FOREIGN DIRECT INVESTMENT AND TAXATION IN KENYA: AN EMPIRICAL ANALYSIS

BY

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NOVEMBER 2014
DECLARATION

I hereby declare that this is my original work and that to the best of my knowledge it has never been presented for the award of any degree in any other university or institution.

Kimonyc Terry Gatwiri
Reg. No.: X50/60419/2013

Signature.................................. Date......................................

Approval

This research paper has been forwarded for examination with our approval as university supervisors.

Dr. Moses Muriithi

Signature.................................. Date......................................

Dr. Purna Samanta

Signature.................................. Date......................................
DEDICATION

This research paper is dedicated to my husband Patrick Muriuki and daughter Claire Nyawira for their love, support, patience during my long absence from home and encouragement during the entire duration of my studies.
ACKNOWLEDGEMENTS

I am deeply grateful to God for His care and protection during my entire period of study. He gave me the strength to pursue this program to the end.

My sincere appreciation goes to my supervisors Dr. Moses Muriithi and Dr. Purna Samanta for their continued support, professional guidance, commitment and willingness to assist in the course of the research.

I would like to thank the lecturers who took me through the masters’ program. The knowledge I gained during course work has greatly assisted me in writing this project paper. My special gratitude goes to my classmates who we carried out group discussions together and for their moral support during difficult moments.

I am greatly indebted to my employer Ministry of Devolution and Planning and particularly, the Director, Economic Development and Coordination department and to my sponsor African Development Bank for awarding me a scholarship to pursue this Masters Course.

Further, my appreciation goes to my colleagues; friends and relatives who in one way or another made a contribution towards the success of my study. Finally, I appreciate my parents and my siblings for their support and encouragement.

Thank you all and God bless you mightily.
# TABLE OF CONTENTS

DECLARATION ..................................................................................................................... i
DEDICATION ...................................................................................................................... ii
ACKNOWLEDGEMENTS ...................................................................................................... iii
LIST OF FIGURES ............................................................................................................... vii
LIST OF TABLES ................................................................................................................. viii
LIST OF EQUATIONS ....................................................................................................... ix
ABBREVIATIONS ............................................................................................................. x
ABSTRACT ......................................................................................................................... xi
CHAPTER ONE ................................................................................................................... 1
INTRODUCTION ................................................................................................................ 1

1.1 Trends of FDI ................................................................................................................. 1

1.1.1 Trend of FDI and Tax Globally .............................................................................. 1

1.2 Effect of Taxation on FDI .......................................................................................... 8

1.3 Statement of the Problem .......................................................................................... 10

1.4 Research Questions .................................................................................................... 12

1.5 Research Objectives ................................................................................................... 12

1.5.1 General Research Objective ................................................................................. 12

1.5.2 Specific Research Objectives ............................................................................... 12

1.6 Significance of the Study .......................................................................................... 12

CHAPTER TWO ................................................................................................................. 13
LITERATURE REVIEW ...................................................................................................... 13

2.1 Theoretical Literature Review .................................................................................... 13

2.1.1 Portfolio Theory (PT) ........................................................................................... 14

2.1.2 The Ownership, Location and Internalisation (O.L.I) Paradigm Framework or Eclectic paradigm ............................................................................................................. 15

2.1.3 The Internalisation Theory .................................................................................... 16

2.1.4 Neoclassical Theory .............................................................................................. 17
<table>
<thead>
<tr>
<th>Section</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4.5</td>
<td>Testing for Cointegration</td>
</tr>
<tr>
<td>4.5</td>
<td>Regression results</td>
</tr>
<tr>
<td>4.6</td>
<td>Interpretation of results</td>
</tr>
<tr>
<td>4.7</td>
<td>Discussion of results</td>
</tr>
</tbody>
</table>

CHAPTER FIVE .............................................................................................................53

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS .............................................................53

5.0     | Introduction .............................................................................................................53

5.1     | Summary ..................................................................................................................53

5.2     | Conclusion .................................................................................................................54

5.3     | Policy Recommendations .........................................................................................54

5.4     | Limitations of the study .........................................................................................55

5.5     | Areas for further research ....................................................................................55

REFERENCES ....................................................................................................................56

APPENDIX 1: DATA USED IN MILLION USD .................................................................61
LIST OF FIGURES

FIGURE 1.1: FDI INFLOWS IN KENYA, UGANDA AND TANZANIA, 1980-2012 ............................ 7

FIGURE 4.2: GROSS DOMESTIC PRODUCT AGAINST TIME .................................................... 37

FIGURE 4.3: DEVELOPMENT OF CORPORATE AND LABOUR TAXES ........................................ 38

FIGURE 4.4: ANNUAL FDI SHARE OF GDP OVER TIME .............................................................. 39

FIGURE 4.5: ANNUAL EXCHANGE RATE OVER TIME ................................................................. 39

FIGURE 4.6: OPENNESS TO TRADE OVER TIME ................................................................. 40

FIGURE 4.7: INFLATION OVER TIME ....................................................................................... 41
LIST OF TABLES

TABLE 1.1: FOREIGN DIRECT INVESTMENT INFLOWS IN MILLIONS OF US$ ............6

TABLE 4.2: SUMMARY STATISTICS ........................................................................................................36

TABLE 4.3: VARIANCE INFLATION FACTORS (VIF)........................................................................................42

TABLE 4.4: CORRELATION MATRIX BEFORE DIFFERENCING .................................................................42

TABLE 4.5: CORRELATION MATRIX AFTER FIRST DIFFERENCING ..........................................................43

TABLE 4.6: BREUSCH GODFREY LANGRAGE MULTIPLIER TEST FOR AUTOCORRELATION ..........43

TABLE 4.7: TEST FOR HETEROSCEDASTICITY ..............................................................................................44

TABLE 4.8: TESTING FOR STATIONARITY ..................................................................................................45

TABLE 4.9: THE ENGLE-GRANGER TEST ....................................................................................................46

TABLE 4.10: RESULTS FOR THE LOGARITHMIC REGRESSION MODEL.......................................................47
LIST OF EQUATIONS
EQUATION 1 .............................................................................................................. 26
EQUATION 2 .............................................................................................................. 27
EQUATION 3 .............................................................................................................. 27
EQUATION 4 .............................................................................................................. 30
EQUATION 5 .............................................................................................................. 31
EQUATION 6 .............................................................................................................. 31
EQUATION 7 .............................................................................................................. 33
EQUATION 8 .............................................................................................................. 33
ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPZ</td>
<td>Export Processing Zones</td>
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<tr>
<td>FDI</td>
<td>Foreign direct investment</td>
</tr>
<tr>
<td>FKE</td>
<td>Federation of Kenya Employers</td>
</tr>
<tr>
<td>GDF</td>
<td>Global Development Finance</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>HDI</td>
<td>Human Development Index</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
</tr>
<tr>
<td>MNE</td>
<td>Multinational Enterprise</td>
</tr>
<tr>
<td>OLI</td>
<td>Ownership-specific; Location-specific; and Internalization</td>
</tr>
<tr>
<td>PARE</td>
<td>Price-Adjusted Rate of Exchange</td>
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<tr>
<td>PT</td>
<td>Portfolio Theory</td>
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<tr>
<td>SEZ</td>
<td>Special Economic Zone</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
</tr>
<tr>
<td>UNCTAD</td>
<td>United Nations Conference on Trade and Development</td>
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ABSTRACT
Foreign Direct Investment is significant in the world economies in terms of output, employment and trade. However, attracting FDI has been a great concern to many countries especially the developing countries. This has led to the government adopting policy measures that would be favourable to Foreign Investors. In the last three decades, Kenya has lost competitiveness in attracting FDI and retaining the stock of foreign investment to the other East African countries.

The objective of this paper is to investigate the relationship of taxation and foreign direct investment in Kenya and to establish the trends of factors that affect FDI in Kenya. The study used ordinary least squares for estimation of a time series data covering the period 1980-2012. The variables under consideration include taxation, gross domestic product, openness to trade, exchange rates and inflation.

The findings of the study revealed that tax, gross domestic product, exchange rate and openness to trade have a positive impact on foreign direct investment while inflation has a negative impact on foreign direct investment. The study recommends that the government needs to dig deeper into issues concerning loopholes in tax remittance such as tax avoidance and tax evasion. The policy makers should adopt policy measures geared towards improved GDP and openness to trade and mechanisms of controlling inflation. This would promote investment opportunities and bring about macroeconomic stability thus winning investors’ confidence in the Kenyan economy.
CHAPTER ONE

INTRODUCTION

Foreign Direct Investment (FDI) is becoming significant for output and trade in developing countries. FDI contributes to economic development in terms of investment, employment, and foreign exchange thus alleviating poverty in the host country. (Hayami and Godo, 2005). Therefore, countries have to work on developing favourable conditions to encourage foreign direct investment.

1.1 Trends of FDI

1.1.1 Trend of FDI and Tax Globally

According to UNCTAD’s Inward FDI Performance Index, countries are categorized by the FDI they receive in relation to their economic size. The inward FDI performance index is calculated as the ratio of the country’s share in global FDI inflow to its share in global GDP. Globally, FDI inflows to developing countries have improved both in quality and quantity in the recent past. According to World Bank (2005) FDI inflow to developing nations increased from 0.1% of global GDP in 1970 to 3% in 2001. GDF (2003) noted that FDI flows reached $70 billion in 1993 and $179 billion in 1999. However, FDI slipped $143 billion in 2002.

