DETERMINANTS OF INWARD FOREIGN DIRECT INVESTMENT STOCK IN KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN ECONOMICS OF THE UNIVERSITY OF NAIROBI.

DECLARATION

This is my original work and has not been presented for the award of a degree or certificate in any other any institution.

Ken Mulu Kyunga

X50/5983/2017

Signature…… Date ……

This research project is submitted to me for examination for the award of a degree in Master of Arts in Economics.

Dr. Thomas Ongoro

Signature…… Date ……

DEDICATION

To my family members for the invaluable support and encouragement during the time of undertaking this research.

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I direct my gratitude to Dr. Thomas Ongoro, my supervisor, who provided insights and expertise that enormously helped this project. I sincerely thank all my lecturers who played a significant role by laying a solid foundation through my coursework. My appreciation also goes to the economic class of 2017 whose intellectual discussions have made this research project a reality. Lastly, I praise God for giving me wisdom, inspiration and guidance.

ABBREVIATIONS

ADF	Augmented Dickey-Fuller
AGOA	African Growth and Opportunities Act
EAC	East African Community
EPZs	Export Processing zones
ERS	Economic Recovery Strategy
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
HQIC	Hannan-Quinn information criterion
KNBS	Kenya National Bureau of Statistics
LDCs	Least Developing Countries
MNCs	Multinational Corporations
MNEs	Multinational Enterprises
MSM	Markov regime-switching Model
MUB	Manufacturing under Bond
OLI	Ownership, Location and Internalization
SAPs	Structural Adjustment Policies
UNCTAD	United Nations Conference on Trade and Development
WTO	World Trade Organization

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ABSTRACT

Kenya's foreign direct investment overtime has been waning despite investment policies and frameworks to attract it. This study analyses the FDI dynamics in Kenya for 1970-2018 period using annual data. Unlike existing studies in the Kenyan context, this study adopts the Markov switching regression. The use of this approach unlike other approaches allows the constants and the conditioning variables to shift. Several findings emerge. First, inward FDI stock over 1970-2018 period exhibited two regimes; high and low state FDI episodes with the low FDI episodes being dominant and more persistent. Second, the estimation show that FDI is positively correlated with lagged FDI, fiscal imbalances, education, natural resource rents in regime 1, a regime of low FDI flows and negatively correlated with institutional quality, market size, fixed capital formation, infrastructure, inflation, financial development and higher interest rate differentials and exchange rates in the same regime. In regime 2, a regime of high FDI flows, lagged FDI, fiscal imbalances, market size, education, natural resources rent, domestic investment and exchange rates positively relate to inward FDI flows while being negatively affected by financial development and higher interest rate differentials. These findings provide several policy implications. First, there is need to ensure a stable political and economic environment while also ensuring that the overall legal framework is supportive of a conducive environment for attracting FDI flows. Second, is the need for the government to strike a balance between the benefits that accrue from a weaker shilling that attracts FDI and the costs that it widens the country's debt obligations. Third, and more importantly is the need to ensure a well-established legal framework that would enhance the enforceability of contracts and improving the observance of law and order as the results show that the current levels of institutional quality remains low and thus acting against attracting more FDI inflow. Lastly, there is need to be keen in improving the labour force quality while keeping the economy's comparative advantage in quality labour as neighbouring countries also compete with Kenya to attract foreign investors.

CHAPTER ONE

INTRODUCTION

1. Background

Well embedded within the literature and policy space is the dynamics around the flow of international resources to developing countries especially in the form of FDI. These resources either in the form of tangible or intangible assets are an impetus of the growth and development of the economy especially in helping to bridge the savings gap of most developing countries (Holger and Greenaway, 2004).

As in the literature, FDI is not only spurred by location advantages but also by lower labour cost advantages along with market access, economies of scale and localized natural resources. Firstly, MNCs may choose to outsource specific components of the production process that require less skilled labour resulting to lower wages. Multinational enterprises may also outsource products that they have least comparative advantage in producing while eyeing profit margins from lower wage levels compared to their competitors. Additionally, MNCs can use additional bases in foreign destinations for full production plants with wide product ranges, research and development and adoption of dynamic technology while selling at similar prices as home country prices but for lower labour costs resulting to higher profit margins.

Despite the numerous policy initiatives adopted in many African countries FDI inflows to the continent lags those of peers in other regions. Extensive evidence points to the unfavourable and often unpredictable nature of the policy regimes in most countries that has occasioned outflows instead of attracting inflows. According to UNCTAD (2018)

report on global investment positions, FDI stock globally contracted by 23% to USD 1.43 trillion in stark contrast with the accelerating global GDP growth and trade. As for developing countries, FDI flows were stable with no recovery from the 10% decline in 2016. In Africa, the FDIstock continues to wane declining by approximately 21 percent and stood at USD 42 Billion in 2016. Overtly, the highest decline in FDI flows was more exacerbated especially for larger commodity exports. This trend decline in FDI flows globally has been attributed to the decline in the rate of investment returns (**Table 1.1**).

