of capital controls in 1995. During the same period (1990's) various incentives were introduced, including the establishment of the Export Processing Zones (EPZs) in 1990. As part of the reform programme the government removed foreign exchange controls and privatized a range of publicly owned companies (Republic of Kenya, 2001). Despite the policy incentives the FDI inflows were relatively low.

1.3 The Statement of the Problem

Foreign direct investment is important to the Kenyan economy for various reasons: It brings investable financial resource, provides new technologies and improves the efficiencies of existing technologies (Ajayi, 2007). The government of Kenya has been making efforts through institutional and legal frameworks, forums and promotional campaigns to encourage FDI. Many macro-economic reforms and policy incentives have been adopted and implemented to promote foreign investment. Some of the reforms include the shift from import substitution strategy to export-oriented industrialization, liberalization of exchange rates and interest rate, introduction of export processing zones (EPZ) and elimination of price controls (Republic of Kenya, 1986).

Despite these efforts on reforms that have been undertaken and the many policy incentives provided to foreign investors, FDI flows into Kenya have been erratic as shown in figure 1.1. This study sets out to establish why FDI inflows to Kenya have been erratic despite the many policy incentives and macro economic reforms.

Many studies have been done on the determinants of FDI. Studies done by Anyanwu (1998), Obwana (2001), Muthoga (2003) and Khan and Bamou (2007) identified several factors that determine FDI inflows in a country. The factors identified included; inflation, openness of the economy, GDP, trade balance, rate of savings, exchange rate, external debt, market size among others. This study set out to determine the effect of policy incentives and macro-economic reform programmes like liberalization of exchange rates, interest rates and price controls on FDI inflows in Kenya. The study is also set out to determine the effect of wage rate on FDI inflows

1.4 Research Questions

The study is directed towards answering the following questions:

- i) What are the main determinants of FDI in Kenya?
- ii) What is the impact of policy incentives and macroeconomic reforms on FDI?
- iii) What are the policy recommendations on FDI inflows in Kenya?

1.5 Objectives of the Study

The general objective of the study was to investigate the determinants of FDI in Kenya. The specific objectives were:

- i) To establish the determinants of FDI in Kenya.
- ii) To determine the impact of policy incentives and macroeconomic reforms on FDI.
- iii) Suggest policy recommendations based on the findings of the study.

1.6 Significance of the Study

Foreign direct investment is of great importance to the growth and development of an economy. This study examined the determinants of FDI in Kenya, the results could be of vital importance to policy makers and implementers, when coming up with new policies and strategies to reduce the volatility of FDI inflows in Kenya. The results could also help potential foreign investors as they make investment decisions. Finally, the study results add to existing knowledge on FDI and provide further debate and research in this area.

1.7 Scope of the Study

This study examined the determinants of FDI inflows into Kenya from 1970-2009. The choice of the period was influenced by data availability, covering three political regimes and two distinct policy initiatives: import substitution and export promotion, each with different incentives to foreign investors.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviews literature on works done on the various aspects of FDI inflows. The chapter reviews theoretical and empirical literature from outside Africa, Africa, East Africa and Kenya.

2.2 Theoretical Literature

Clark (1917) developed the accelerator model and postulated that investment responds to changing demand conditions. If income increases, there will be an excess demand for goods. Using this model the desired capital stock is derived by assuming that there is an economically most profitable amount of capital required to produce a given level of output. This is written as $K^* = \beta Y$ 2.1

Where K^* - desired capital stock

Y - Output

β - capital output ratio

Where $\beta(0 < \beta < 1)$ is the most profitable capital output ratio. The difference between two successive levels of K^* is

$$K^*_t - K^*_{t-1} = \beta Y_t - \beta Y_{t-1} = \beta(Y_t - Y_{t-1}) \dots\dots\dots 2.2$$

Where K^*_t - desired capital stock at time t

Y_{t-1} - income in previous period

The formulation of this theory is often known as the crude accelerator, because of the many limitations which include the following. The model assumes that the relationship between investment and output are fixed; difficulties in treatment of excess capacity; the transitory changes in output, that is when demand increases are not deemed to be permanent, and inadequate finances. Despite these limitations the crude accelerator

model has formed an important foundation for the development of many other later theories and has provided an important variable in linking investment to output.

The Marginal Efficiency of Capital (MEC) Theory

Keynes (1936) proposed that at the aggregate level investment would be equal to savings. Keynes observed that at the micro-level, investment depends on the marginal efficiency of capital relative to some interest rate reflecting the opportunity cost of invested funds. The MEC (m) is defined as the rate of interest that will discount the sum of future net returns of an investment to be equal to the cost of the project or capital investment. That is why the model is known as present value (pv) model of investment where a firm should rank investment projects by present discounted value of their income streams.

To appreciate Keynes proposal, let a_1, a_2, a_3, \dots , etc, be the expected stream of net returns and let C be the cost of undertaking the project. Then according to Keynes, the internal rate of return (MEC) would be the interest rate m^* where.

$$\sum_t^{\infty} a_t / (1+m^*)^t = C \quad \dots\dots\dots 2.3$$

The higher the m^* , the better the project returns.

The main limitation of this theory is that there is no reference to the desired capital stock. Firms do not have an optimal capital stock at the back of their minds when making investment on what will be the optimal amount of investment for a particular period. The main decision is the investment decision, the capital stock follows the investment decisions. The main strength of this theory is that it is still widely applied in cost benefit analysis of development and business projects.

The Flexible Accelerator

Chenery and Koyck (1952) developed the flexible accelerator model which is a modification of the simple accelerator model.

The theory removed one of the major weaknesses of accelerator theory that capital stock is optimally adjusted without any time lag. The flexible accelerator model shows that the relationship between investment and output need not to be fixed but can be affected by other variables like the cost of investment funds, that is, interest rates. The

flexible accelerator model shows the variable relationship between the growth rate of output and the level of net investment. This model uses lags in the adjustment process between level of output and capital stock.

$$K^E = K^E(Y, C, P) \dots\dots\dots 2.4$$

Where; K^E - Equilibrium capital stock
 Y - Output
 C - User Cost
 P - Price of output

The flexible accelerator model assumes that capital stock depends on all past output levels with weights declining geometrically, which is known as lag investment.

$$K_t = f(Y_t, Y_{t-1}, Y_{t-2}, Y_{t-3}, \dots, Y_{t-n}, \dots\dots\dots 2.5$$

The main limitation of this model is that, it is adhoc, for it is purely mathematical model with no economic basis and the introduction of lagged, independent variable in the model leads to inconsistent results because Y_t is related to Y_{t-1} .

The main strength of the flexible accelerator is that, it proposed that there are other variables that influence investment apart from output.

The Neo-Classical Theory

Jorgensen (1963) and Jorgenson *et al* (1967) developed the neo-classical theory where they suggested that, the firm invests to maximize its discounted flow of profits over an indefinite time horizon. Profits are given by the value of sales, $P_t Y_t$ less the wage bill $W_t N_t$, less expenditure on investment goods $P_t^I i_t$. Where P^I is the price of plant and equipment. Therefore, profit is defined as;

$$\pi = P_t Y_t - W_t N_t - P_t^I i_t \dots\dots\dots 2.6$$

Where, π is profit, Y_t is amount of output and P_t is price, N_t is amount of labour, W_t is wage rate and i_t amount of investment, P_t^I is the price and t is the time period.