Many countries have reduced their corporate tax rate in recent years with the aim of promoting FDI. Germany reduced its federal corporate tax rate from 25% to 15%, and brought down its effective corporate tax rate from about 39% to about 30% in 2008. The same year Britain reduced its corporate tax rate from 30% to 28%. Most European countries have their effective corporate tax rates ranging from 25% - 30%. According to Chaves
most of the countries which brought down their corporate tax rates also expanded their tax bases by reviewing their depreciation rules. UNCTAD (2007) showed that India is an attractive destination for FDI. It comes second after China and ahead of the US, Russia and Brazil globally. The rate of corporate tax charged in India is 40% for foreign companies and a surcharge of 2.5% of the tax. India offers attractive incentives to foreign investors to encourage investment in the special economic zones (SEZ), priority industries and to boost industrialization in marginalized areas. Foreign investors are exempted from taxes for 15 years in regard to export profits. Investors from the SEZ are also exempted from dividend distribution tax on dividends that are distributed by the foreign companies. Indian Government has also signed a Double Taxation Avoidance Agreement with 69 countries; some of these countries include U.S.A, U.K, Japan, France, and Germany among others. All this is in regard to improving business environment for foreign investors.

The Washington Consensus of the International Financial Institutions (IFIs), IMF and the World Bank laid down guidelines to help developing countries to improve on trade liberation. The guidelines were in line with fiscal policies, privatization of government enterprises and policies on inward Foreign Direct Investment (FDI). The policies aimed at reducing the involvement of government while increasing the private sector participation. Several developing countries adopted some of the policies, however, with mixed results (Westerberg, 2011). However, many studies support the modern pattern of economic integration. Dollar and Kraay (2002) claim that the modern globalization has reduced trade inequalities between countries and inside countries. Zhang (2006) posits that the best way for a country to develop, is to adopt liberalised trade in the world market.
UNCTAD WIR (2003), states that in 2002, the global FDI inflows fell to $651 billion in 108 of 195 economies. A contributing factor for the decline was slow economic growth across majority of countries. The global FDI inflow was $648 billion in 2004, an increase of 2% over its level in 2003. Inflow to developing countries surged during the time by 40% to $233 billion whereas the FDI to developed countries declined by 14%. This contributed to a rise in the portion of World FDI inflows in developing countries that constituted 36% of global FDI. This was the highest level observed since 1997 (UNCTAD, 2005). UNCTAD WIR, (2012) revealed that FDI inflows increased in 2011 with developed countries reporting a 21% increase to $748 billion while developing countries having an increase of 11% thus reaching $684 billion. However, according to UNCTAD WIR (2013) there was a decline in FDI inflows in 2012 with a 32% and 4% decrease in developed countries and developing countries respectively.

The African continent also experienced a drastic decline in FDI inflows from $19 billion in 2001 to $11 billion in 2002 in 23 countries out of the continent’s 53 countries. FDI in the oil producing countries remained dominant. The North and West African countries such as Angola, Algeria, Chad, Nigeria and Tunisia contributed more than half the FDI inflows of 2002. South African enterprises also made a significant contribution in foreign investments abroad. (UNCTAD WIR, 2003). FDI inflows to Africa in general declined in three years, to $42.7 billion. The decline in FDI inflows was attributed mainly by the fall in North Africa. Egypt and Libya were the major beneficiaries of FDI inflows unfortunately their inflows were disrupted by political instability. The overall decline in FDI inflows to Africa was majorly due to a decrease in flows from developed countries. On the other hand, inflows to sub-Saharan Africa improved from $29 billion in 2010 to $37 billion in 2011. A bounce back of FDI to South Africa accentuated the recovery. The persistent rise in prices of goods and an
improved economic status for sub-Saharan Africa are among the factors contributing to the recovery. The investments produced good returns to the extractive industries as well as the rise of a middle class that nurtured the growth of FDI in services such as banking, retail and telecommunications. This resulted to an increase in the share of services FDI in 2011.

The FDI Contribution Index according to UNCTAD indicates massive contributions by foreign investors to host economies in developing countries, particularly Africa. The contributions are in terms of employment, value addition, generation of tax revenues, trade and capital formation.

**Trends of FDI and tax in Kenya**

The participation of private sector in trade and commerce has evolved over time since independence. The government of Kenya has been improving the strategies aimed at liberalising the markets and attracting investors. The government brought about market-based reforms and offered incentives for both local and foreign private investments. The government introduced various strategies to attract investment, such lowering import tariffs, cancelling all export duties and current account restrictions, giving tax incentives, freeing the Kenya shilling’s exchange rate. Other strategies included permitting citizens and non-citizens to open foreign currency accounts with local bank, eliminating restrictions on borrowing by foreign and domestic firms.

The Kenyan parliament formulated Foreign Investment Protection Act and Investment Promotion Act of 2004 to ensure that there is a clear and well-articulated legal framework for FDI. The Investment Promotion Act of 2004 contains the Kenya’s investment code which guides on the administrative and legal processes to create a more attractive and conducive climate for trade and investment. Through foreign trade the Kenyan government has
benefitted on various opportunities such as employment creation, foreign exchange earnings, backward and forward linkages, and transfer technology and skills.

In the 1970’s Kenya was one of the most favoured destinations for FDI in East Africa. FDI flows were at $10 million in 1970’s and it increased to $80 million in 1980s. The poor governance, poor economic policies, high tax burden coupled with corruption and inefficient service delivery in the public sector has made Kenya experience low FDI flows from early 1980s to date. This economic backdrop caused Kenya to be left out of the global surge in FDI flows that started in the mid-1990s (UNCTAD, 2005). Kenya has been experiencing fluctuations in the FDI inflows in the last three decades. The period between the years 1997–2001 Kenya received FDI share of GDP that was about 0.6%. This share was below the African average that was 1.9%. This is a clear indication that Kenya was performing poorly compared to other African nations in the amount of FDI received. Narrowing down to the East African Countries Kenya has shown a decline in the FDI inflows compared to its neighbouring countries such as Uganda and Tanzania since 1980’s. In the early 1980s, Kenya accounted for about 87% of cumulative net FDI into East Africa. By 2001, the proportion of FDI dropped to 21%, compared with 40% and 36% for Uganda and Tanzania, respectively. The country has, therefore, lost its attractiveness for FDI (Ajayi, 2006).

Kenya received an annual average of USD 59 million in Foreign Direct Investment between 1997 and 2002. This amounted to 25.7% and 18.7% of the FDI that was received by Uganda and Tanzania during that particular period. Kenya’s share that was 15% among the East African nations in the first half of the 1990s decade plunged to less than 6% compared with Uganda’s meteoric rise from 8% to 50% .Table 1.1 and Figure 1.1 below illustrate FDI inflows between 1980 to 2012.
Table 1.1: FOREIGN DIRECT INVESTMENT INFLOWS IN MILLIONS OF US$

<table>
<thead>
<tr>
<th>Year</th>
<th>Kenya</th>
<th>Uganda</th>
<th>Tanzania</th>
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<tr>
<td>1980</td>
<td>368</td>
<td>9</td>
<td>47</td>
</tr>
<tr>
<td>1985</td>
<td>416</td>
<td>7</td>
<td>91</td>
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<tr>
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</tr>
<tr>
<td>1995</td>
<td>14</td>
<td>17</td>
<td>325</td>
</tr>
<tr>
<td>2000</td>
<td>764</td>
<td>990</td>
<td>1180</td>
</tr>
<tr>
<td>2001</td>
<td>737</td>
<td>1226</td>
<td>1404</td>
</tr>
<tr>
<td>2007</td>
<td>729</td>
<td>792</td>
<td>582</td>
</tr>
<tr>
<td>2008</td>
<td>96</td>
<td>729</td>
<td>1383</td>
</tr>
<tr>
<td>2009</td>
<td>115</td>
<td>842</td>
<td>953</td>
</tr>
<tr>
<td>2010</td>
<td>178</td>
<td>544</td>
<td>813</td>
</tr>
<tr>
<td>2011</td>
<td>335</td>
<td>894</td>
<td>1229</td>
</tr>
<tr>
<td>2012</td>
<td>259</td>
<td>1721</td>
<td>1706</td>
</tr>
</tbody>
</table>

Figure 1.1: FDI inflows in Kenya, Uganda and Tanzania, 1980-2012

<table>
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<tr>
<th>Year</th>
<th>Kenya</th>
<th>Uganda</th>
<th>Tanzania</th>
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<tr>
<td>1980</td>
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<td>200</td>
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<tr>
<td>2010</td>
<td>700</td>
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<tr>
<td>2015</td>
<td>800</td>
<td>900</td>
<td>1000</td>
</tr>
</tbody>
</table>

**Source:** Own drawing from data of World Investment Report 2002 and 2013, United Nations publication.

Due to the loss of competitiveness in attracting foreign direct investment, Kenya now ranks after Uganda and Tanzania in receipt of annual net inflows of foreign direct investment to the EAC countries. Two decades ago Kenya held 87% foreign ownership of companies in the East Africa region. By 2001 only 22% of foreign ownership in the East Africa region was in Kenya compared to 36% and 42% in Uganda and Tanzania respectively. In 2008 Kenya recorded the least FDI inflow due to the post-election violence experienced in the country making foreign investors shun away from the Kenyan market. It then improved minimally in 2011 to $335 million. In 2012, it dropped again to $259 million. According to World Investment report of 2013, there was a general increase in FDI inflow in East Africa. This was majorly attributed to the discoveries of natural resources such as gas reserves in Tanzania and Oil fields in Uganda. However, from the above table and chart it is clear that Kenya has deteriorated in FDI inflow while the neighbouring countries have shown tremendous improvement.
This paper will focus on corporation tax and labour income tax and how they affect FDI inflows. Corporation tax is charged on profits at the rate of 30 percent for resident companies and 37.5 percent for non-resident companies (GoK, 2009). Labour income taxes are charged on an individual’s labour income using a graduated scale of between 10 per cent and 30 per cent. Taxes affect FDI in different ways. The main factors considered in regard to taxes paid by firms are the firm’s profits, its legal status and the source of finance (Devereux and Griffith, 1998). According to Bellak and Leibrecht (2009), the firm’s profits are reduced by high labour cost, energy cost and taxes.

1.2 Effect of Taxation on FDI

The effects and relationship of taxation and foreign direct investment can be derived from past research works. Various works have shown varied relationship of tax on FDI. According to OECD report a decrease of 1% in corporate tax leads to an increase of 0.5% in FDI.