Table 1.1.InwardFDI Rates of Return (%)

Region	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
World	8.1	7.8	7.9	6.8	7.0	6.7
Developed Countries	6.7	6.3	6.6	5.7	6.2	5.7
Developing Economies	10	9.8	9.5	8.5	8.1	8.0
Africa	**12.3**	**12.4**	**10.6**	**9.9**	**9.5**	**9.1**
Asia	10.5	10.8	10.6	9.9	9.5	9.1
East and South-East Asia	11.5	11.8	11.7	11.0	10.3	10.1
South Asia	7.2	6.7	6.1	5.5	6.4	5.7
West Asia	5.5	5.4	4.9	4.6	4.6	3.4
Latin America and the Caribbean	7.9	6.7	6.6	5.2	5.3	5.6
Transition Economies	**14.4**	**13.9**	**14.6**	**10.2**	**11.1**	**11.8**

Source: IMF Balance of Payments Database

Further, the rate of returns in developing countries remains elevated compared to those of global and developed counties but has not escaped the deterioration. In SSA, for instance, the rate of returns has been waning with the rate of return for inward FDI being 12.3 per cent in 2012 and stood at 9.1 per cent in 2017 representing a 35% decline in between 2012 and 2017 period which has been attributed to the declining commodity prices in the region. However, despite the stability in commodity prices post-2016, the rates of return

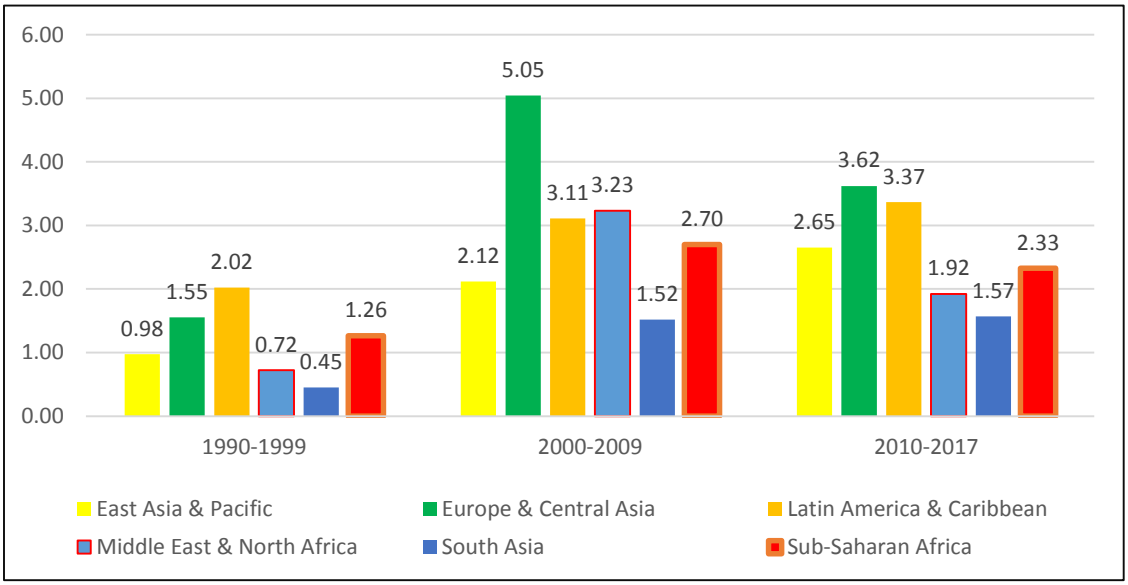
on inward FDI continued to dip, an indication that other country level structural factors are at work in influencing the dynamics of FDI movements.

In the African context, several studies suggest that trade openness, natural resources abundance, government consumption expenditure especially on infrastructure, market size and international remittances increase inward FDIs. On the flipside, increased financial development in a host country portrays adequate domestic capital hence negating the need for FDI (Anyanwu, 2011). In the case of market seeking FDIs, trade restrictions may encourage FDIs to set up production plants if it is cheaper than exporting to the respective host country (Cai et.al., 2018).

Average annual inward FDI stock into Africa was double in the 1980srelating to1970s. It also went upin the 1990s and also 2000–2017 period. Before the 1980s, foreign direct investment flows did not attract much attention, however, after 1980s following a surge in FDI flows to the developing countries from the developed countries, increased attention to the changes in the patterns of flows became of interest to policy makers. Between 1980 and 1990, the flows to the developing countries almost doubled.

Furthermore, starting in 1990 the rate of growth in FDI stock to developing countries increased while it decreased to developed countries (**Figure 1**). During 1990 to 2009, the FDI net inflows as a percentage to GDP increased from 1.26% between 1990-1999 to 2.73% between 2000 and 2010 and stabilised at 2.33% between the period 2011 and 2017. But, the FDI inflows to developed countries post-1990 has been waning (**Figure 1**).