At the market interest or discount rate r , the present value of all future profit stream is

$$PV_0 = \sum_0^{\infty} \frac{1}{(1+r)^t} [P_t Y_t - W_t N_t - P_t^I i_t] \dots\dots\dots 2.7$$

Where PV_0 is the present value of all future profit streams.

The main advantage of neo classical theory over the accelerator and marginal efficiency of capital theories is that it seeks to balance the return on capital and cost of capital.

The neo classical theory has several limitations, one it does not recognize the dependency of output on the user cost of capital which may create endogeneity problems, which may underestimate the effects of policies meant to stimulate capital formation. Secondly there are problems with characteristics of technology. The theory also offers a weak treatment for the role of expectations, risk and uncertainty.

The Q Model

Brainard and Tobin (1968) and Tobin (1969;1978) assert that the demand for capital varies directly with the ratio of the market value of the capital assets, V_t , of the firm to their replacement value, $P_t' K_t$. This ratio, denoted by q , compares the return on capital with that which is required by the investors to replace the existing capital investment. Investment should be undertaken if $q > 1$. This ratio commonly referred to as marginal 'Q' may differ from, unity because of delivery lags and adjustment – or – installation costs.

The q model is derived from optimization problem, where output (Y_t) is determined by labour (L_t), capital (K_t) and stochastic technology (T_t). The production function can be written as

$$Y_t = f(L_t, K_t; T_t) \dots\dots\dots 2.8$$

The main advantage of the q model is, that, as it relates capital to the stock market prices for the value of the firm, it does away with the notorious problem of formulation expectations about future prices as these are already captured in the stock market prices (Branson, 1986 and Chirinko 1993). The issue of expectations has been directly resolved in the value of q . The q model is also associated with a number of limitations, The major problem is that, marginal q is not easily measure. Therefore one has to rely on the ratio of the entire capital stock to its replacement cost: that is, using the average q under conditions that are quite restrictive and hardly realistic. Secondly it also relies on presence of robust stock markets, which are not available in many economies and the stock prices are quite unstable and unpredictable.

From the q model, expectations can now be included as a variable that influences investment. Equation 2.12 can now be written as

$$I = f(Y, r, P, e) \dots\dots\dots 2.9$$

Dixit and Pindyck (1994), developed the real option approach model to explain the behavior of investment under uncertain conditions. Uncertainty is said to play a key role in investment decisions and because investment is assumed to be irreversible, it represents a sunk cost. So the investor should remain liquid until risk is resolved. The main problem is that the investor by remaining liquid foregoes a higher return which might have been realized if investment was done immediately, before the risk is resolved.

The main limitation of this theory is that, it is difficult to model uncertainty adequately because it is not a stand-alone variable. It is embedded in policies, prices or costs, or in all of these and depreciation in foreign exchange rates.

These variables can be included in equation 2.9, the new equation becomes

$$I = f(Y, r, P, e, u) \dots\dots\dots 2.10$$

Where u is uncertainty or uncertainty variables.

2.3 Empirical Literature

2.3.1 Empirical Literature from outside Africa

Campos and Kinoshita (2003), analyzed the factors accounting for the geographical patterns of FDI flows among 25 transition economies of Central Eastern European and Baltic countries (CEEB) and Common Wealth of Independent States (CIS) which include former Soviet Union countries like Russia, Ukraine, Georgia, Armenia among others and example of the CEEB we have Hungary, Estonia, Czech Republic, Poland among others.

Panel data (1990-1998) was used, the results of the study showed that the most important determinant of FDI location are institutions (measured in terms of rule of law and quality of bureaucracy and agglomeration economies). Natural resource endowment and low labour cost together with openness to trade and external liberalization are other significant factors.

Generalized Method of Moments (GMM) and Instrumental Variable (IV) estimates was used to estimate the data. The estimated model was

$$\Delta Y_{it} = \alpha (Y_{it}^* - Y_{it-1}) \dots\dots\dots 2.14$$

Where;

Y^* - Equilibrium level or steady state level of FDI stock

$$\Delta Y_{it} = Y_{it} - Y_{it-1}$$

The main limitation of the study was that it was a cross-country study and getting comprehensive data for the analysis was a problem and also the conclusions reached were not representative of individual countries.

2.3.2 Empirical Literature from Africa

Anyanwu (1998) carried out a study on macro-economic determinants of FDI inflows in Nigeria (1973-1996).

The following model was adopted, which used accelerator theory and time series data for model specification.

$$NFDI = f(INVGDP, GDP, OPEN, EXR, AVTR, SAP, INDIG, COUP) \dots\dots\dots 2.12$$

Where;

- NFDI - Foreign Direct Investment in Nigeria
- INVGDP - Ratio of Domestic Investment to Gross Domestic Product
- GDP - Gross Domestic Product
- OPEN - Openness of Economy
- EXR - Exchange rate of the Naira to US Dollar
- AVTR - Average Tax Rate
- SAP - Structural Adjustment Programme Dummy
- INDG - Dummy Variable to Capture Indegenisation Policy adopted in Nigeria during the Period of Study
- COUP - Number of Coup d'etat – Was to capture the political upsets that occurred in Nigeria during period of study

It was observed that an increase in GDP resulted to higher FDI inflows while openness of the economy and liberalization of Nigeria's trade reduced FDI inflows. The exchange rate also affected FDI to a great extent. Main limitation of this study was that, natural resources like oil extraction would have been a major determinant of FDI in Nigeria but it was overlooked in this study.

Khan and Bamou (2007) examined the determinants of FDI inflows in Cameroon for the period 1973 – 2001. For model specification the accelerator theory was used and a time series data was used. The main determinants of FDI in Cameroon included market size, growth of economy, political risk, government size, infrastructure, exchange rate, external debt and inflation.

The estimated model was;

$$FDI_t = a_0 + a_1 GdPt + a_2 Open_t + a_3 ER_t + a_4 GR_t + a_5 EDU_t + a_6 Wage_t + a_7 Infr_t + a_8 Inf_t + a_9 PR_t + a_{10} ED_t + a_{11} EPZ_t \dots\dots\dots 2.15$$

Where,

- FDI - Foreign Direct Investment
- GdPt - Market Size
- Open - Openness of Economy
- ER - Exchange Rate
- GR - Growth Rate of GDP
- EDU - Secondary Education Rate
- Infr - Infrastructure
- Inf - Inflation
- PR - Potential Risk
- ED - External Debt
- EPZ - Export Processing Zone

The regression analysis showed the level of infrastructure development as the most significant determinant of FDI. Market size, openness of economy, human capital and rate of economic growth were important but to lesser extent.

2.3.3 Empirical Literature from East Africa

Obwana (2001) examined the factors attracting FDI in Uganda. The main factors included a predictable and consistent policy and macro-economic environment, successful implementation of privatization, efforts at regional integration for market-seeking investment, investment promotions, infrastructure and institutional bottlenecks. For model specification the accelerator theory was adopted and time series data used.