Devereux and Griffith (1998) in their work of US FDI into Europe found that a decrease of 1% in effective average corporate tax rate in UK, leads to an increase 1% of US FDI into the UK.

Deutsche Bundesbank (2005) found a relationship of 1:2 between the tax rates and the impact on FDI in the study of German firm-level investment overseas. FDI into the EU countries is more sensitive to changes in the tax rate. The study also found market size and labour costs significantly impacted on the location of FDI.

Devereux and Freeman (1995) did a study on seven counties on the effects of tax on foreign direct investments. The study concluded that tax does not have a statistically significant effect on whether to invest at home or abroad. However, it influences decisions in which countries
to make foreign direct investments. On the other hand, Bénassy-Quéré et al. (2005) studied 11 OECD countries in the period 1984 to 2000 on foreign direct investments. The work revealed that a decrease of one percent in the statutory corporate tax rate of a host country leads to an increase of about 4 percent in foreign direct investment in that country.

According to Hansson and Olofsdotter (2010), on their work on the impact of corporate tax on FDI into the European Union countries, FDI in Western Europe is most strongly influenced by tax rates and agglomeration economies. In addition, corporate tax has a more important impact on the amount of FDI rather than the decision to invest.

Agostini and Tulayasathien (2003) conducted a survey study on the impact of state corporate taxes on FDI. The findings of the survey indicated that effective state corporate income tax rate influenced the returns made by investors and consequently affected the fraction of FDI from which the countries benefit.

The method of calculation of taxes in a country affects the analysis of the relationship of FDI and taxation. This makes the results of the relationship of taxation and FDI to be country specific. Scholes and Wolfson (1990) in their study show that as the US tax rates increased the US FDI from MNEs increase under worldwide systems. This can be explained in the sense that taking a credit system into consideration the MNE would not feel the burden of an increase in the tax liability under a worldwide taxation system. On the other hand, the US domestic investors and MNEs under a territorial tax system would carry the burden of the added US tax liabilities. The worldwide-tax is more advantageous and investors both domestic and foreign can invest massively.

The past research papers do not consistently give a clear relation regarding whether FDI may be sensitive to tax incentives. Various studies have indicated that taxes have a negative and
significant effect on the flow of FDI in many countries. Some of these studies include Slemrod (1990), Hartman (1984), Grubert and Mutti (1991), Hines and Rice (1994), Cassou (1997) and Kemsley (1998). Some other studies have reported that taxes do not have a significant effect on FDI such as Root and Ahmed (1979), Lim (1983), Wheeler and Mody (1992), Jackson and Markowski (1995), Yulin and Reed (1995) and Porcano and Price (1996). However, Swenson (1994) reports a positive relationship between tax and FDI.

From the findings of the above studies, the effects of taxes on FDI are different depending on the type of taxes studied, measurement of FDI activity, and tax treatment in the host and parent countries. Countries have different ways of addressing issues such as double taxation issue, tax treaties between nations among others leading to difficulties in coming up with a conclusive answer on the expected effects of taxes on FDI.

1.3 Statement of the Problem

It is increasingly recognized that the administrative and regulatory environment of the country can have a significant influence on the level of FDI flows. Recent studies done in East Africa on foreign investment show that Kenya’s performance in attracting foreign direct investment has deteriorated as compared to the performance of its neighbouring countries Uganda and Tanzania. For instance, a study carried out by the Federation of Kenya Employers (FKE) (2002) reveals that the FDI inflows to Kenya began to decline compared to its two neighbours from around 1991. This study indicates that FDI investment to Kenya declined from $79m in 1980 to $57m in 1990. Foreign direct investment in Kenya dropped further in 1991 to just $19m, then to $6m in 1992 and a further drop to $2m in 1993. In 1994, Kenya received $4m of FDI. In 1999, Kenya's foreign investment was worth only $42m which was relatively low compared to other East African countries. In the last eight years, Kenya has experienced major changes in the amount and composition of cross-border capital
flows into the economy. Foreign direct investment (FDI) has registered mixed results and instability over time in Kenya.

The corporate tax rate and labour income tax of the host country are factors that foreign direct investors would consider when choosing a location for their investment. The higher the tax levels of the host country, the more they are likely to hinder potential FDI. However, there seems to be no consensus from the empirical results of various studies. Findings from the studies by Kemsley (1998) and Billington (1999) show that the host country’s tax rate significantly determines FDI inflows while the study by Wheeler and Mody’s (1992) found the tax rate of the host country to be insignificant. Ayanwale and Bamire (2004) and Azam (2010) found positive relationships between GDP, exchange rates, inflation and openness and FDI, and negative relationship with taxation. Mwega and Rose (2007) analyzed a panel data of forty three countries established that FDI is determined by the economic growth rates, openness to trade, external debt ratio and the worth of institutions. Opolot et al (2008) also looked at a panel data for Sub-Saharan African nations, and established that market size, openness to trade, infrastructural development, urbanization, and profitability of an investment positively influence foreign direct investment inflows to Sub-Saharan Africa. In contrast macroeconomic instability detered foreign direct investment. The worrying trend of foreign investors moving out of Kenya and establishing themselves in the neighbouring countries as shown in the previous section has led to this research so as to establish whether taxes have contributed to this trend among other factors. In addition, very few studies have been done in assessing the nature of the relationship of tax and FDI in Kenya. This study focuses on how to fill this gap by analyzing the effects of taxation on foreign direct investment in Kenya.
1.4 Research Questions

1. How are the trends of factors that affect FDI in Kenya?

2. What is the relationship between taxation and foreign direct investment?

1.5 Research Objectives

1.5.1 General Research Objective

To investigate a relationship between taxation and foreign direct investment in Kenya.

1.5.2 Specific Research Objectives

The specific objectives of this Study are:

1. To establish the trend of factors that affect FDI in Kenya.

2. To establish the relationship between taxation and foreign direct investment while controlling for other correlates in Kenya.

3. To draw policy recommendation based on (1) and (2).

1.6 Significance of the Study

The study will be significant to economic planners because the finding will enable them look critically at how foreign direct investment is affected by taxation and come up with strategies of promoting foreign businesses in the country.

This study will benefit the government in making policies. The policies main objective will be on the means of promoting the rate of growth in the performance of the country’s foreign direct investment and to improve trade liberalisation in the world markets. The study is also significant to the scholars as it add value to the body of existing literature on the subject. The scholars can use the findings of this study to further research in this area.
CHAPTER TWO
LITERATURE REVIEW

2.1 Theoretical Literature Review

A large body of theoretical literature is available that indicate taxation as a significant factor that determine how attractive a country's location is for investors (Hines, 1999; Gresik, 2001; De Mooij and Ederveen, 2003). The theories are important guide towards the build up of a pool of knowledge about the development of FDI. However, many scholars such as Agarwal (1980), Itaki (1991) argue that none of the theories can satisfactorily elaborates about all types of FDI and their different dimensions.

Buckley (2006) defines Foreign Direct Investment (FDI) as the process of acquisition of physical assets abroad, such as plant and equipment while the operational control ultimately remaining with the parent company in the home country. FDI may take different forms such as the establishment of new enterprises in an overseas country either as a subsidiary or branch, the expansion of overseas branch or subsidiary and the acquisition of overseas business enterprise or its assets.

It can also be defined as a situation where a foreign company creates a subsidiary to provide goods and services. Thus, a firm undertakes foreign direct investment in a foreign country if it has an ownership advantage over the local investors. The ownership and control of the foreign investment is normally retained in the home country. FDI represents one of the means of transfer of private capital, technology, personnel and access to the brand names and marketing advantage (Makola, 2003).
Konrad and Kovenock (2009) offer a theoretical framework of competition for FDI and agglomeration economies. The model of their study shows that agglomeration forces are likely to be greater in countries that previously had obtained large amount of FDI. The agglomeration economies offer an opportunity to have higher taxes. Therefore, differences in tax rates across countries are then determined by differences in the stock of FDI. The findings of the study show that higher taxes discourage the flow of FDI

There are various theories that have explained the operations of Foreign Direct Investment. Some of the theories are as discussed below:

2.1.1 Portfolio Theory (PT)

Under the Portfolio Theory (PT), investors consider the returns and risk in selecting their portfolio. The risks in international portfolio investment are mainly from unfavourable changes in exchange and interest rates, and regulatory environments. Apart from the inherent risks, institutional constraints might also limit the potential for international portfolio investments, for example, constraints due to taxation, exchange controls, capital market regulations and transaction costs, Dunning (1996). In this case, element of uncertainty is taken into account. It is based on the observation that differences in rates of return on capital within the boundaries and between countries are not perfectly correlated, such that risks can be brought down by a diversification of portfolios. In such a case, having a mix of both domestic and foreign portfolios can lead to a reduction in risk.
2.1.2 The Ownership, Location and Internalisation (O.L.I) Paradigm Framework or Eclectic paradigm

In the eclectic paradigm, decisions on whether to invest in a foreign country involve an assessment of factors such as ownership, location and internalisation advantages. Horizontal FDI which involve production abroad can be done instead of exports or licensing where OLI conditions are met. The FDI must possess ownership advantages which include patents, know-how and trademark which confer profit advantage over local firms in foreign markets. The ownership advantages can be viewed in terms of tangible assets such as infrastructure and capital endowment. Equally, intangible assets like technology and information, managerial and entrepreneurial skills are important (Dunning, 2001).

FDI must also offer location advantages such as low trade, labour or energy costs and low tax burden that make local production costs lower thus the investment becoming more profitable than exporting. The market structure, government legislation and policies, political, legal and culture environment are assessed under the location advantage. FDI must offer internalisation advantages that promote a business activity directly through FDI, making it more profitable than licensing to other companies in foreign markets the right to use assets. The internalization component helps a company to be more flexible through product capacity and marketing by the way of its own internal subsidiaries (Dunning, 2000).

The decisions on whether to locate or outsource some stages of production to a foreign location also revolve around ownership, location and internalisation advantages.