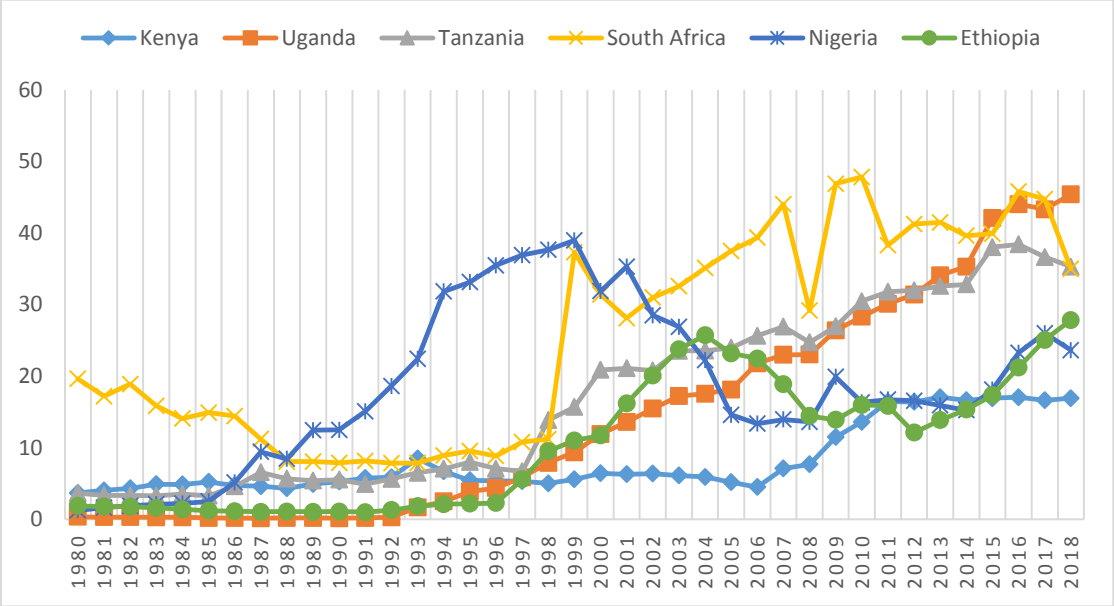
Figure 1.1. Global Foreign Direct Investment Net Inflows as a Percentage of GDP



Source: World Development Indicators

Looking at inward FDI stock to selected Sub-Saharan African countries, FDI inward stock has been on the rise with some countries being able to mobilize more inflows than others (**Figure 2**). The inward FDI stock to Ethiopia remains the highest and the least being Kenya and flows to Uganda and Tanzania being less volatile. Similarly, inward FDI stock to Nigeria and South Africa remain higher than that of Kenya and it is also evident that it's characterised by stability unlike those of Ethiopia, Uganda and Tanzania.

Figure 1.2. Selected SSA's Inward Foreign Direct Investment Stock as a % of GDP



Source: UNCTAD Statistics Data

1.1. Foreign Direct Investment Drivers

Dunning (1993) proposed three motives that drive a multinational firm's premises in the host country namely; resource, market and efficiency seeking. The resource seeking investors exploit natural resources (oil, gas and metals) and raw materials that are scarce in their countries. The pursuit is not only for availability of the resources but also for minimal production costs like cheap labour and capital which are lower in developing countries.

They may also use host markets as bases to innovate and invent new resource advantages (Awolusi, 2018). Market-seeking (horizontal FDI) investors are motivated by recipient countries that have large and expansive markets with high potential for growth. Small and also poor economies are least expected to be market-seeking (Abala, 2014). The rationale behind efficiency seeking FDI is to get the pros of the economies of scale and diversified

risk through central governance that combines all the geographically dispersed activities such as multi-plant corporations.

Of the views explaining the investment theories, the imperfect market view is due to three reasons. Firstly, investors hold assets in undervalued currency in the host country for returns in the event of stabilization in the foreign exchange equilibrium. The production costs are also low compared to other countries. Additionally, foreign firms purchase income generating assets at overvalued currencies (Ragazzi, 1973; Calvet, 1983). Secondly, they opt for long term investments in Least Developing Countries (LDCs) because there is hardly any organized securities market. Lastly, foreign investors are not conversant with how the host-country securities work hence a preference for long –term investments. The portfolio-FDI view contends that firms should reduce and diversify risks across countries (Boddewyn, 1985).

1.1.1. Overview of Investment Regimes and Policies in Kenya

To promote foreign investment after independence, Kenya adopted the Foreign Investment Act of 1964 that contained governing laws on permits and compensations. This Act was not conclusive in delineating all foreign investments regulations resulting to The Land Control Act and Trade Licensing Acts in 1967 (Fru, 2011). There was a tremendous rise in the share of FDI flows in 1970s that was attributed to the import substitution policy regime (import licensing, import tariffs and overvalued exchange rates) that favoured market-seeking FDI. The market size was favourable at the time from a high GDP growth and Kenya's membership into East African Community (EAC). It was followed by the period of Structural Adjustment Policies (SAPs) regime from 1980-1992.