The estimated model was;

$$FDI = a_1 + a_2 GDPGR + a_3 GDP + a_4 TB + a_5 INF + a_6 PPE GDP + a_7 DSR + a_8 EDSGDP + U \quad \dots\dots\dots 2.13$$

Where,

- FDI - Foreign Direct Investment
- GDPGR - Proxy for return on capital
- GDP - Gross Domestic Product, measured output of the economy in real terms
- TB - Trade Balance
- INF - Inflation rate
- PPEGDP - Proportion of Public Expenditure
- DSR - Domestic Savings
- EDSGDP - External Debt Service
- U - Error Term

The study identified that investors were attracted to Uganda because of high level of domestic savings, liberalization of exchange rates and low inflation rate. Foreign investors were also concerned with political stability, market size, natural resource availability and quality of infrastructure and labour.

2.3.4 Empirical Literature Specific to Kenya

Fielding (1993), carried out a cross-country study in Kenya and Cote d'Ivoire to determine whether FDI is determined by rate of return on capital or by other political or economic factors. The accelerator theory was adopted. Factors identified included Savings Rate (S), Foreign Aid (AID) and Level of Foreign Exchange (FOREX).

The following model was adopted;

$$FDI = F(S, FOREX, AID, IRR) \dots\dots\dots 2.11$$

The findings of the study were that, FDI depend on foreign exchange availability and it was the savings which would to adjust to the equilibrium in the long-run.

Muthoga (2003) did a study to find determinants of FDI in Kenya for the period 1970-1999. The concept of FDI was estimated using Generalised Least Squares (GLS). Theoretical formulation was based on the concept of Institutional Fitness developed by Wilhelm's (1998).

The model estimated was;

$$FDI = f(INV, G, S, EDT, XRT, ECOP, TV, INFL, CRED, IRR, NRS) \dots\dots\dots 2.16$$

Where;

- FDI - Foreign Direct Investment
- G - Growth of GDP
- S - Rate of Savings
- EDT - External Debt Service
- XRT - Exchange Rate
- ECOP - Economic Openness
- INF - Inflationary Rate
- CRED - Domestic Credit provided by banking sector
- IRR - Rate of Return
- NRS - Primary School enrolment rate

The results revealed that economic openness was the most significant determinant of FDI. Other significant factors were growth rate of GDP, domestic investment, exchange rate and internal rate of return.

The limitation of this study was that the cost of labour, effect of policy incentives and macro-economic reforms were not empirically tested and are vital in determination of FDI.

Mwega and Ngugi (2007) analyzed the various factors that constrain the improved net FDI flows into Kenya, and whether the country responds differently to various determinants of FDI than other countries.

The economic model was estimated for the period 1960-1997 a panel data for 43 countries. For model specification the accelerator theory was adopted. The model estimated was;

$$FDIGDP = f(DYN, DYNT, TY15, REER, DFY, TRAY, IPUB, TTS, DEBTY, DEBTY, PIN, ICRGE, DKENYA, DSX) \dots\dots\dots 2.17$$

Where;

- FDIGDP - Net FDI to GDP ratio
- DYN - Real Income Growth
- DYNT - Trading Partner growth rate
- TY15 - Average total years of schooling in the population of age 15 or over in the initial year of the period
- REER - Real Effective Exchange Rate
- DFY - Fiscal Deficit GDP Ratio
- TRAY - Degree of Openness as measured by trade ratio
- IPUB - Public Investment GDP ratio
- TTS - Terms of Trade Shock
- DEBTY - External Trade Ratio
- DSX - Debt Service Ratio
- PIN - Political Instability
- ICRGE - Quality of Institutions
- DKENYA - Kenya Dummy

They tested whether the Kenya dummy was significantly different from zero in the empirical model. The main determinants were real income growth, trading partner growth rate, human capital, real effective exchange rate, fiscal deficit GDP ratio, degree of openness, public investment, terms of trade, external debt ratio, debt service ratio, political instability and quality of institutions.

By use of time series data, the regression results indicated that Kenya dummy was insignificant, suggesting that Kenya was on the regression line. The limitation was that, this was a cross country study and getting comprehensive data for analysis was a problem and also the conclusions reached were not representative of individual countries.



2.4 Overview of Literature

Out of the theoretical literature outlined in 2.2, the study adopted the flexible accelerator model by Chenery and Koyck (1952), which showed that the relationship between investment and output need not to be fixed but can be affected by other variables.

The empirical literature highlighted above listed a number determinants of FDI flows, which included infrastructure, openness of economy, exchange rate, GDP growth rate, inflation, natural resource endowment, market size, internal rate of return, external debt and terms of trade. The study done by Anyanwu (1998) ignored natural resource endowment like oil extraction which would have been a major determinant of FDI in Nigeria. The study done by Obwana (2001) looked at major macroeconomic policies like inflation, trade balance, GDP, Domestic savings but it did not consider the effect of cost of labour and liberalization of exchange rates on FDI inflows. Study done by Mweha and Ngugi (2007) was cross-country study and getting comprehensive data for analysis was a problem. To compound the problem, the conclusions reached were not representative of individual countries. The study conducted by Muthoga (2003) listed several factors that affect FDI in Kenya. However, the study did not capture the cost of labour and the effect of introduction of policy incentives and macro-economic reforms on FDI. This study improved on these limitations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter covers the research methodology. The areas covered included: Theoretical framework, model specification, definition and measurement of variables, the linear model, working hypothesis, data type, data sources and time series properties.

3.2 Theoretical Framework

A number of investment theories have been put forward in an attempt to show the main determinants of investment in an economy. To develop the model, the flexible accelerator model by Chenery and Koyck (1952) shows that the relationship between investment and output need not to be fixed but can be affected by other variables like the cost of investment funds, that is, interest rates. The model uses lags in the adjustment process between level of output and capital stock. The equilibrium capital stock K^E is given as a function of output, the user cost and the price of output.

$$K^E = K^E(Y, C, P) \dots\dots\dots 3.1$$

Where;

K^E - Equilibrium capital stock

Y – Output

C – User cost

P – Price of output

Having derived an expression for the equilibrium capital stock (equation 3.1) an investment demand function can be derived from changes in K^E . Components of gross investment i^g are shown as;

$$i_i^g = K_{t+1} - K_t + \delta K_t \dots\dots\dots 3.2$$

Where; i_i^g - gross investment

$K_{t+1} - K_t$ - Net investment i''

δK_t - Replacement investment denoted i'

Gross investment is the sum of net investment and replacement investment.

$$i^g = i^n + i^r \quad \dots\dots\dots 3.3$$

Replacement investment is each period's depreciation (δK_t) of the capital stock.

The subscripts will be dropped where not needed.

$$i^r = \delta K \quad \dots\dots\dots 3.4$$

Where; δ is the depreciation rate.

Net investment is that part of gross investment that increases the level of capital stock. In the absence of lags in adjustment process of actual capital stock to desired capital stock, net investment would be

$$i_n = \Delta K^E \quad \dots\dots\dots 3.5$$

K^E is taken from equation (3.1). From equation (3.5) and equation (3.4) we can see that net investment depends on changes in equilibrium level of capital stock and replacement investment depends on the level of capital stock.

Thus in the long run with no trend in the ratio of user cost of capital to the price level (C/P), because C/P remains fairly constant over time, it is the growth of output or demand, that gives us the level of net investment. This gives us the accelerator principle which is the relation between change in output and level of net investment.