The OLI framework suggests that MNEs develop competitive Ownership advantages at home and then transfer these abroad to specific countries depending on Location advantages through FDI, which allows the MNE to internalize the Ownership advantages. Internalization
theory is mainly used to explain the choice of entry mode. This theory is significant to this study because it shows how the environment of a country as a provider of advantages or disadvantages can attract or repel FDI.

2.1.3 The Internalization Theory

Internalization theory was developed by efforts of Buckley and Casson, 1976; Rugman, 1981; and Hennart, 1982. The theory asserts that at the level of the firm, the MNE will exercise control over intangible assets, knowledge-based, firm-specific advantage. In internalization theory, all firm-specific advantages are viewed on the basis of the efficiency. The knowledge advantage is explained in the transaction cost economics whereby the public good nature of knowledge is remedied through the hierarchy of a firm overcoming this situation of market failure.

The other types of firm-specific advantages, such as brand advantage, skills in management, and organizational capabilities, are also based on how efficient and compatible they are with the resource-based view and the value creation aspects. Generally, internalization theory lays emphasis on transaction cost economics and the resource-based view to explain the efficiency aspects of MNEs. This theory is related to this study for it provides the motivation as to why firms invest in different environments depending on how they turn the factors in an environment into profitability depending on the internal advantages in the firms. The advantages in the environment make up the independent variables of this study.
2.1.4 Neoclassical Theory

The neoclassical theory is used to assess tax effects on domestic and cross-border direct investment. It incorporates main statutory tax parameters influencing capital costs and establishes the statutory tax burden on investment returns. The parameter-based marginal and average effective tax rates (METRs/AETRs) derived from the neoclassical investment model can be evaluated to check the percentage change to the tax burden measures which result from corporate tax policy adjustments. When combined with findings of the sensitivity of FDI to the effective tax rates, the model estimates the long-run effects of corporate tax reform on FDI. Neoclassical theories explain international capital flows with differences in the rates of return across countries that lead to capital arbitrage, with capital seeking the highest return. Cockcroft and Riddell (1991) argue that the intended investment flows of the future are directly related to the incentives offered in a country, which influence the expected rate of return, the security of the investment, the scope and speed with which companies are able to invest. The tax regime, investment code or guidelines and overall macroeconomic policies are all elements affecting FDI.

2.1.5 Product Lifecycle Theory (Vernon Theory)

The Product Life Cycle theory was developed by Vernon 1966. The theory explained the motive of MNCs to move from the policy of exporting to the policy of Foreign Direct Investment. The theory helps the MNCS to make a decision on whether to export their products or to locate a production unit in a foreign county. When a production unit is located in the foreign market the MNC reduces the cost of production and is in a position to meet the demands of its products in the foreign market at a good price and maximize the returns.
According to Vernon theory, the life cycle of a product is in three stages. The first stage is called the new product stage or the introduction stage. This stage involves introducing the product to the market to satisfy mainly the needs of the local consumers in the home market. It reaches a point that the home market becomes saturated and the surplus is then exported to other countries. The second stage is growth and maturity stage where the product becomes well known in the host country. This leads to the MNC to diversify into new markets. The third stage is the standardization of products. Foreign firms are faced with a lot of competition from domestic firms. As a result, the firms start venturing in the less developed countries where production costs are low and raw materials are cheaper. Vernon theory portrays how market seeking and cost reduction motives of MNCs lead to foreign direct investment. This mainly occurs in the less developed countries where development has not thrived well. These countries have the demand for various goods and services but they lack the capacity to produce them. This creates opportunities for FDI. This theory is related to this study since it provides one of the motivations that lead to firms investing in other countries for strategic reasons of protecting their existing market position.

2.1.6 Marginal Efficiency of Investment (MEI) and Accelerator Theories

Marginal Efficiency of Investment measures the demand of business for investment decision. According to Keynes, (1936) a firm would decide to invest when cost of funds that are incurred in making investment decisions are less than the Marginal Efficiency of Investment (Internal Rate of return on additional investment). The Marginal Efficiency of Investment therefore is the rate of interest that discounts the present value of an investment to zero. The higher the market rates of interest, the lower the investment while the lower the market rate of interest, the higher the investment.
The investment theory was later improved and gave rise to the accelerator theory. Accelerator theory makes considers investment in terms of the changes in the amounts of inputs. The larger the deviation between existing capital stock and the desired capital stock, the greater the firm’s rate of investment. According to Tobin, (1969) the decision to make changes to the capital stock depends on the value the firm.

There is a need for improvement of factors that inhibited investment such as poor formal legislation, poor legal infrastructure such as patents, price controls, labour legislation, taxation policy and freeing of exchange rates controls. Cockcroft and Riddell (1991) suggest that addressing the above administrative and legal issues would promote the foreign investment climate.

2.1.7 Keynesian Theory of Economics

Keynesian theory evaluates how to transform less developed and unproductive societies into dynamic and growing economies. Development aid has been provided to accelerate developing economies. Tomonori 2012 concludes that the role of outside capital is not directly to raise the standards of living but to make a transition in the economy and bring about sustainable growth. The economic motive of developed economies to invest in developing economies is to raise their own welfare. If the rate of interest is higher than the productivity of capital in developed countries and is lower in developing countries, both parties will gain. Where there are under-utilized resources in developed countries as a result of balance of payments constraints, development aid, in terms of the under-utilized resources becomes very profitable when channeled to developing countries.
2.2 Empirical Literature

A number of studies have been carried out to analyze the effects of taxation on FDI. The studies suggest that the relevance of taxes in FDI attraction is ambiguous as many analysis have shown that there are far more important factors, usually related to market, political, infrastructure and cost conditions (Morisset, 2003), making taxation less important when put in comparison but this does not mean that taxes are irrelevant. The main factors that influence investment decisions in the less developed countries include political instability, economic and business freedom, fiscal incentives, liberal trade, government expenditure, inflation, corruption, property rights and labour regulations (Kayonga, 2008).

The tax systems practised by both the firm’s home country and the host country can affect the decisions of establishing FDI and how to finance the FDI.

According to Bende-Nabende, (2002) the factors that influence the decision on where to invest a foreign business include the host country’s real wage rates, taxation, exchange rates, land and property rents/rates, fuel costs, local input costs, transportation costs and cost of capital.

Schoeman et al. (2000) used a long-run co-integration equation for FDI in South Africa in a period of 30 years to analyse how government policy mainly deficit and taxes affects FDI. The study used deficit/GDP ratio to represent the government’s fiscal discipline and the relative tax burden on investors in South Africa. The findings show that fiscal policy variables such as tax have a negative effect on FDI flows to South Africa. The study recommends to the South African government to adjust fiscal policy since the tax burden is relatively high.
Hansson and Olofsdotter (2010) did a study to analyse how foreign direct investment is affected by corporate tax rates and agglomeration economies among the European Union countries. The study focuses on differences between tax policies in old and new member countries. The paper deals with agglomeration forces and how they may explain differences in tax policies between new and old member countries. The model used views the foreign direct investment decision as a two-step procedure: first, the decision on which location to invest, and second, a flow decision of the amount of FDI to invest. The paper used data on effective marginal and average corporate tax rates for all twenty-seven European Union member countries and covered the period 1995-2006. Hansson and Olofsdotter found that there are large differences in determinants of FDI going to old members compared to FDI going to the new member countries. Taxation mainly influenced FDI flows to new members. Agglomeration economies played a more important role for the amount of investment made within the old member countries.

Slemrod (2001) in his study investigated how taxation in the U.S. and the capital-exporting country combine to affect the direction of foreign direct investment (FDI) into the U.S. The findings of the study show that the U.S. effective tax rate determines the amount of FDI that was financed through transfers of funds but the amount of FDI financed through retained earnings is not affected by the tax rate. Disaggregation of data that was collected was done by major capital-exporting countries to evaluate if FDI from countries that exempt foreign-source income from taxation was highly sensitive to the U.S. tax rates as compared to FDI that come from countries which tax FDI financed by foreign-source income. From the data analysis the results did not reveal a clear differential responsiveness between these two groups of countries. This could have either been caused by difficulties in measuring effective
tax rates with accuracy or the kind of financial strategies which make the home country tax system immaterial in affecting the return on FDI.

Ângelo and Lehmann (2012) estimated the response of FDI for investment financed by retained earnings and transfers from abroad separately. Three variables which were used in the study include the after-tax rate of return made by foreign investors in the United States, the after-tax rate of return on capital in the United States, and the tax rate on U.S. capital owned by foreigners relative to the tax rate on U.S. capital owned by domestic investors. The first two variables were meant to proxy for the prospective return to new FDI. The first variable was more appropriate for companies considering expansion of current operations. The second one was more appropriate to the companies that aim at acquiring the existing assets that are not expected to earn extraordinary returns based on production of differentiated products or possession of superior technology. The relative tax term is put into consideration to capture the possibility that tax changes that apply only to U.S investors will change the foreign investor’s cost and therefore the return to acquiring the asset. This is done by changing the valuation of assets. The results of the study reveal both a positive relationship between the after-tax rate of return variables and the ratio to U.S. GNP of FDI financed by retained earnings. The results also show a negative relationship between the FDI share of GNP and the relative tax rate on foreigners compared to domestic residents. The model does not explain both the transfers from abroad and retained earnings, although coefficients of all three variables have the expected sign and are significantly different from zero. The research concludes that the effect of taxes on FDI is very strong.

Devereux and Freeman (1995) analyze foreign direct investments among seven major trading countries from 1984 to 1989. The conclude that tax has no statistically significant effect on
decisions whether to invest at home or abroad but it influences decisions in which countries to make foreign direct investments.

Agostini and Tulayasathien (2003) conducted a survey study in which they sought to find out the impact of state corporate taxes on FDI. The data used for the study included FDI by state and by the source country for major investing countries in the United States. These countries were Australia, Canada, France, Germany, Japan, the Netherlands, Switzerland, and the United Kingdom. The results showed that the property factor in the apportionment formula of taxes had an important impact on the effective state corporate income tax rate that investors face and, therefore, on the fraction of FDI that states received. The findings of the study indicated that a one percent increase in a state corporate tax rate would lead to a one percent decrease in the share of FDI received by a state, holding other factors constant. Therefore, FDI was found to be quite sensitive to states’ corporate tax rates.