There was a decline in FDI in comparison to Uganda and Tanzania in the late 1970s towards 1980s (Mwega and Ngugi, 2006) from macroeconomic instability, unfavourable political climate (bad governance and corruption) and policy inconsistencies (Abala, 2014; Kinuthia, 2013). Considerable efforts continued resulting to Investment Policy Centre in 1983 to entice foreign investors that replaced the 1968's New Project Committee that had been a forum for negotiations between the government and MNEs (Kinuthia, 2013; Newman et. al., 2016). Sessional paper on Economic Management for Renewed Growth (KNBS 1986) was implemented to streamline policies and institutional frameworks for the promotion of exports. The government introduced Manufacturing under Bond (MUB) in 1988. Export Processing zones (EPZs) and Export promotion council were established in 1990 and 1992 respectively to attract investors through tax holidays, seamless repatriation of profits and a deregulation of environment and labour standards (Mwega and Ngugi, 2006).

The Kenyan government abolished import licenses in 1993. Kenya's economy was declared open in 1994 after liberalizing capital and current transactions coupled with Kenya's membership to World Trade Organization (WTO). SAPs did not only encompass trade liberalization mechanisms but also the aspects of privatizations and private sector inclusion through small and medium enterprises. Kenya's membership to African Growth and Opportunities Act (AGOA) that permitted duty free textile and garments exports was ramified in 2000.

Despite the considerable attempts, Kenya's economy was still inward-looking and FDIs contribution to GDP was not significant compared Uganda and Tanzania in 2001 (Mwega and Ngugi, 2006). This led to culmination of the investment Act as a blueprint for

investment policy in 2005.This investment authority was to be involved in the harmonization of investment incentives and harness trade disputes and dumping issues. This Act deteriorated domestic and foreign investment due to regulatory stances such as mandatory investments certificates and high threshold of the minimum capital (UNCTAD, 2005; Abala, 2014). In 2003, a new government launched an Economic Recovery Strategy Paper for Wealth Creation and Employment (ERS). There was an immense rise in growth of GDP in 2007. The success of ERS informed the implementation of Kenya Vision 2030 in 2007 to promote competitiveness in all sectors in the case of a self-sustaining export oriented industrial sector.

1.2. Statement of the Problem

Despite the numerous policy initiatives adopted FDI inflows to Kenya lags those of peers. Admittedly, the country's foreign direct investment has been waning despite investment policies and frameworks to attract it even as its financing gap and needs continue to widen. Consequently, there is renewed vigour to interest additional FDI to plug into the savings–investment gap to leapfrog economic growth and development. However, doing so will require a need to better understand the drivers of FDI. More importantly, such policies as export-led growth, adopted by most SSA countries have seen an influx of investment funds yet still insufficient and in the last five years, flows have been waning. For Kenya, the portfolio inflows over the last decade have persistently declined relative to those of its East African peers.

According to UNCTAD (2016), Kenya was among the countries that attracted less FDI inflows registering a 36 per cent drop in 2016 compared to inflows in 2015. While the FDI flows to the East African region were up by 13 per cent in between 2015 and 2016,

the reverse trend was seen in Kenya, an indication that the country's competitiveness relative to those of other regions is being eroded. To reverse the country's negative outlook requires effective policies that will attract more capital inflows and consequently bridge the savings-investment gap that has been persistent. There is need to examine the drivers of FDI state in the country across time and the evolution of FDI across the different institutional and regulatory frameworks.

The existing literature on the FDI determinants is well documented. Nonetheless, the evidence of factors that drive FDI is inconclusive as it is characterised by divergent views depending on the country choice, the time span and the methodology adopted. This divergence in views of what drives FDI has remained a key issue within the policy circles more so in emerging economies in Kenya where huge financing gaps exist. To bridge the financing deficit by seeking to attract more FDI policy makers are key in identifying the fundamentals that drives the flows.

Using a novel estimation technique, the paper is cognisant that there could be multiple states/regimes governing the evolution of FDI which previous studies have ignored. To mitigate this shortcoming this paper applies the Markov switching regression to derive new insights on the drivers of FDI in Kenya. In addition, the paper also considers a broad range of factors as drivers of FDI which have largely been ignored in the literature. Among them we add new factors such as the role of macroeconomic fundamentals and more importantly monetary and fiscal policy factors. Further, we extend the empirical work by also looking at the quality of infrastructure in the economy as it has been touted in the literature as being key in influencing inflows yet largely ignored in empirical work in Kenyan case studies.

1.3. Research Question

i.) What are the determinants of inward FDI stock in Kenya?

1.4. Objectives of the Study

The paper seeks to broadly investigate the determinants of inward foreign direct investment in Kenya.

1.4.1. Specific Objectives

Specifically, it seeks to;

i). To investigate factors that determines inward FDI stock in Kenya.

ii). To offer policy recommendations based on the study findings.

1.5. Significance of the Study

The existing empirical literature on the FDI determinants is well documented. Nonetheless, the evidence on factors that drive FDI is inconclusive as it is characterised by divergent views depending on the country choice, the time span and the methodology adopted. This divergence in views of what drives FDI has remained a key issue within the policy circles more so in emerging economies in Kenya where huge financing gaps exist.

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Thus, the first contribution of the study is a methodological contribution which enables us to interrogate the determinants of FDI under different regimes. Therefore, it helps to shed light on the different factors under different regimes that the Kenyan government policy makers and investors should consider in attracting more FDI to bridge the savings-investment gap that has over time been widening. As for investors it will shed light on the factors to examine when considering committing their investments in the country.