From equation (3.4) and (3.5)

$$i^g = i^n + i^r = \Delta K^E + \delta K \quad \dots\dots\dots 3.6$$

Investment in period t can be expressed as;

$$I_t = K_t - K_{t-1} = \Delta K \quad \dots\dots\dots 3.7$$

Where;

I_t - Net investment at period t

K_t - Desired capital stock

K_{t-1} - Actual capital stock for previous period

Since the proposition of accelerator theory is that investment is related to output, then equation 3.7 can be re-written as;

$$I_t = K_t - K_{t-1} = \alpha(Y_t - Y_{t-1}) \quad \dots\dots\dots 3.8$$

or

$$I_t = \Delta K_t = \alpha \Delta Y_t$$

Net investment is related to ΔY

Where;

$$\Delta Y = \alpha (I^n) \dots\dots\dots 3.9$$

α - denotes Marginal productivity of capital

From the accelerator principle investment is a function of output and interest rates (r).

$$I^n = f(Y, r) \dots\dots\dots 3.10$$

Net investment is taken to include both foreign direct investment (I_f^n) and domestic investment (I_d^n).

$$I^n = [I_f^n + I_d^n] = f(Y, r) \dots\dots\dots 3.11$$

3.3 Model Specification

From equation 3.8 investment in period t is determined by changes in output and capital stock. From equation 3.11 assuming all investment were from foreign direct investment, the study stipulates a relationship between FDI and its determinants. From economic theory and literature review, FDI was determined by several factors such as; openness of economy, rates of savings, exchange rate, inflation, trade balance, growth rate of GDP, external debt, wage rate and policy incentives and macro-economic reforms.

A general model of foreign direct investment inflows in this study was modified version of equation (3.11).

The modified form of the model was given as;

$$FDI = f(OPEC, SR, EXR, INF, TRB, GDPRT, EXD, WR, DPO, DME) \dots\dots\dots 3.12$$

Where;

FDI - Foreign Direct Investment

OPEC - Openness of the economy

SR - Rate of Savings

INF	- Inflation
EXD	- External Debt
TRB	- Trade balance
GDPRT	- GDP Growth Rate
EXR	- Exchange Rate
WR	- Wage Rate
DPO	- Policy Incentives and Macro Economic Reforms (Dummy Variable)
DME	-Macro-Economic Reforms (Dummy Variable)

3.3.1 Definition and Measurement of Variables

The dependent variable is Foreign Direct Investment (FDI)

Foreign Direct Investment (FDI) is the inflows of investment to acquire a lasting management interest in an enterprise operating in an economy other than that of the investor. FDI was measured as a percentage of GDP.

The explanatory variables are: -

Openness of Economy (OPEC): The extent which an economy is open to trade. OPEC was captured as the ratio of exports plus imports to GDP.

GDP growth rate (GDPRT): This is average annual growth rate of output. GDPRT was measured as annual percentage change of level of total output.

Exchange Rate (EXR): Value of Kenya's currency in relation to that of other countries. The nominal exchange rate of US dollar against Kenyan shilling was used to measure the exchange rate.

Inflation (INF): Inflation is general upward movement of prices of goods and services in an economy. INF was measured by change in consumer price index (CPI).

External Debt (EXD): Amount of money borrowed by the government from other countries. EXD was measured by the value of total long term and short term foreign debts.

Trade Balance (TB): This is difference in value between total exports and total imports of a nation during a specific period of time. TB was measured by the difference between exports and imports as a percentage of GDP.

Rate of Savings (SR): Proportion of GDP that is saved in a year. SR was measured by rate of gross national savings over GDP.

Wage Rate (WR) - The cost of labour incurred by an investor on employees. WR was captured by the total average wage earnings per employee in both the private sector and public sector.

Policy Incentives (DPO) – Are incentives given and implemented by the government to encourage Foreign Investment. Dummy variable was used to capture effect of policy incentives on FDI. The variable took the value of one from 1986 and zero otherwise.

Macro-Economic Reforms (DME) –Are macro-economic reforms programmes on liberalization of exchange rates, interest rates and capital controls. Dummy variable was used to capture effect macro-economic reforms on FDI. The variable took the value of one from 1990 and zero otherwise.

3.3.2 Linear Model

From literature review and theoretical model the foreign investors’ decision-making on investment at time t was influenced by openness of the economy, rate of savings, external debt, GDP growth rate, , exchange rate, inflation, , trade balance, wage rate, policy incentives and macro-economic reforms.

This was expressed mathematically as;

$$FDI_t = f(a_0 + a_1 OPEC_t + a_2 SR_t + a_3 GDPRT_t + a_4 EXD_t + a_5 EXR_t + a_6 INF_t + a_7 TRB_t + a_8 WR_t + a_9 DPO_t + a_{10} DME_t + e) \dots\dots\dots 3.13$$

Assuming a linear relationship,

Where;

FDI_t - Represents foreign direct investment at time t while f was a functional relationship and others are explained in equation 3.12

Where;

a_i 's - were parameters to be estimated

$i = 0, 1, \dots, 10$

e – error term

3.4 Working Hypotheses

1. Openness of the economy, rate of savings, growth rate of GDP, trade balance, liberalization of exchange rates and policy incentives and macro economic reforms are expected to have a positive effect on FDI inflows.
2. Trade balance, inflation, wage rate and external debt are expected to affect FDI inflows negatively.

3.5 Data Type

Time series data was used and was extracted from secondary sources. The model required data on openness of economy, GDP growth rate, external debt, exchange rate, inflation, rate of savings, trade balance and wage rate.

3.6 Data Sources

The sources of the data included; Statistical abstracts, economic surveys, African development indicators, World Bank development indicators, world tables, African economic and financial data and Central Bank of Kenya's quarterly economic reviews and annual reports.

3.7 Time Series Properties

Linear specification of the functional relationship in equation (3.12) was estimated using time series data for the period 1970-2009. A regression analysis was employed and different statistical tests were undertaken before model estimation was done.

Time series data usually exhibit a non-stationary process and if Ordinary Least Square (OLS) was applied directly it would give spurious results. A test for order of stationarity was done, unit root test on both dependent and independent variables were conducted to evaluate their time series characteristics. The test was to ascertain the number of times a variable was differenced to arrive at stationarity. Cointegration was used to find out if there was a long run relationship between two or more variables. Augmented Dickey Fuller (ADF) test and Philip Peron (PP) were employed to identify the order of integration of economic variables.

CHAPTER FOUR

DATA ANALYSIS, EMPIRICAL FINDINGS AND INTERPRETATION

4.1 Introduction

This chapter presents the empirical results based on the empirical model developed in the previous chapter. The chapter outlines; Stationarity tests results, Regression analysis results, Diagnostic results, Serial Correlational and Arch test and discussion of results.

4.2 Stationarity Tests Results

When time series data is non stationary and used for analysis it may give spurious results because estimates obtained from such data will possess non constant mean and variance. Because this study used time series data, it was important to establish the stationarity of the data or what order they were integrated to make sure that the results obtained were valid. In this regard Augmented Dickey Fuller (ADF) was used to test for unit roots. The unit roots results of the variable in the model were reported in both Appendix B-1 and B-2. The results of the unit root show that foreign direct investment (FDI) gross domestic product (GDP), inflation and savings rate were all stationary at levels. The tests further established that exchange rate, external debt trade balance, wage rate and openness were non stationary at levels but were stationary after differencing once which implies that they were integrated of order one.