Beck and Chaves (2012) examines other types of taxes that may affect FDI such as labour income and consumption taxes in addition to corporate taxes. They found that the impact of increased labour income taxes is significant since it raises the wage costs for the employers leading to firms opting to substitute capital for labour. The consumption tax was found to be insignificant in regard to FDI.

Hartman, (1994) analysed the influence of domestic tax policy on FDI in the U.S. He found out that FDI is strongly affected by domestic taxes. The policy included both the incentive to increased investment through reduction of corporate income taxes and incentive for saving through reduction in the individual tax.
UNCTAD (2005) argue that Kenya's inability to attract FDI is due to growing problems of corruption and governance, inconsistencies in economic policies and structural reforms, deteriorating public service and poor infrastructure.

Kinaro (2006) used a time series analysis in his study and the findings revealed that the determinants of FDI in Kenya include openness to trade, taxation, human capital, real exchange, inflation, and FDI in the previous periods. Opolot et al (2008) did a study using panel data for Sub-Saharan African countries to evaluate the factors that determine FDI across these countries. The study found that the size of the market, openness to trade; infrastructure development, rate of urbanization and rate of return on investment have a positive and significant effect on foreign direct investment inflows to Sub-Saharan Africa. On the other hand, macroeconomic instability was found to have a negative impact on foreign direct investment. Other factors such as government expenditure, financial institutions, natural resources, wage and political rights were found to be insignificant.

Nyamwange (2009) carried out a study to establish the main factors that influence FDI decisions in Kenya and to determine the impact of FDI on the economic growth in Kenya. The results of the study showed that FDI in Kenya is mainly determined by the size of market, taxation, macroeconomic factors and the level of human capital.

2.3 Overview of Literature Review

The majority of literature available on foreign direct investment and taxation has focused mainly on the developed world especially highly industrialized countries. They have used cross-country data in the analysis. The evidence from the literature is conflicting. Some
indicated a negative effect of taxation on FDI while others reporting that effects of tax on FDI are insignificant. Dunning, 1996 & 2000; Hartman, 1994; Konrad and Kovenock, 2009; Grubert and Mutti, 1991; Hines and Rice, 1994; Agostini and Tulayasathien, 2003; Cassou, 1997; Kemsley, 1998; Schoeman et al., 2000; Kinaro, 2006 and Opolot et al, 2008 found that host country corporate income taxes negatively and significantly affect the flow of FDI. However, Wheeler and Mody, 1992 conclude that taxes are insignificant in determining the flow of FDI. Slemrod, 2001 and Angelo and Lehmann, 2012 draw a distinction on the amount of FDI that is affected by tax. In their analysis, they found that tax affects the amount of FDI that is financed by transfer of funds, but not the one financed by retained earnings.

In Kenya, there exists very little literature on the effects of taxation on FDI. In regard to the literature review done in this study it is evident that the variables of measurement used in various studies focussing on both developed and developing economies show mixed results especially on the signs of the effect of tax on FDI flows. This study will focus on the relationship of corporate and labour income tax with FDI flows to Kenya. The paper used time series data and OLS method of estimation to analyze the effect of tax on FDI and determine the nature and significance of the effects.
CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the description of the analytical model, estimable model, definition of variables and their expected respective sign, data source and diagnostic test.

3.2 Analytical Model

The gravity model of international trade borrows a lot from Newton’s Law of Gravitation. Goods, services, labour or other factors of production at origin i, \( Y_i \), are attracted to goods, services or labour at destination j, \( E_j \) but their flow is reduced by distance between them, \( d_{ij} \). The basic gravity equation is as shown:

\[
X_{ij} = \frac{Y_i E_j}{d_{ij}^2}
\]

Equation 1

The equation shows movement of goods or labour between country i and j.

The gravity model outlines the distribution of goods and factors of production during trade while factoring in the costs involved. It shows trade movements based on market sizes represented by GDPs of the countries and distance between the countries. From past studies, the gravity model has been used to evaluate the impact of various variables such as price levels and exchange rates among others, on international trade.

3.3 Estimable Model

This research paper has used gravity model in determining the effects that tax as well as other control variables have on the flow of Foreign Direct Investment to the host country. The gravity model has been applied successfully in other research works such as Bellak and Leibrecht, 2009; Beck and Chaves, 2012; Olofsdotter and Hanson, 2010. It has been used
mostly on cross-sectional panel data comparing the factors that affect FDI flows focussing on both the host and home country of the investing firm. The model specification in this paper uses the same gravity model because of its simplicity and reliability. The focus is on the one country (host country-Kenya) using time series data. Additional variables have been used in this paper as compared to what has been focussed on in the other studies. The relationship between FDI and tax as well as other factors that determine FDI can be represented in a functional form as shown below:

\[ Z = \beta_0 + \beta_1 T + \beta_2 Y + \beta_3 R + \beta_4 I + \beta_5 P + E \]................................. Equation 2

Where:

\( Z \) = Annual FDI share of GDP (FDI/GDP)
\( T \) = Corporate and labour income tax on foreign investments
\( Y \) = Gross Domestic Product
\( R \) = Annual exchange rate (IMF PARE)
\( I \) = Openness to trade (exports + imports/GDP)
\( P \) = Inflation rate
\( \beta \)'s = Parameters to be estimated
\( E \) = Error term

Equation (2) can be transformed into natural logarithmic function as shown below:

\[ \ln Z = \beta_0 + \beta_1 \ln T + \beta_2 \ln Y + \beta_3 \ln R + \beta_4 \ln I + \beta_5 \ln P + E \]................................. Equation 3

Where

\( \ln Z \) = log of the share of FDI in GDP
Ln T = log of corporate and labour income tax rate
Ln Y = log of GDP
Ln R = log of exchange rate
Ln I = log of the share of exports and imports in GDP
Ln P = log of inflation rate
B’s = parameters to be estimated
E = Error term

The model in this study was estimated in the form of natural logarithm to make it less sensitive to extreme observations when estimating it by ordinary least squares.

3.4 Variables and their expected signs

**Taxes:** Tax is a compulsory contribution to the government which is paid by both individuals and corporate entities and does not bear any relationship to the benefit received (Hyman, 1987). Tax burden is measured as a percentage of income that is offered to the government in the form of compulsory contribution. The study evaluated direct taxes that are charged on incomes in terms of corporate profits and labour income. Increased taxes lead to a decrease in aggregate consumption including foreign investment (Humphery, 1986). High taxes are expected to have a negative effect on FDI inflows. Taxes on labour income push up the labour costs on the side of the investor and may lead to the investors substituting capital for labour.

**Gross Domestic Product (GDP):** It refers to as the sum of all goods and services produced within that territory during a given year. GDP is a measure of the market value of production that flows through the economy. As the rate of GDP increases the level of demand, it leads to
an increase in the levels of consumption of goods and services in the country. This increased demand attracts FDI flows that fill the capacity gap in production of goods and services (Scaperlanda & Balough, 1983). Therefore, it is expected that growth of GDP will have a positive impact on FDI inflows.

**Openness to trade:** It is calculated as the proportion of the total sum of exports and imports to real GDP. It determines the ease of transfer across borders. The higher the ratio, the higher will be the rate of investment (domestic and foreign) in the host country. Openness to trade is expected to have a positive impact on FDI inflows (Ayanwale and Bamire, 2004).

**Real effective exchange rate:** Exchange rate captures the value of the host country’s currency relative to that of the sourcing country. It is measured by multiplying the nominal exchange rate with the ratio of prices between the two countries. Currency devaluation leads to cheap exports and expensive imports making a country’s exports more competitive in the world market leading to increased export volumes. A strong exchange rate will have a positive impact on FDI (Goldberg and Klein, 1998)

**Inflation:** Inflation rate is included as a measure of overall economic stability of the country. It is measured using consumer price index (CPI). The CPI puts into consideration the price of a basket of goods and services and compares them over time so as to measure the movement of prices. A rise in CPI, leads to a rise in inflation. As a result the purchasing power for investors is reduced. Investors prefer to invest in a more stable economy. High inflation rate therefore, is expected to have a negative effect on FDI (Ayanwale and Bamire, 2004).
3.4 Data Description

The data used in this work is time series data covering the period 1980-2012. The reason for using a long period is to bring out the true picture of FDI inflows to Kenya. The data will be extracted from the data bank of World Bank World Development Indicators, Central Bank of Kenya and from the United Nations Centre for Trade and Development. The data collected includes share of FDI in GDP, corporate and labour income tax, share of exports and imports in GDP, real effective exchange rate and annual inflation rates.

3.6 Estimation Technique

The study used ordinary least squares (OLS) for estimation. STATA version 12.1 was the econometric package that was used to run the required regression. The following are the necessary tests that were conducted to ensure data accuracy and reliability.

3.6.1 Testing for Unit roots

Time series data may show trends of unit root(s) over time. It is therefore, necessary to determine the order of integration of time series data so as to establish the presence or absence of stationarity. If a time series is stationary, that is, of the order 0 denoted as I (0), its mean and variance at various lags remain the same no matter at what point one measures them. This means they are time invariant. On the other hand, a non-stationary time series which is of order 1 denoted as I (1) will have a time-varying mean or time-varying variance, or both. This study used the Augmented Dickey-Fuller (ADF) test to test whether a time series will be stationary or not. The ADF regression equation to test a unit root in time series is written as:

\[ \Delta Y_t = \beta_0 + \beta_1 t + \delta Y_{t-1} + \sum_{i=1}^{m} \alpha_i \Delta Y_{t-i} + \epsilon_t \]

.................................................................Equation 4
Where: $Y_t$ represents the level of the time series, $\Delta Y_t$ represents the first difference of the relevant time series, $t$ represents the time trend, $\beta$’s, $\delta$ and $\alpha$ represent the parameters to be estimated and $\epsilon_t$ represents the error term with zero mean and constant variance. The $m$ lagged difference terms are added to remove serial correlation in the residual so that an unbiased estimate of $\delta$ can be obtained.