1.6. Organization of the Study

Following this introductory chapter, Chapter 2 reviews previous literature on the correlates of FDI and concludes with an overview. Chapter 3 outlines the econometric estimation strategy to be adopted in the study, the sources of the data and the diagnostic tests to be undertaken to enhance the reliability of the estimates. Chapter 4 presents the results and discussions of the findings while chapter 5 presents the summary of findings and the conclusions and policy implications of the findings.

CHAPTER TWO

LITERATURE REVIEW

2.1. Theoretical Literature

The review is four-fold; first, we review the neoclassical theory, second, the dependency theory, third, the industrialization theory and positive spillover effects associated with FDI and lastly, we look at Dunning's eclectic paradigm theory.

2.1.1. Neoclassical Theory

Two neo-classical theories of international trade are antecedents in the plethora of explanations on foreign direct investment namely; comparative cost advantage and Vernon's product cycle theories. Comparative cost advantage based on Heckscher-Ohlin factor endowments and factor prices theory dictates that factor price differences motivate foreign firms to extend their production process across countries where production costs are low.

Unlike, the latter that emphasizes on supply side factors, Vernon (1966) encompasses both demand and supply side factors in explaining the sequence of foreign direct investment in three product stages; new product, maturing product and standardized product stage, where multi-product lines are concentrated in developed countries at first but with time firms become Multinational Enterprises (MNEs) that seek close markets abroad with its suppliers and market. These multinationals operate in oligopolistic markets with price wars, interdependence and cut-throat competition. The leader in the market capitalizes on technology, firm-specific advantage, and cheap labour in low-cost

countries to achieve multi-product lines as long as patents and copyrights exist (Caves, 1971).

Thus, according to the neoclassical theory, FDI and development of economy of the recipient country are positively correlated and the transmission channels are through boosting the host country's capital formation either through reinvestment of profits or through further inflows. Similarly, FDI being a financial flow increases the capital account and if other components of the balance of payment do not change, FDI inflows lower the balance of payment deficit.

Also, FDI inflows enhance firm's production techniques through replacement of the unproductive methods, enhancing managerial skills through spill overs, widened market base of the produced goods abroad and enhanced marketing information skills (Goldar, 2004; Dwivedi, 2012). In addition, the FDI is hypothesized to have a positive effect through the following channels; (i) removes the binding constrain on domestic savings by bridging the investment-savings gap; (ii) it is a conduit of technological transfers; (iii) it supports exports by increasing competitiveness and expands capacity utilization.

2.1.2. Dependency Theory

The Marxist thought posits that developing countries have natural resources endowment; however, they often lack the requisite techniques and skills to exploit their huge natural resource base. As a result, the deficiency in innovative techniques and hence limited output, they often rely on FDI to bridge the existing technological gap. Consequently, FDI is seen to infuse the required technology and therefore through it, the recipient countries can maximize their output.

However, the overreliance onFDI is not without cost. FDI is often has negative effect especially due to the repatriation of profits, often reduction in investment and the widening of the income inequality in recipient countries. The FDI inflows to "periphery" often distract local firms, stifle innovation of technology and "crowd out" firms in host country (Dixon and Boswell, 1996). Despite the benefits of FDI, literature also notes that FDI dependence destroys domestic political processes by adopting and influencing home elites and the benefits of FDI distributed poorly between MNCs and the home country.

2.1.3. Industrialization theory and spillover effects

According to the proponent of the industrialization theory and presented in the seminal work of Hymer (1976), FDI is considered a transfer package to the host country with the package being taken to have a positive effect. The spill over transmission channels often considered in the literature are; the skills effects, the demonstration effect, the competitive effect and the linkages effect. First, according to the skill effects transmission channel, the positive effect is often due to the transfer of knowledge which arises due to labour mobility with skilled and technical expertise moving to domestic firms and often compensates the skills by offering higher incomes to mitigate against the possible skill flight.

Second, the demonstration efficient transmission channel occurs where domestically oriented firms can emulate not only the production and management strategies of MNCs but also their marketing strategies. In addition, the interaction between the MNCs and the domestically oriented firms often leads to the utilization of better and modern technologies which ultimately enhances their efficiency in production. Third, through the competitive effects channel, the entry of foreign firms stimulates greater inter-firm

competition which therefore forces domestic firms to efficiently put into use of the resources at their disposal. However, this competition may be associated with negative externalities such as reduced market-share and as a result reduced capacity utilization and often the death of incumbent firms. A final spill over channel is through the backward and forward interdependency between domestic and foreign firm which can either be horizontal or vertical.

2.1.4. Eclectic Paradigm

It is OLI-model illustrating Ownership, Location and Internalization which analyses whether a company should carry out the foreign direct investment. Dunning, (1977) cites three reasons for why FDIs flow to where they do. Among the factors it identifies are; ownership, location and internalization incentives as prerequisites to conduct FDI. Ownership advantages accrue to a firm that possesses competitive elements such as patents, leading-edge technologies, managerial abilities, raw materials access and favourable capital markets in both countries that are distinct from those of their counterparts in local and foreign markets.