Johansen test was then carried out to investigate whether there was more than a single cointegration relationship between foreign direct investment and its determinants. The results of variables are reported in Table 4.1

Table 4.1 Johansen Cointegration test

Series: FDI EXD OPEC INF DPOM SR TRB WR EXR GDPRT				
Lags interval:1 to 2				
Hypothesized No.of CE(S)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.926866	344.9025	239.2354	0.0000
At most 1 *	0.815385	245.5150	197.3709	0.0000
At most 2 *	0.761626	181.3148	159.5297	0.0019
At most 3 *	0.648120	126.8260	125.6154	0.0421
At most 4	0.551197	87.13629	95.75366	0.1689
At most 5	0.464863	56.69179	69.81889	0.3507
At most 6	0.357224	32.93297	47.85613	0.5605
At most 7	0.239551	16.13854	29.79707	0.7025
At most 8	0.139025	5.732373	15.49471	0.7269
At most 9	0.001161	0.044149	3.841466	0.8335

Trace test indicates 4 cointegrating equations at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

In the Johansen procedure the likelihood ratio (LR) test is used to test the significance of estimates of Eigen values. The results show the existence of cointegrating relationship between foreign direct investments, exchange rate, inflation wage rate, openness of the economy, external debt, gross domestic product, policy incentive, macro-economic reforms and savings rate (Table 4.1). The LR test indicated five cointegrating equations at 5 percent level of significance.

4.3 Regression Analysis Results

This section presents the results of the regression model specified in equation 3.12. The empirical estimation was based on ordinary least squares (OLS) technique. Time series data was used for the entire period and the results of the estimated model are reported in Table 4.2.

Table 4.2 Regression Results

Variable	Coefficient	Std-Error	t-ratio	P-value
EXR	0.04282	0.011342	3.775084	0.0001
GDPRT	0.00298	0.052802	0.056475	0.67
EXD	0.124544	0.191443	0.650554	0.5203
ERR(-1)	-0.065670	0.056320	-1.166016	0.2534
INF	-0.013942	0.015461	-0.901753	0.3744
OPEC	0.255587	0.123256	2.073631	0.0468
DPO	1.34509	0.473964	2.837952	0.0116
SR	0.094227	0.033581	2.805961	0.0087
TRB	-4.043243	1.186159	-3.408686	0.0019
WR	-0.007390	0.002574	-2.871018	0.0074
C	1.46832	1.98071	0.741312	0.4132
R-squared	0.739023			
Adjusted R-squared	0.693351			
F-statistic	34.76502			
Prob (F-statistic)	0.000000			
Durbin-Watson stat	1.994431			

The regression had a coefficient of determination (R^2) of 0.739023 and an adjusted R^2 of 0.693351. This means that the variations in gross domestic product growth rate, inflation, savings rate, exchange rate, external debt, trade balance, wage rate, policy incentives, macro-economic reforms and openness of economy explain 69 percent of the variations of FDI inflows in Kenya. The F-value of 34.8 with a probability of 0.00 at 5 percent significance level indicates that all the independent variables were jointly significant in predicting foreign direct investment in Kenya.

The study employed an error correction model because some variables were stationary at levels and other variables were stationary after first difference. Differencing variables that were not stationary then applying regression technique only gave short term effects and there were no long term effects. Estimating the equation at levels gives the

long term effects and the problem with this method would be that we will not get the short term effects and the speed of adjustment. The error correction model combines these two and gives both the short term and long term effects. The coefficient of the error term gives the speed of adjustment of the model.

4.4 Diagnostic Test Results

The following diagnostic tests were performed on the model to evaluate the validity of the model. They include Jarque- Bera test for normality, LM autocorrelation test, ARCH (Autoregressive conditional heteroskedasticity) to detect heteroskedasticity. The results are presented in table C-1 and table D-1 in the appendix.

The study employed Jarque-Bera test statistic for testing whether the series was normally distributed. The test statistic measures the difference of the skewness and kurtosis of the series with those from the normal distribution. We reject the hypothesis of normal distribution at the 5% level but not at the 1% significance level. Under the null hypothesis of a normal distribution, the Jarque-Bera statistic was distributed as χ^2 with 2 degrees of freedom. The reported Probability was the probability that a Jarque-Bera statistic exceeds (in absolute value) the observed value under the null, thus a small probability value leads to the rejection of the null hypothesis of a normal distribution. As shown in table D-1, the value of Jarque-Bera (1.142) is greater than that of the given probability (0.5647) implying that the series were normally distributed.

4.4.1 Serial Correlation and Arch Test

Unlike the Durbin-Watson statistic (1.9944) for AR (1) errors, the LM test may be used to test for higher order, ARMA errors, which is applicable whether or not there are lagged dependent variables. The null hypothesis of the LM test was that there were no serial correlation. The statistic labeled “Obs*R-squared” is the LM test statistic for the null hypothesis of no serial correlation. The probability value (0.2033) indicates the absence of serial correlation in the residuals at five percent significance level. The statistic labeled “Obs*R-squared” was also the arch test statistic for the null hypothesis of autoregressive conditional heteroskedasticity (ARCH) in the residuals. The probability

value (0.6211) indicates that there was no heteroskedasticity in the residuals at five percent significance level. Both tests results were summarized in appendix C-1.

4.5 Discussion of Results

The following is a discussion of each variable with regard to sign, significance and possible policy implications.

The relationship between wage rate and foreign domestic investment is negative as indicated by the negative coefficient. The coefficient of wage rate is statistically significant as indicated by a t-ratio of -2.871. The negative relationship was consistent with economic theory since an increase in wage rate increases the cost of production. Throughout the period of study the average cost of labour in private and public sector was increasing which affected FDI negatively. The study was in line with Khan and Bamou (2007) who found out that there was a negative relationship between wage rate and FDI.

The policy incentives are captured by a dummy variable. The incentives were given and implemented by the government to encourage Foreign Investment from 1986. According to the results indicated in table 4.2, the coefficient of the policies implemented by the Kenyan government was positive and statistically significant in determining FDI in Kenya as shown by a t-ratio of 2.838. From late 1980's and early 1990's the Kenyan government offered several incentives to foreign investors which have had a positive impact on FDI.

Macro-economic reforms were captured using a dummy variable from 1990. The variable had a positive coefficient of 1.03 and a t-ratio of 1.35 meaning that, though positively correlated to FDI, the coefficient of macro-economic reforms was insignificant. Although the government came up with comprehensive macro-economic reforms including liberalization of interest rates and exchange rates, they were not significant in determining FDI inflows. The government is also striving to maintain macro-economic stability in the country which will lead to low inflation levels, stable exchange and low interest rates.

There is a positive relationship between openness of the economy and FDI inflows in Kenya. With a t-ratio of 2.0736 it implies that the coefficient of the variable

was statistically significant. Openness of the economy leads to trade liberalization. Openness to trade also signals commitment to outward-looking, market-oriented policies and enhance trading opportunities thereby attracting foreign investors intent on taking advantage of the new trading opportunities.

An important aspect of openness in Kenya was the involvement in free trade agreements, customs, and unions such as the East Africa Community and COMESA. Countries invest into such regions to avoid tariffs on exports, while the enhanced growth and trade from the economies of scale of integration, provide a demand stimulant to FDI. The prospect of trade membership is viewed by potential investors as reducing country risk, because ultimate market blocs membership implies guarantees in terms of macro-economic stability, institutional and legal environment and political stability. The study concurs with Caves (1996); Kwang J, Singh (1995) and Muthoga (2003) who found out that there was a positive significant relationship between openness of the economy and foreign direct investment.