The null hypothesis is $H_0: \delta = 0$

The alternative hypothesis is $H_1: \delta < 0$

If the computed ADF statistics is greater than the ADF critical value at a given significance level, do not reject the null hypothesis because unit root exists. If the computed ADF statistics is less than the ADF critical value, reject the null hypothesis because unit root does not exist thus the series is stationary. If the series are not stationary at given significance level, then all the series are differenced once to make them stationary (Gujarati, 2009).

### 3.6.2 Cointegration Test and Error Correction Model

Cointegration tests deal with the relationship of many variables whereby each has a unit root. The regression of two non-stationary time series variables would lead to spurious results. One way to guard against spurious regression is to find out if the time series are cointegrated. Variables are said to be cointegrated if they have a long-term or equilibrium relationship between them. Two variables $x$ and $y$ are said to be cointegrated of order one, $I(1)$ if both are integrated of order one and there exists a linear combination of the two variables that is stationary, $I(0)$. The linear combination is given by either:

\[
Y_t = \alpha_0 + \beta_0 x_t + \mu_0 t \nonumber \tag{Equation 5}
\]

\[
X_t = \alpha_1 + \beta_1 y_t + \mu_1 t \nonumber \tag{Equation 6}
\]
This study used the Engle and Granger test to test for cointegration. Short-run deviations from equilibrium occur mostly due to random shocks, but these deviations are bounded since stabilizing mechanisms tend to bring the system back to equilibrium (Engle and Granger, 1987). The long run relationship among the levels of the variable is restored through the error correction mechanism. Engle and Granger Residual based test is a two-step procedure. The first step is to perform OLS regression to the series in levels and generate residuals. The second step is to perform a unit root test and save the residuals. If the residuals are stationary then, the two series are cointegrated. Therefore, an error correction mechanism (ECM) is introduced to ensure a systematic disequilibrium adjustment process the dependent and explanatory variables are prevented from drifting too far apart from their mean value.

3.6.3 Test for Autocorrelation

Autocorrelation occurs in time series data when the error is occurring at one period crosses over into another period. It may also occur when the error term relating to any observation is influenced by the error term relating to any other observation. The error term in the linear regression requires that successive values of the error term be sequentially independent (Mukras, 1993). The OLS estimators remain unbiased, consistent and asymptotically normally distributed in the presence of autocorrelation, but the estimators become inefficient. This study used Durbin-Watson Test and Breusch-Pagan LM test to check for the presence of autocorrelation. The test involves testing of the hypothesis of absence of autocorrelation against the hypothesis of the presence of autocorrelation.

That is;

\[
\begin{align*}
H_0: \rho &= 0 \\
H_1: \rho &\neq 0
\end{align*}
\]
The null hypothesis states that the error term is free from autocorrelation while the alternative hypothesis shows the presence of autocorrelation in the error term (Gujarati, 2009).

### 3.6.4 Test for multicollinearity

Multicollinearity arises from the presence of interdependence or lack of independence among independent variables in a multivariate regression model. Multicollinearity poses difficulties only when intercorrelation among the independent variables is high. The degree of multicollinearity is what matters since multicollinearity is common among variables. All independent variables should be truly independent, and none affects the other independent variable for OLS regression to work. To test for the presence of multicollinearity, this study used Variance Inflation Factor (VIF). In the presence of high multicollinearity, OLS estimates and their standard errors become very sensitive to changes in observational data (Gujarati, 2009).

### 3.6.5 Test for heteroscedasticity

Heteroscedasticity takes place when the variance of the error term keeps changing for all the values of independent variables.

\[
E(\varepsilon_i^2) = \sigma \varepsilon_i^2 \quad \text{.................................................................Equation 7}
\]

The error term can vary from one observation to another meaning the variance of error terms is dependent on the magnitude of the independent/explanatory variables.

\[
E(\varepsilon_i^2) = \sigma \varepsilon_i^2 = f(x_i) \quad \text{.................................................................Equation 8}
\]
The unbiased character of the OLS estimator is not affected by the presence of heteroscedasticity though it renders it inefficient. This is because in small samples OLS estimator will not have the minimum variance among the class of unbiased estimators and in large samples it will be asymptotically inefficient. This study will use the Breush-Pagan test to check for the presence of heteroscedasticity (Gujarati, 2009).
CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This section describes statistical data analysis, interpretation and discusses the research findings. Time series data containing those variables for the period 1980-2012 has been used to carry out the analysis. This chapter has detailed through both tables and graphs the descriptive and regression results of the study.

4.2 Descriptive Statistics

Our study has summarized the Annual FDI share of GDP, Corporate and labour income tax on foreign investments, Gross Domestic Product, Annual exchange rate (IMF PARE), Openness to trade and Inflation rate through computation of mean, standard deviation and the range. From Table 4.2, we find that gross domestic product has an average of 9.0711 with a standard deviation of 9.3111 whereas annual foreign direct investment of GDP oscillates within 0.0047207 and 2.676694 units. Inflation rate shows high standard deviation from its mean unlike corporate taxes which did not exhibit much standard deviation from its mean of 30.58662 units. It operated within the tax boundaries of 22.10594 and 42.474. Openness to trade operated below unit both averagely and the existing boundaries. Openness to trade was a ratio of the total of exports and imports to GDP.
Table 4.2: Summary Statistics

<table>
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<th>Variable</th>
<th>Observation</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
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</thead>
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<td>9.0711</td>
<td>9.3111</td>
<td>5.3910</td>
<td>3.4012</td>
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<td>0.5981546</td>
<td>.0047207</td>
<td>2.676694</td>
</tr>
<tr>
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<td>49.6933</td>
<td>28.05859</td>
<td>7.420187</td>
<td>88.81077</td>
</tr>
<tr>
<td>P</td>
<td>33</td>
<td>12.99272</td>
<td>8.946175</td>
<td>1.554328</td>
<td>45.97888</td>
</tr>
<tr>
<td>I</td>
<td>33</td>
<td>0.5966533</td>
<td>0.077139</td>
<td>.4770277</td>
<td>.7361452</td>
</tr>
<tr>
<td>T</td>
<td>33</td>
<td>30.58662</td>
<td>5.453786</td>
<td>22.10594</td>
<td>42.474</td>
</tr>
</tbody>
</table>

Source: *Own computation*

Where Y = Gross Domestic Product, Z = Annual FDI share of GDP (FDI/GDP), R = Annual exchange rate (IMF PARE), I = Openness to trade (exports + imports/GDP), P= Inflation rate and T = Corporate and labour income tax on foreign investments.

### 4.3 Establishing the trend of factors that affect Foreign Direct Investment in Kenya

This objective demonstrates with the aid of graphs the pattern of different factors that determine foreign direct investors based in Kenya. From the graphical illustration in Figure 4.2, we observe systematic increase in GDP as time progresses. In the 1980’s, the GDP was low following the collapse of East Africa Community thus reducing the market size for Kenyan goods. Early 1990’s the cost of doing business was high and there was much political instability due to ethnic clashes. This made the relationship of the government and donors to be poor leading to loss of confidence by investors. In the mid-1990, the government implemented reform programme by liberalizing interest rates, exchange rates and capital controls. The government also offered incentives to foreign investors such as establishing
EPZ. This helped to promote investment and exports and consequently the GDP of the Kenyan economy improved. This is revealed by the increasing trend from the figure below.

Figure 4.2: Gross Domestic Product against time

Source: Own computation

Corporate and labour income tax rate are the main factors under investigation in this study. From the figure 4.3, we observe that from 1980 to around 1990, we had unpredictable tax rates. However, the fluctuations are not very high unlike at the beginning of 1991/1992 where we face a quick decline to the year 1993. It is as well not definite and predictable variable like GDP. At around 1994/1994, 2003/2004 and 2010/2011, this factor shows the sharp peaks from where the value drop from approximately 39, 38 and 44 units respectively.
From Figure 4.4, the annual FDI share of GDP shows sporadic movements from 1980’s until at around 1992/1993 when we see high rates at about 2.5 units similar to the year 2007/2008. These two period experienced extreme effects. The era is associated with episodes of the general elections. However, the latter is a mix of political influences and external shocks like global financial crisis.
From Figure 4.5, the annual exchange rate increases with time. We observe a sharp increase between 1993 and 1994 from which it starts to rise at a decreasing rate to the present time (2012).

Source: Own computation
Openness to trade is obtained as the proportion of the total sum of the exports and imports to real GDP. Despite GDP showing an increasing trend systematically, this factor has an unpredictable pattern from 1980’s, we observe a decline to about 0.5 units (1987/1988) as shown in Figure 4.6. However, two periods are uniquely identified for both minimum and maximum of less than 0.5 units and above 0.7 units in (1987/1988 and 1998/1999) and (1995/1996 and 2011 and 2012) respectively.

![Figure 4.6: Openness to trade over time](image)

Source: *Own computation*

Inflation rate that is considered as a macroeconomic variable with greater influences in the economy has a similar behaviour like openness to trade above. It is not predictable however its consequences are well known. The unique periods, can be seen from Figure 4.7 which include the period between 1992-1993 and 2008-2009, when inflation rates were high. The rest of the periods show systematic fluctuations. These two periods has experienced high inflation rates with the former illustrating high inflation rate compared to the latter period.
4.4 Diagnostic Tests

The study used ordinary least squares (OLS) for estimation. The following are the necessary diagnostic tests that were conducted to ensure data accuracy and reliability.