Consequently, corporations should guard their ownership advantage against information disclosure to competitors. On the other hand, location advantage is determined by government interventions in the recipient country to provide a favourable business climate through tax policies, low production and transport costs, import restrictions and expansive markets that are low risk. Lastly, internalization gains are dependent on ownership advantages in that firms prefer to profit from within-firm transactions other than engaging external markets (contracts) to reduce market imperfections (risk and uncertainty, disclosure of patents and economies of scale).

2.2. Empirical Literature

What drives FDI into recipient countries? This is a long-standing and intriguing question to policymakers and academics alike and yet to date remains unresolved with wide and disparate techniques being adopted to answer this question. In this section, we review empirical literature based on both country cross and case studies to identify the possible determinants of FDI while also paying attention to the estimation techniques adopted in the literature. The review of literature is presented according to the determinants that are considered to drive FDI flows.

2.2.1. Market Size, Stability and Trade Openness

Often adopted in the studies of FDI are the classic covariates of market size, macroeconomic stability and trade openness and often motivated by the theoretical propositions as relating to FDI. Depending on investor preferences, these three factors are often considered differently. In view of a market-seeking investor concerned with the potential market base of its product often considers the size of the economy and the bigger the economy the more the investor confidence. Similarly, from a rent-seeking investor perspective whose goal is to exploit the existing resources in the host country, they often look at the trade policy; with a more open economy the more likely they are to invest.

According to these strands of literature, market size is often the most predominant and widely adopted determinant of FDI with the proxy variables for market size being GDP and has been found to significantly affect FDI. According to the literature, a larger market is a necessary condition for utilizing resources in an efficient manner and taking

advantage of economies of scale. In Kenya, Abala (2014) applied the OLS method on time series data from 1970-2010 while testing for stationarity and asserted that FDI flows in Kenya are market-seeking. GDP and infrastructure positively impacted FDI while the impact of the total debt service from debt burdens was positive and insignificant.

Kinuthia and Murshed (2015) comparative study on Kenya and Malaysia's FDI determinants analysed time series data 1960-2009 in a vector autoregressive model. Wages and exchange rates had an indirect relationship with FDI in both countries. There were contrasting findings on the effect on trade openness where it was positive and insignificant in Kenya, but it was significant for Malaysia. However, the impact of democracy was strongly significant in Kenya. Further, in the context of Africa, Awolusi (2018) examined the determinants of FDI to Africa by use of OLS and GMM estimation methods on longitudinal data spanning from 1980-2016. The results showed that the effects of natural resources (both metals and oil), trade openness, market size, agglomeration effects (first-year lag of FDI), economic stability, foreign aid and human capital development were positive while exchange rate, public debt and corporate tax had negative effects.

Galvão et.al (2019) using Geographically Weighted Regression (GWR) showed that natural resources endowments and the market size were relevant in all countries. The effects of macroeconomic stability and regulation stances were different across countries. Findings from Boğa (2019) on data from 23 Sub-Saharan Countries indicated that telecommunication infrastructure, trade openness, domestic credit, GDP growth and natural resources determined FDI in the long run, but trade openness and GDP growth influenced FDI flows in the short run.

Stability of the macroeconomic environment as pointed by GDP deflator was found significant (Al-Sadig, 2009 and Williams, 2015), on the contrary, evidence presented by Busse and Hefeker (2007), Kolstad & Villanger (2008), and Montero (2008) does not find any relationship of macroeconomic stability with FDI. In the Kenyan context, the evidence has also been mixed and according to Kinuthia (2010), most of the foreign firms in Kenya are market-seeking with market size, political and economic stability as important determinants. The mixed evidence based on the impact of trade openness, macroeconomic stability and market size can be partly due to the divergent time spans, the jurisdictions of examination, as well as the methodological disparities, adopted.

Fluctuations in the prices of primary exports, intermediate inputs, imports of capital goods and financial stocks are tantamount to macroeconomic or external shocks (Oyelami and Olomola, 2016). FDI financing to ECA (Europe and Central Asia), especially to Baltics and Central Europe, declined drastically following the global financial crisis in the developed economies (Tiongson et.al, 2009) resulting to current account deficits. Mwega and Ngugi (2006) examined the influence of terms of trade shocks on FDI flows to Kenya among other factors that include; fiscal deficit, real effective exchange rate, trade ratio, government investment ratio, external debt-income ratio and political instability. Terms of Trade shocks negatively affected the FDI ratio. Squaring the external debt ratio resulted in an inverse significant relationship with FDI that was initially positive, illuminating the fact that current debt stock promoted FDI at a decreasing rate.