The coefficient of exchange rate was statistically significant in determining the foreign direct investment in Kenya as shown by a t-ratio of 4.568. The coefficient of this variable is positive suggesting that one unit increase in exchange rate yields 0.0518 unit increases in Kenya's foreign direct investment. With a stable exchange rate the environment of doing business will be favorable and this makes the country attractive to investors and makes the country competitive in the region. A floating exchange rate regime was established 1993 and exchange rate control removed in 1995 which contributed greatly to FDI inflows into Kenya. An imperfect capital markets mean that the internal cost of capital is lower than borrowing from external sources. Thus, an appreciation of the currency leads to increased firm wealth and provides the firm with greater low-cost funds to invest relative to the counterpart firms in the foreign country that experience the devaluation of their currency. The study is in line with Froot and Stein (1991) and Muthoga (2003) who found a positive relationship between exchange rate and FDI. A weaker host country's currency tends to increase inward FDI within an imperfect capital market model as depreciation makes host country's assets less expensive relative to assets in the home country. The central bank of Kenya plays a

major role in maintaining stability in the exchange rate.

GDP growth rate had a positive coefficient of 0.02 and a t-ratio of 0.0565 implying that both the GDP and FDI move in the same direction and the coefficient of GDP though positive it was statistically insignificant in determining FDI in Kenya. The study was in line with Obwana (2001), who studied the impact of FDI on growth in Uganda. The study results showed that FDI inflows impacted on growth positively though the coefficient was insignificant. Mishara and Moody (2001) also observed that FDI was associated with higher growth in some advanced countries. For developing countries, findings were little different, the investigations showed that, they do not benefit much from FDI and most times face crowding out of their domestic investment, due to the inflow of foreign capital. The extent of benefit from FDI depends on their overall macro-economic stability and policy framework. Aremu (1997) submitted that foreign private investment accelerate the pace of economic development of Less Developed Countries (LDCs) up to a point where a satisfactory rate of growth can be achieved on a self-sustaining basis. It was observed that the main responsibility of foreign private investment in LDCs was to raise the standard of living of its people so as to enable them move from economic stagnation to self-sustaining economic growth.

Inflation and foreign direct investment are negatively related implying that persistent increase in the price of commodities impacts negatively of foreign investments. The coefficient of this variable is negative and insignificant suggesting that one unit reduces 0.014 units in FDI. The rate of inflation can be viewed as a proxy for the level of economic stability in an economy, considering that one of the classic symptoms of loss of fiscal or monetary control is unbridled inflation. Considering that investors prefer to invest in more stable economies, that reflect a lesser degree of uncertainty, it is reasonable to expect that inflation would have a negative effect on foreign direct investment. High rates of inflation means high production costs in terms of high prices for inputs, raw materials, electricity and even labour. The study is line with (Onyeiwu and Shrestha, 2004) who found out that Instability in macroeconomic variables as evidenced by double digit inflation, and excessive budget deficits, limits regions ability to attract foreign investment.

Savings rate was among the most important variables influencing FDI in Kenya as shown by a t-ratio of 2.806. The coefficient of this variable is positive suggesting that one unit increase in savings rate yields 0.09 units increase in FDI. Countries with high savings rates make it easier to finance investment projects needed for accelerated growth and development. A country with high rate of savings means high levels of investment which leads to high economic growth which has a positive impact on FDI.

The relationship between Trade balance and FDI in Kenya is negative as indicated by the negative coefficient of -4.0432 and a t ratio of -3.408. Trade balance was significant in determining FDI inflows though the coefficient was negative This implies that a negative trade balance leads to reduction in FDI. Throughout the period of study trade balance was negative which affected FDI greatly. The study was in line with Muthoga (2003) who found out that there was a negative relationship between trade balance and FDI.

External debt had a positive coefficient of 0.12 and a t-ratio of 0.65 implying that though positively correlated to FDI, the coefficient of external debt was statistically insignificant. The result of the analysis suggests that external debt and foreign private investment in Kenya both move in the same direction. The policy implication of this result is that current debt flows into the economy will stimulate investment but over reliance on external debt will deter foreign investment because more resources will be needed to repay and service the debt. Also for the economy to grow there is the need for external assistance in the form of additional resources, which could stimulate private investment as many developing countries resort to external borrowing to bridge the domestic resource gap in order to accelerate economic development.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the study findings and the study and the conclusions based on the results. The policy implications from the findings and areas for further research are also presented.

5.2 Summary

The main objective of this study was to investigate the determinants of foreign direct investment in Kenya. Further study was prompted by the continued volatility of FDI inflows in Kenya despite the many policy incentives and macro-economic reforms. To achieve the objective of the study, time series data was collected from 1970 to 2009. The data was tested for stationarity and then analyzed using inferential statistics.

In the face of inadequate resources to finance long-term development in developing countries, and with poverty reduction looking increasingly bleak, attracting FDI has assumed a prominent place in the strategies of African countries. Many developing countries have developed a renewed interest in FDI as a source of capital. FDI usually represents a long-term commitment to the host country and can contribute significantly to gross fixed capital formation in developing countries. FDI has several advantages over other types of capital flows, in particular its greater stability and the fact that it would not create obligations for the host country.

FDI has potential benefits to host countries which include, source of capital, source technology transfer, new management skills, market know-how and job creation. The FDI inflows can also be potentially harmful to host economies if it results in resource exploitation, pollution, abuse of market power among other problems. Negative consequences of FDI can be avoided with proper regulation. Given the importance of FDI in developing countries there was a need to establish the determinants of FDI inflows in Kenya.

The objective of the study was to analyze the determinants of FDI inflows in Kenya. The study found out that foreign direct investment (FDI) in Kenya is determined by GDP growth rate, exchange rate, openness of the economy, policy incentives, reforms implemented by the government, savings rate, trade balance and the wage rate. The most significant factor was exchange rate, other significant factors included, openness of the economy, savings rate, trade balance, wage rate and policy incentives. Inflation, external debt, macro-economic reforms and GDP growth rate were insignificant,

The area of concern was whether there was a significant relationship between policy incentives, macro-economic reforms and wage rate on FDI inflows in Kenya, the study conducted regression analysis and found out that there was a positive significant relationship between policy incentives and FDI in Kenya. The study employed a dummy variable to capture the incentives given and implemented by the government to encourage Foreign Investment in Kenya from 1986. According to the results, the policies implemented by the Kenyan government impacted positively in attracting foreign investors in the country. The regression results also revealed wage rate as having a significant relationship with FDI inflows but the impact was negative. For the macro-economic reforms given and implemented by the government the results revealed that they were insignificant in determining FDI inflows in Kenya. A dummy variable was used to capture the macro-economic reforms from 1990.

5.3 Conclusion

From results of data analysis, the most significant factor affecting FDI inflows was exchange rate. Other significant factors in order of significant included, trade balance, wage rate, policy incentives, savings rate and openness of the economy. The remaining variables were statistically insignificant.

5.4 Policy Recommendations

FDI inflows play a big role in the growth and development of countries. The following policy recommendations arose from the findings of the study.