4.4.1 Tests for Multicollinearity

This is the bias which arises when one or more pairs of autonomous variables are perfectly correlated to each other. We have used variance inflation factor (VIF) to detect for the presence or absence of Multicollinearity. The degree of Multicollinearity is what matters since Multicollinearity is common among time series variables. We have confirmed that multicollinearity does not exist among our variables. From table 4.3 below, we can see that the VIF is less than 10 and the ratio 1/VIF is greater than 0.1 which is desirable.
Table 4.3: Variance Inflation Factors (VIF)

<table>
<thead>
<tr>
<th>Variable</th>
<th>VIF</th>
<th>1/VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnY</td>
<td>8.40</td>
<td>0.119051</td>
</tr>
<tr>
<td>lnR</td>
<td>4.79</td>
<td>0.208783</td>
</tr>
<tr>
<td>lnT</td>
<td>3.86</td>
<td>0.259053</td>
</tr>
<tr>
<td>lnI</td>
<td>1.53</td>
<td>0.655582</td>
</tr>
<tr>
<td>lnP</td>
<td>1.27</td>
<td>0.788762</td>
</tr>
<tr>
<td><strong>Mean VIF</strong></td>
<td><strong>3.97</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: *Own computation*

The correlation matrix before any transformation as indicated by Table 4.4 below showed that there existed multicollinearity whereby some coefficients of the pairs of variables had more than the required |0.6|.

Table 4.4: Correlation matrix before differencing

<table>
<thead>
<tr>
<th>Variables</th>
<th>Z</th>
<th>T</th>
<th>Y</th>
<th>R</th>
<th>I</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T</td>
<td>0.1875</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Y</td>
<td>0.1386</td>
<td>0.8658</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R</td>
<td>0.1290</td>
<td>0.6586</td>
<td>0.8066</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>I</td>
<td>0.3405</td>
<td>0.4622</td>
<td>0.4987</td>
<td>0.3344</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>0.3063</td>
<td>-0.2303</td>
<td>-0.1783</td>
<td>-0.1367</td>
<td>0.3254</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: *Own computation*

To solve the problem of multicollinearity, we undertook the first differences which are also applied to make non-stationary variables stationary. As can be observed from Table 4.5 below, all pairs have no multicollinearity.
### Table 4.5: Correlation Matrix after first differencing

<table>
<thead>
<tr>
<th></th>
<th>lnZ</th>
<th>DlnT</th>
<th>DlnY</th>
<th>DlnR</th>
<th>DlnI</th>
<th>lnP</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnZ</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DlnT</td>
<td>0.1306</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DlnY</td>
<td>0.2422</td>
<td>0.0580</td>
<td>1.0000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DlnR</td>
<td>0.1876</td>
<td>-0.0373</td>
<td>0.3158</td>
<td>1.0000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DlnI</td>
<td>0.1034</td>
<td>0.0666</td>
<td>-0.1556</td>
<td>0.3415</td>
<td>1.0000</td>
<td></td>
</tr>
<tr>
<td>lnP</td>
<td>0.0004</td>
<td>-0.0927</td>
<td>0.3536</td>
<td>0.5239</td>
<td>0.2133</td>
<td>1.0000</td>
</tr>
</tbody>
</table>

Source: Own computation

#### 4.4.2 Testing for Autocorrelation

Autocorrelation refers to the correlation between the disturbance terms of the successive time periods. Its presence attracts the bias that leads to spurious estimates. We have used both Durbin-Watson test and Breusch-Godfrey LM test to confirm its presence. Durbin Watson statistic is \((6, 22) = 2.816724\) and second LM test has a \(p\)-value of 0.0163 which is greater than 0.05. This shows the presence of autocorrelation from both tests. We use robust standard errors which serve as a remedy for autocorrelation.

#### Table 4.6: Breusch Godfrey Langrange multiplier test for autocorrelation

<table>
<thead>
<tr>
<th>Breusch-Godfrey LM test for Autocorrelation</th>
</tr>
</thead>
<tbody>
<tr>
<td>lags(p)</td>
</tr>
<tr>
<td>---------</td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

Source: Own computation

Where \(H_0\): No serial correlation
4.4.3 Test for Heteroscedasticity

Heteroscedasticity takes place when the variance of the error term keeps changing for all the values of independent variables. We have applied Breusch pagan test for heteroscedasticity. The findings indicate the absence of heteroscedasticity.

<table>
<thead>
<tr>
<th>Breusch-Pagan / Cook-Weisberg test for heteroscedasticity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ho: Constant variance</td>
</tr>
<tr>
<td>Variables: Fitted values of the natural log of the share of FDI of GDP</td>
</tr>
<tr>
<td>Chi2(1) = 0.08</td>
</tr>
<tr>
<td>Prob&gt; chi2 = 0.7718</td>
</tr>
</tbody>
</table>

Source: Own computation

Where H₀: Heteroscedasticity

4.4.4 Testing for unit root

Non-stationarity is the tendency of the estimates to change over time. The unit root test is applied to detect non-stationarity in all the variables under the study to avoid making wrong inferences using unreliable information. This can promote fake estimates. The proposed Augmented Dickey-Fuller (ADF) test is applied to test whether a time series will be stationary or not. The hypotheses tested include;

- Null hypothesis: The variable has got unit root
- Alternative hypothesis: The variable has got no unit root

From the Table 4.8 below, we have computed the p-values in an effort to determine the stationarity. We find that the p-values of the natural logarithms of GDP, Annual exchange rate and Openness to trade have unit roots but after conducting the first differences, they become stationary.
Table 4.8: Testing for Stationarity

<table>
<thead>
<tr>
<th>Variables</th>
<th>P-values at lag (0)</th>
<th>P-values at lag(0) after 1st differencing</th>
</tr>
</thead>
<tbody>
<tr>
<td>lnY**</td>
<td>0.7279</td>
<td>0.0013</td>
</tr>
<tr>
<td>lnT</td>
<td>0.0072</td>
<td>-</td>
</tr>
<tr>
<td>lnZ</td>
<td>0.0000</td>
<td>-</td>
</tr>
<tr>
<td>lnR**</td>
<td>0.0678</td>
<td>0.0000</td>
</tr>
<tr>
<td>lnI**</td>
<td>0.2677</td>
<td>0.0000</td>
</tr>
<tr>
<td>lnP</td>
<td>0.0002</td>
<td>-</td>
</tr>
</tbody>
</table>

Source: Own computation

**These variables have a unit root.

Where $H_0$: Variable is non-stationary

The transformed model is as shown below;

$$\ln Z = \beta_0 + \beta_1 \ln T + \beta_2 \Delta \ln Y + \beta_3 \Delta \ln R + \beta_4 \Delta \ln I + \beta_5 \ln P + \mu$$

Where $\Delta \ln Y$ represents the first difference of natural log of GDP, $\Delta \ln R$ represents the first difference of the natural log of exchange rate, $\Delta \ln I$ represents the natural log of the share of exports and imports in GDP, $\ln Z$, $\ln T$ and $\ln P$ are as describe in Equation 1 above. The above model is stationary.

4.4.5 Testing for Cointegration

This involves the establishment of either a long run or short run relationship between the natural log of the share of FDI in GDP and other independent variables. Having established the stationarity, we shall use equation one above to generate the residuals and the first

---

1 Condition: If the p-values are less than 0.05 we reject the null
differences of the residual. The first differences, lagged values and lagged values of the first differences are included in another successive regression as model regressors.

The hypothesis tested is;

$H_0$: There is no Cointegration

$H_1$: There is Cointegration

From the results in the table below, the $p$-value of 0.0000 is less than 0.05. Therefore, the null hypothesis of no Cointegration is rejected. This means that there is a long-run relationship between dependent variable and independent variables.

Table 4.9: The Engle-Granger Test

<table>
<thead>
<tr>
<th>D.uhat</th>
<th>Coefficients</th>
<th>Std. Err</th>
<th>t</th>
<th>P&gt;t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uhat</td>
<td>-0.1248856</td>
<td>0.0922925</td>
<td>-1.35</td>
<td>0.187</td>
</tr>
<tr>
<td>L1.</td>
<td>-0.5418276</td>
<td>0.1534484</td>
<td>-3.53</td>
<td>0.001</td>
</tr>
</tbody>
</table>

Number of Observation = 30
$F( 2, 28) = 9.16$
Probability > $F = 0.0009$
R-Squared = 0.6556
Adjusted R-Squared = 0.4425
Root MSE = 0.66013

Source: Own computation

Source: Author’s computation

It was also observed that about 65.56% of variations were explained by the model implying that in the long run, all variables tend to move together. This leads us to estimation of our logarithmic regression model.

4.5 Regression results

Table 4.10 summarizes the regression results obtained using STATA. The regression uses the Newey-West standard errors with a Max lag of 0.
Table 4.10: Results for the logarithmic regression model

| Ln Z | Coef.     | Std. Err. | t     | P>|t| | [95% conf. Interval] |
|------|-----------|-----------|-------|------|----------------------|
| lnT  | 3.070035  | .9139516  | 3.36  | 0.002 | 1.191381 4.948689    |
| DlnY | 2.812134  | 1.589395  | 1.77  | 0.089 | -4549147 6.079184    |
| DlnR | 3.802897  | 1.482866  | 2.56  | 0.016 | .7548217 6.850973    |
| DlnI | .3218724  | 1.728478  | 0.19  | 0.854 | -3.231064 3.874809   |
| lnP  | -.3167232 | .1559566  | -2.03 | 0.053 | -.6372967 .0038503   |
| -Cons| -11.53092 | 3.194123  | -3.61 | 0.001 | -18.09653 -4.965304  |

Source: Own computation

Where;

Number of obs = 32

F (5, 26) = 5.67

Prob > F = 0.0012

From the table, we confirm that the model is fit since the p-value is 0.0012 which is less than 0.05. This implies that all variables comfortably fit in the model. On the specific variables, we observe that the corporate tax is highly significant with a p value of 0.002 in determining the dependent variable as well as Annual exchange rate which has a p value of 0.016. Other variables that are close to significance are Gross Domestic Product (0.089) and Inflation rate (0.053). However, Openness to trade is far from significance with the p values of 0.854 compared to 0.05 significance level.
The key objective of this paper is to establish the level of association between the Annual FDI share of GDP (FDI/GDP) and corporate tax on foreign investments. The necessary diagnostic tests have been carried out, and the logarithmic model shows a positive relationship between the two. The following is the regression equation obtained:

\[ \ln Z = -11.53092 + 3.070035 \ln T + 2.812134 \ln Y + 3.802897 \ln R + 0.321874 \ln I - 0.3167232 \ln P \]

Where \( \ln Z \) = natural log of Annual FDI share of GDP (FDI/GDP).