2.2.2. Human Capital

In developing countries, it is often perceived to be immobile, large and cheap and therefore the cost of production is often deemed low. Similarly, together with open trade

policy is an incentive to investors to locate production processes in these countries. The empirical base supporting the observation that labour force composition in developing countries drives FDI is large and mixed. As a proxy for labour force, a number of factors have been adopted in the literature with the most dominant being labour force participation rate which is a significant driver of FDI (Shahmoradi & Baghbanyan, 2011). Another measure considered in the literature is the growth of the labour force and which has also been associated with increased FDI (Noorbakhsh, Paloni, & Youssef (2001)). This strand of literature has also considered the population stock as another measure of labour force. Also (Shahmoradi & Baghbanyan (2011)), Neumayer & Spess (2005), Kok & Acikgoz Ersoy (2009), and lastly Al-Sadig (2009) have considered population growth as a measure of labour force.

Whereas the measures are disparate and often lead to varied outcomes on FDI, the use of labour force participation rate is often most appropriate, but its use is often constrained by the lack of data and to overcome it, several studies have often adopted two measures; gross enrolment rate in secondary schools (Yasmin, Hussain, & Chaudhary (2003), Al-Sadig (2009), Noorbakhsh, Paloni, & Youssef (2001) and the literacy rate (Asiedu (2006), and have been found to significantly influence FDI. Although the use of gross secondary school enrolment rate has received traction in the literature, it's not without shortcoming as it measures the flow of human capital rather than its stock.

Employing Ordinary Least Squares estimation on Ghanaian sector-level data from 2000-2014, Ibrahim and Abdul Azeez (2019) found that the monumental FDI determinants in the agricultural sector were market size and the cost of labour. Trade openness and exchange rate had significant impacts on service sector FDI. Paradoxically, none of the

variables investigated had significant influence on manufacturing sector FDI. This finding could be attributed to natural resources (oil and metals) in Africa hence limited spill-over effects and linkages in African domestic economies compared to developed and emerging economies, Awolusi (2018). The attractiveness of FDI to natural resources is profound (Groznykh et.al (2019)), where mining regions in Russia received more FDI inflows compared to non-mining regions. Other factors like infrastructural development (road and railway) and trade openness had positive and significant influence on FDI. Fung et al. (2005) distinguished the impact of China's hard and soft infrastructure on FDI. As much as both were positive and significant, the impact of soft infrastructure surpassed that of its counterpart.

2.2.3. Host Country's Infrastructure

As with the size of the economy, macroeconomic stability, trade policy and other macroeconomic factors, the host country's infrastructure is also one of the key classical factors considered in the literature to be key in influencing FDI activity (Asiedu, 2006), and often a pre-requisite condition for efficiency-seeking FDI investors (Jimenez (2011). Infrastructural investments in the host country if low is considered an impediment to FDI as it is associated with increased cost of production and transportation and therefore reduced efficiency levels. Quality infrastructure in hosting country is often considered as a signal of the rich consumer base and thus a country with quality infrastructure is seen as a better destination for FDI by investors.

Often considered proxies for infrastructural development are wide and varied including fixed telephone subscriptions, mobile cellular subscriptions (Quazi (2007); Shahmoradi & Baghbanyan (2011), electric power consumption (Ranjan & Agrawal (2011. However,

the use of fixed telephone subscriptions as a measure of infrastructural quality dominates in the literature due to the availability of the data.

An examination in Southern Asia Behname (2012) stated that urban infrastructure was pivotal in attracting FDI. When segregating sectors, Seetanah (2009) asserts that manufacturing sectors are influenced by physical infrastructure when compared to services sectors. Besides promoting FDIs, domestic multinational corporations investing abroad would stem from an effective, transparent and impartial governance infrastructure e.g. government policies and public institutions (Globerman, and Shapiro, (2002)).

2.2.4. Natural Resources Rents

In many developing countries especially in SSA and Latin America, resource seeking investors are often pulled by the region's natural resources endowment base (Asiedu, 2006; Montero, 2008). The literature considers a few proxies for natural resource base, for instance, mineral rents expressed as a percentage of GDP (Neumayer & Spess (2005)), fuel exports (Asiedu (2006)) and Montero (2008) have been adopted and significantly found to be FDI pull factors.

Co-locating among firms and enterprises is often associated with positive externalities or rather firms are said to enjoy agglomeration economies. Among the proxies considered is lagged foreign direct investment for lack of disaggregated data at industry level or even by the location of firms. This limitation has been circumvented in the literature using lagged values of FDI. From an investor's perspective, lagged FDI is a signal of favourable conditions in the host country with higher FDI signalling soundness and potential of the economy to potential investors.

2.2.5. Financial Development

The structure of the financial sector in host countries as investors shift from being natural resources seekers to efficiency seekers are considered important on several fronts. First, with an increase in the share of efficiency seekers where financial guarantees are integral for their construction of production facilities, their preferences are for a free and well-developed financial system (Gouidar & Nouira, 2014). Secondly, the reliance by MNCs on domestic firms for both immediate and intermediate inputs call for a more developed financial market that boosts the backward linkages (Alfaro, Chanda, &Sayek, 2004). As such, the more developed financial system in the host countries is, the higher their propensity in attracting investors.