The Central Bank should strive to maintain desirable exchange rates. For government which seeks to contain inflation and stabilize exchange rates, through adoption of sound fiscal and monetary policies have fostered their economic growth. This will also stimulate wider participation by private sector in economic growth and increase in FDI.

Openness of the economy to international trade is a major determinant of FDI. The government policy should focus on liberalizing the economy by undertaking comprehensive programme to trade reforms, designed to open the economy and increase its competitiveness. The government should also encourage freedom of capital transactions with foreigners and competition in domestic market.

Policy incentives given by the government is a major booster to FDI. The government through the Ken Investment Centre should continue offering incentives to foreign investors geared towards increasing the volume of exports, where manufacturers are exempted from value added tax (VAT) and customs duty on inputs. The investment environment should be improved by adopting and implementing the various macro-economic reforms, measures like liberalizing interest rates and exchange rates. Through implementation of the appropriate policies the government will ensure macro-economic stability and ensure favourable climate for investors.

The government needs to invest in maintaining high levels of security in the country, come up with measures to reduce the high levels of corruption and maintaining political stability. All these will help in maintaining conducive environment for foreign investment.

5.5 Suggestions for further Research

Further research is required to carry out a cross-country study to investigate whether the same factors influencing FDI in Kenya, affect FDI in the other countries. Political governance and its effect on FDI is an area that requires further research, to investigate whether the different political regimes since independence have any impact on FDI inflows. The bottlenecks that hinder foreign direct investments and also what have led the existing investors to prefer doing business in other countries at the expense of Kenya also need to be investigated.

REFERENCES

- Ajayi, (2007). *Foreign Direct Investment in Sub-Saharan Africa. Determinants, Origins, Targets, Impact and Potential*. Nairobi. African Research Consortium.
- Anyanwu, J. (1998). *An Economic Investigation of Determinants of FDI in Nigeria*. Rethinking Investment for Economic Development in Nigeria. Selected Papers of 1998. Annual Conference of Nigerian Economic Society, Abuja.
- Aremu, J.A. (1997). Foreign Direct Investment. Determinants, Performance and Promotion. CBN Bulletin, 180-112.
- Branson, H. W. (1989). *Macro-economic Theory and Policy*, Third Edition, Harper and Row. Tokyo.
- Campos, N. F. and Y. Kinoshita, (2003). Why does FDI go Where it Goes? New Evidence from the Transition Economics. IMF Working Paper WP/03/228, International Monetary Fund, Washington DC.
- Caves, R.E (1971) "International corporations: the industrial economics of foreign investment". *Economica* 38: 1-27.
- Chenery, H. B. and L.M. Koyck (1952). *Over Capacity and the Accelerator Principle*. *Econometrica*, Vol. 20 : 1-28.
- Chirinko, R. S. (1993). *Business Fixed Investment Spending. A Critical Survey of Modeling Strategies, Empirical results and Policy Implications*. *Journal Economic Literature*, Vol. 34, No.4:1875-1911.
- Clark, J. B. (1917). Business Acceleration and the Law of Demand. *Journal of Political Economy*. <http://cepa.NewsSchol.Edu>.
- Dixit, A. K. and R. S. Pindyck (1994). *Investment Under Uncertainty*. New Jersey. Princeton University Press.
- Fielding, D. (1993). *Determinants of Investment in Kenya and Cote d'Ivoire: A Journal of African Economies*, Vol. 2 Number 3, December 1993.
- Froot, K. A. and C.J. Stein (1991). "Exchange Rates and Foreign Direct Investment: An Imperfect Capital Markets Approach," *Quarterly Journal of Economics*, Vol. 106 (4): 1191-1217.

- Jorgensen, D. W. (1963). *Capital Theory and Investment Behaviour*, Journal of Economic Review, Vol. 58, No. 2:247- 259.
- Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. London, Macmillan.
- Khan.S.and L.Bamou (2007).*Foreign Direct Investment in Sub-Saharan Africa. Determinants, Origins, Impacts and Potential*. Nairobi. African Research Consortium
- Kwang J, Singh H. (1996) "The Determinants of Foreign Direct Investment in Developing Countries", *Transnational Corporations* 5 (2), pp. 67-105.
- Mishara,D.A. and A.P. Moody (2001). Private Capital Flows and Growth Finance. *Development*. 2:3-5.
- Muthoga, S. K. (2003). Determinants of FDI in Kenya. Unpublished M. A. Project, Kenyatta University.
- Mwega.F.M and R.W.Ngugi (2007). *Foreign Direct Investment in Sub-Saharan Africa.Determinants,Origins,Impact and Potential*. Nairobi. African Research Consortium.
- Obwana, M. (2001). *Determinants of FDI and their Impact on Economic Growth in Uganda*. African Development Review. Vol. 13:46-81.
- Republic of Kenya (1965). *Sessional Paper No. 10 of 1965 on African Socialism and its Application to Planning in Kenya*; Nairobi, Government Printers.
- Republic of Kenya (1986). *Sessional Paper No. 1 of 1986: On Economic Management for Renewed Growth, which emphasized export promotion*; Nairobi; Government Printers.
- Republic of Kenya, (2001). *Kenya Investment Guide*. Nairobi, Government Printers.
- Republic of Kenya, (2003). *Public Expenditure Review*. Nairobi, Government Printers.
- Republic of Kenya, (2007). *Kenya Vision 2030*. Nairobi, Government Printers.
- Tobin, J. (1969). "A General Equilibrium Approach to Monetary Theory." *Journal of Money, Credit and Banking*. Vol. 1:15-29.
- UNCTAD, (1998). *World Investment Report. Trends and Determinants*. New York. United Nations Conference on Trends and Development.

- UNCTAD, (1999). *World Investment Report: Foreign Direct Investment and Development*. Geneva, United Nations Conference on Trade and Development.
- UNCTAD, (2008). *World Investment Report: Foreign Direct Investment and Development*. New York, United Nations Conference.
- UNCTAD, (2009). *World Investment Report, Foreign Direct Investment and Development*. New York, United Nations Conference.
- United Nations, (1993). *Explaining and Forecasting Regional Inflows of Foreign Direct Investment*. New York.
- Wild J. J, (2006). *International Business. The Challenges of Globalization*. 3rd Edition, Upper Saddle River, New Jersey.
- Wilhelm's, K.S. (1998). Foreign Direct Investment and its determinants in emerging economies. African Economic Policy Paper, Discussion paper No:9, Washington, D.C.
- World Bank, (2003). A Policy Agenda to Restore Growth, *Document of World Bank*. August 18, 2003. Washington: World Bank.