\( \ln T \) = natural log of Corporate tax on foreign investments.

\( \ln Y \) = first difference of the natural log of Gross Domestic Product.

\( \ln R \) = is the first difference of the natural log of Annual exchange rate (IMF PARE).

\( \ln I \) = first difference of the natural log of Openness to trade (exports + imports/GDP).

\( \ln P \) = natural log of Inflation rate.

4.6 Interpretation of results

The above estimating model shows that if all other explanatory factors are held constant, the annual FDI share of GDP will reduce by 11.53092 units. A 1% increase in corporate tax leads to a 307.0035% increase in the annual FDI share of GDP. A percentage change of the first difference of the Gross Domestic Product leads to 281.21% increase in annual FDI share of GDP when other variables are kept constant. A one percentage change in the first difference of annual exchange rate increases annual FDI share of GDP by 380.29%, when all other variables are held constant. A one percentage change in first differences of openness to trade consequently increases annual FDI share of GDP by 32.19% when all other variables are held constant. A one per cent increase in inflation attracts a decrease of annual FDI share of GDP by 31.67% if all other factors are held constant.
4.7 Discussion of results

There is a positive relationship between tax and FDI. It is evident from the study that tax is significant in determining FDI. The results do not conform to economic theory though they are in agreement with earlier studies of Swenson (1994) in the study of the impact of tax reforms on foreign direct investment in the United States. The study considered tax determinants in industry led FDI in the US. He found that as the tax increased more industries were located in such areas. He attributed this to investors considering other factors that determine FDI more than effects of tax. This however contradicts with earlier studies that found a negative relationship between tax and FDI.

In the study of Agostini and Tulayasathien (2003) who conducted a survey in which they sought to find out the impact of state corporate taxes on FDI. The data used for the study included FDI by state and by the source country for major investing countries in the United States. The results showed that the property factor in the apportionment formula of taxes had an important impact on the effective state corporate income tax rate that investors face. Hence, on the fraction of FDI that states received. The study indicated that a one percent increase in a state corporate tax rate would a one percent decrease in the share of FDI received by a state, ceteris paribus. Therefore, FDI was found to be quite sensitive to states’ corporate tax rates.

It is also inconsistent with the study done by Olofsdotter and Hansson (2010) how foreign direct investment is affected by corporate tax rates and agglomeration economies among the European Union countries. The study focused on differences between tax policies in old and new member countries. The paper dealt with agglomeration forces and how they explain differences in tax policies between new and old member countries. The model used views the
foreign direct investment decision as a two-step procedure: first, the decision on which location to invest, and second, a flow decision of the amount of FDI to invest. The paper used data on effective marginal and average corporate tax rates for all twenty-seven European Union member countries and covered the period 1995-2006. Hansson and Olofsdotter found that there are large differences in determinants of FDI going to old members and to the new member countries. The tax differentials mainly influenced FDI flows to new members. The agglomeration economies are majorly significant in amount of investment carried out within the old member countries. This study showed that a one percent increase in tax differential led to approximately a four percent reduction in FDI flows.

Schoeman et al. (2000) used a long-run co-integration equation for FDI in South Africa in a period of 30 years to analyse how government policy mainly deficit and taxes affects FDI. The main finding was that both fiscal policy variables had a negative effect on FDI flows to South Africa. The scenario is applicable in Kenya since investors have means of tax avoidance and evasion thus they do not consider effects of tax with much weight. Bellak & Leibrecht (2009) investigated FDI inflows to eight new member countries during the period 1995-2003. The study found strong negative effects of bilateral tax deviations and the estimate of the semi-elasticity. There was a 4.3 percent change in FDI in response to a one percentage increase in the tax rate.

Gross Domestic product positively affects and significantly determines FDI. This conforms to economic theory. It is in agreement with earlier studies of Bellak and Leibrecht (2009) in their study of estimating the role of taxation as a determinant of FDI in home and host countries of FDI from 1995-2003 using a panel gravity model. The study found a positive relationship between GDP and FDI. An increase in GDP may result in increased investment
opportunities due to high demand for goods and services and expansion of infrastructure thus providing a favourable environment for foreign investments.

Openness to trade is calculated as the proportion of the total sum of exports and imports to real GDP. It determines the ease of transfer across borders. A positive relationship is also portrayed by the percentage unit change of the first differences of openness to trade that leads to an increase in FDI flow. This is an indicator that the liberalised trade has opened up Kenyan economy thus attracting FDI. These results are supported by the past study of Ayanwale and Bamire (2004) on FDI and firm-level productivity in Nigeria. The study found a positive relationship between GDP, exchange rate and openness to trade and FDI.

The findings of this study show that exchange rate has a positive impact on FDI and that it is significant. These results findings are in agreement with those of Goldberg and Klein (1998) who evaluated the relationships among trade, foreign direct investment and the real exchange rate between a set of South East Asia and Latin American countries and both the United States and Japan. The study found that there was a significant relationship between exchange rates and foreign direct investment. The study also concurs with the findings of Osinubi and Amaghionyeodiwe (2009) which sought to find the empirical evidence on the effect of exchange rate volatility on foreign direct investment (FDI) in Nigeria. This study found a significant positive relationship between real inward FDI and exchange rate.

This study shows that there is a negative relationship between the inflation rate and annual FDI share of GDP. However, inflation rate is statistically significant. The finding is in agreement with the study done by Ayanwale and Bamire on how the non-extractive FDI industry is related to economic growth in Nigeria and determinants of FDI in Nigeria during
the period 1970-2002. The study found inflation to be negatively related to FDI and significant. Unstable macroeconomic environment can be said to discourage growth and thus inflation should be controlled so as to encourage investments that would bring about economic growth. The results of this study do not agree with the findings of a study done by Gul et al. (2012) on how to determine the relationship between FDI and consumer price index in Pakistan for the period 1990-2008. The study found that there was an insignificant relationship between inflation and FDI.
CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter gives a summary of the findings of the study in relation to the objectives and key variables in the study. It later makes comprehensive conclusions and suggestions for further study.

5.1 Summary

The key objective of this study was to determine a relationship between taxation and foreign direct investment in Kenya. The study used annual time series data from 1980-2012. The data was extracted from Kenya National Bureau of Statistics, the World Bank, World Development Indicators and United Nations Centre for Trade and Development (UNCTAD) publications.

The study estimated the FDI equation with FDI as the dependent variable while the independent variables were income tax from corporations, GDP, Exchange rate, openness to trade (proxied by price of exports to that of imports) and inflation. Various diagnostic tests were carried out before the estimation of the FDI equation. A unit root test was carried out using Augmented Dickey-Fuller test. The P-values of the natural logarithm of GDP, annual exchange rate and openness to trade had a unit root but after conducting the first difference they became stationary. This implies that they are integrated of order one. A cointegration test was done since the variables were integrated of the same order, and the results showed that all the variables in the regression model highly explained variations in the dependent variable. Other tests carried out included autocorrelation test using Durbin-Watson test and Breusch-Godfrey Lagrange Multiplier test which revealed presence of autocorrelation. The
Robust Standard Errors were used to remedy the autocorrelation. Multicollinearity was tested for using the Variance Inflation Factor (VIF) and it was found out that multicollinearity did not exist since the VIF was less than ten which is desirable.

5.2 Conclusion

The analysis of this study has shown that foreign direct investment is significantly affected by taxation. Taxation indicates a positive relationship with FDI. The government needs to evaluate how foreign investors report their incomes and whether the remit the required taxes to the government. Other macroeconomic and policy variables that affect FDI in Kenya include: gross domestic product, exchange rate, openness to trade and inflation. All these variables have been found to have a positive relationship with foreign direct investment apart from inflation according to this study.

5.3 Policy Recommendations

From the study findings, there is a need for the government to evaluate the tax rate levied in the country to ease the tax burden on investors. This will help in sealing the loopholes that investors use in tax avoidance and tax evasion which make the government lose out on revenues that would have been collected from taxes. The government should also aim at promoting both domestic and foreign investments through appropriate policies and regulations, provision of good infrastructure and other amenities that would boost the growth of GDP thus attracting investors. This will greatly reduce the cost of doing business in the country. Openness to trade has been found to be very significant in determining FDI and this show that the government should encourage free trade with the international community with more emphasis on export promotion.
5.4 Limitations of the study

One of the main limitations that this study faced was the inconsistency of data from various sources. The data for similar variables was different from the different sources that were used. This poses the problem of data reliability. The government needs to regulate the available data sources for data originating from within the country for uniformity.

5.5 Areas for further research

The study has used time series analysis and OLS method of estimation. A similar study can be done using panel data analysis and compare data from different countries as opposed to one country as is the case in this study. In addition, more variables can be put into consideration such as distance between countries and the effects of corruption.
REFERENCES


### APPENDICES

#### APPENDIX 1: DATA USED IN MILLION USD

<table>
<thead>
<tr>
<th>Year</th>
<th>Y</th>
<th>Z</th>
<th>R</th>
<th>P</th>
<th>I</th>
<th>T</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>5.391</td>
<td>1.086997</td>
<td>7.420188</td>
<td>13.85818</td>
<td>0.654168</td>
<td>23.59332</td>
</tr>
<tr>
<td>1981</td>
<td>6.2016</td>
<td>0.206398</td>
<td>9.047498</td>
<td>11.60305</td>
<td>0.642802</td>
<td>25.40936</td>
</tr>
<tr>
<td>1982</td>
<td>7.02478</td>
<td>0.202142</td>
<td>10.92233</td>
<td>20.66672</td>
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