APPENDICES

Appendix A1: Evolution of FDI in Kenya, 1970 – 2009

Year	Net inflows (BOP, Current US\$ Million)	Net inflows % of GDP
1970	13.8	0.86
1971	7.4	0.42
1972	6.3	0.30
1973	17.3	0.69
1974	46.4	0.79
1975	17.2	0.53
1976	46.4	1.34
1977	56.5	1.26
1978	34.4	0.65
1979	84.0	1.35
1980	79.0	1.09
1981	14.1	0.21
1982	13.0	0.20
1983	23.7	0.40
1984	10.8	0.17
1985	28.8	0.47
1986	32.7	0.45
1987	39.4	0.49
1988	0.4	0.00
1989	62.2	0.75
1990	57.1	0.67
1991	18.8	0.23
1992	6.4	0.08
1993	1.6	0.03
1994	3.7	0.05
1995	32.5	0.36
1996	12.7	0.14
1997	19.7	0.19
1998	11.4	0.10
1999	13.8	0.13
2000	10.9	1.06
2001	5.3	0.05
2002	27.6	0.20
2003	81.7	0.50
2004	46.1	0.30
2005	21.2	0.1
2006	50.7	0.2
2007	72.9	2.7
2008	95.6	0.3
2009	140.5	0.5

Source: World Bank, World Development Indicator, 2011

Appendix B-1

VARIABLE	ADF	CRITICAL VALUE	
FDI	-5.526393	5% level	-3.529758
EXTDEBT	-1.320085	5% level	-3.529758
EXRATE	-2.829176	5% level	-3.529758
GDPRATE	-4.276816	5% level	-3.529758
TRADEBAL	-3.473993	5% level	-3.529758
INFLATION	-6.116641	5% level	-3.529758
WAGERATE	-1.887332	5% level	-3.529758
OPENNESS	-2.510160	5% level	-3.529758
SAVINGSRATE	-4.302869	5% level	-3.529758

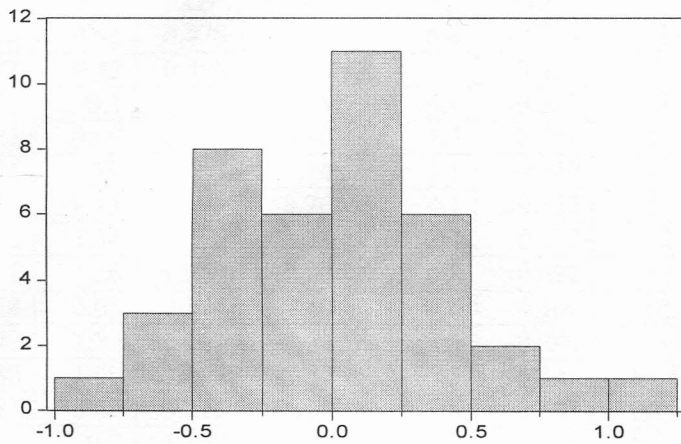
Appendix B-2

VARIABLE	ADF	CRITICAL VALUE	
EXTDEBT	-5.368345	5% level	-3.533083
EXRATE	-9.534538	5% level	-3.533083
TRADEBAL	-7.626288	5% level	-3.533083
WAGERATE	-5.930887	5% level	-3.533083
OPENNESS	-8.309956	5% level	-3.533083

Appendix C-1

Test	Obs*R-squared	Probability
LM-test	3.1864	0.2033
ARCH Test:	0.244305	0.6211

Appendix D-1 Normality Test



Series: Residuals
Sample 1971 2009
Observations 39

Mean	-3.80e-16
Median	0.018446
Maximum	1.155279
Minimum	-0.776804
Std. Dev.	0.436124
Skewness	0.416932
Kurtosis	3.089339

Jarque-Bera	1.142878
Probability	0.564712

APPENDIX E-1
Summary of Raw Data

		EXT DEBT	EXA RATE	GDP RATE	TRADE BAL	INFLA TION	POLI- CIES	WAGE RATE	OPPEN- NESS	SAVINGS RATE	REFC RMS
	FDI	EXD	EXR	GDPRT	TRB	INF	DPO	WR	OPEC	SR	DME
1970	0.86	0.478	7.14	6.8	-0.294	38.8	0	644.5	1.215	23	0
1971	0.42	0.498	7.14	7	-0.403	40.5	0	691.2	1.053	17	0
1972	0.3	0.581	7.14	6.8	-0.317	41.8	0	719.8	1.579	19	0
1973	0.69	0.844	6.90	4.3	-0.251	44.4	0	761.4	2.104	24	0
1974	0.79	1.153	7.14	1.1	-0.369	49.3	0	826.3	1.950	18	0
1975	0.53	1.29	8.26	4.1	-0.332	53.8	0	819.1	2.479	13	0
1976	1.34	1.493	8.31	2.4	-0.172	58.9	0	875.5	3.553	20	0
1977	1.26	1.659	7.95	8.8	-0.092	60.8	0	902.9	5.306	27	0
1978	0.65	2.174	7.40	.6	-0.300	65.2	0	911.6	4.065	20	0
1979	1.35	2.721	7.33	3.3	-0.240	72.8	0	923.3	5.774	12	0
1980	1.09	3.387	7.57	3	-0.349	82.40	0	1006	5.434	13	0
1981	0.21	3.228	10.29	6	-0.308	90.90	0	1024	5.479	15	0
1982	0.2	3.368	12.73	2.4	-0.226	65.50	0	1046	5.788	14	0
1983	0.4	3.628	13.76	3.1	-0.163	99.60	0	1093	6.098	17	0
1984	0.17	3.512	15.78	0.9	-0.171	103.90	0	1120	6.222	14	0
1985	0.47	4.181	16.28	5.1	-0.192	107.60	0	1174	5.930	21	0
1986	0.45	4.603	16.04	5.6	-0.151	109.60	1	1221	7.668	18	0
1987	0.49	5.783	18.60	4.9	-0.289	113.60	1	1265	6.287	16	0
1988	0	5.809	21.60	5.2	-0.299	118.30	1	1331	6.366	16	0
1989	0.75	5.889	21.60	5	-0.540	124.00	1	1369	5.328	12	0
1990	0.67	7.055	34.08	4.3	-0.343	130.70	1	1410	5.956	15	1
1991	0.23	7.453	28.07	2.1	-0.256	136.20	1	1442	7.084	15	1
1992	0.08	6.898	36.21	0.5	-0.258	140.30	1	1462	6.685	11	1
1993	0.03	7.111	68.16	0.2	-0.158	144.50	1	1475	5.721	14	1
1994	0.05	7.124	44.83	3	-0.147	148.20	1	1505	7.010	14	1
1995	0.36	7.309	55.94	4.8	-0.229	152.40	1	1557	7.486	12	1
1996	0.14	6.814	55.02	4.6	-0.175	158.90	1	1619	8.459	13	1
1997	0.19	6.465	62.67	2.4	-0.225	160.50	1	1647	8.393	12	1
1998	0.1	6.824	61.90	1.8	-0.240	163.00	1	1678	8.441	13	1
1999	0.13	6.475	72.93	1.4	-0.255	166.60	1	1689	7.651	14	1
2000	1.06	6.141	78.03	0.6	-0.296	172.20	1	1695	6.690	16	1
2001	0.05	5.512	78.60	4.4	-0.326	177.10	1	1677	6.648	16	1
2002	0.2	6.119	77.07	0.4	-0.207	179.90	1	1700	8.666	19	1
2003	0.5	6.86	76.14	2.9	-0.212	184.00	1	1727	9.776	17	1
2004	0.3	6.911	77.34	5.1	-0.259	188.90	1	1764	9.477	17	1
2005	0.1	6.421	72.37	5.8	-0.260	195.30	1	1809	11.390	17	1
2006	0.2	6.552	69.39	6.4	-0.350	201.60	1	1860	11.207	17	1
2007	2.7	7.376	62.68	7	-0.376	207.30	1	1860	13.116	15	1
2008	0.3	7.427	77.71	1.6	-0.382	215.30	1	1944	11.926	13	1
2009	0.5	8.005	75.82	2.6	-0.391	214.50	1	1999	13.201	14	1