On the empirical front, financial development has been examined not only as a determinant but also as a driver of FDI pointing of the potential reverse causality. Studies posit that causality direction runs from financial development to FDI hence looking at the impact of financial development on FDI. (Gouidar & Nouira (2014)), Githaiga, Nyauncho, & Kabiru (2015), Alfaro, Chanda, Kalemli-Ozcan, & Sayek, (2004); Albulescu, Briciu, & Coroiu (2010); Brada, Kutan, &Yigit (2006); Noorbakhsh, Paloni, & Youssef, (2001).

According to the empirical evidence by Albulescu, Briciu, &Coroiu (2010) who studied financial market development impact on FDI, they established that it has a significant impact. In a similar study, Brada, Kutan, &Yigit (2006) used the interest rate spread as financial development measure and established it to be significantly associated with FDI. Using private sector domestic credit as measure of financial development (Gouidar & Nouira (2014), Githaiga, & Youssef (2001) found that it also had a significance on FDI

and argued that the proxy is an important measure as it can be viewed as being the reverse of stagnation in the financial market.

2.2.6. Investment Ratings

A previous study Cai et.al (2018) denotes that sovereign credit ratings are provided by third parties to bridge gaps from information asymmetry across borders. The above study obtained sovereign credit data from similar rating agencies but the bilateral FDI data was from 34-277 OECD countries from 1985-2013.Insights from the study were the fact that risk attitudes by investors in emerging and developed nations were divergent. Host countries with stronger credit ratings attracted more FDI while donor countries with higher credit rating engaged less in outward FDI activities. Additionally, non-OECD countries with lower ratings received less FDI while OECD countries that rank highest attracted more FDI.

Credit ratings determine credit limits by finance institutions in the said markets. These credit-rating agencies unveil all the risk factors predicted to be important i.e. default history, external debt obligations, GDP growth, inflation, fiscal balance and per capita income. Based on Popa, (2012) sovereignty risk is nested in the broader country risk definition which also includes political risk and capital transfer risk when MNCs are unable to repatriate profits to their home countries as a result of government transfer rate restrictions and hence the performance of corporations is affected negatively.

2.3. Overview of Literature

The literature reviewed revealed the following points relevant to the present research study. First, key FDI determinants have consistently been considered in literature on FDI.

The combination of determinants considered is diverse; however, institutional determinants and the role of fiscal policy have not been researched on extensively and exhaustively in literature on FDI studies. Whereas a dearth of prior studies on the determinants of FDI has been important in shedding light on the factors driving FDI, these studies generally are based on cross-country and country case study regressions involving some set of covariates determined by the researcher and as guided by the theoretical frameworks of FDI. However, these studies assume that the FDI inflows happen under one static regime which is debatable. Similarly, the impact of the identified covariates is inconclusive and mixed. Furthermore, the empirical base in Kenya remains limited with the existing studies following a constant parameter (linear) time series with no study to our knowledge considering regime changes or regime shift.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Theoretical Framework

We investigate the factors that determine inward FDI stock in Kenya using Markov-Switching Regression Model. The specification of the economic model is presented below;

$$FDI = f(IQ, FI, MS, EDU, TL, INF, NRR, IRD, FX) \quad (1)$$

Where;

FDI represents foreign direct investment, IQ represents institutional quality, FI represents fiscal imbalances, MS represents market size, EDU represents secondary school enrolment ratio, TL represents telephone lines per 1,000 people, INF, represents that annual change in the consumer prices or inflation rate, NRR represents the natural resource rents while IRD and FX represents interest rate differentials and foreign exchange rate respectively. Based on equation (1) the following theoretical framework is adopted.

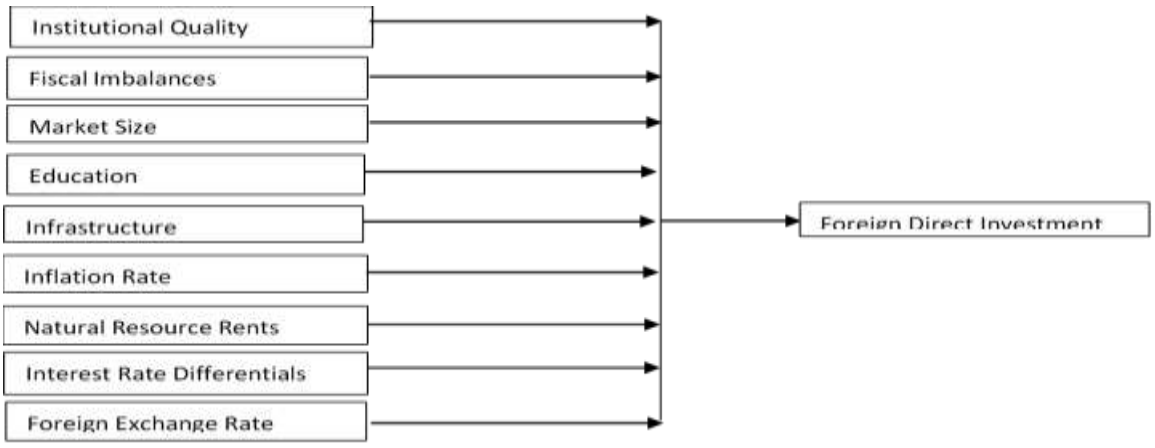

Figure 3.1.Theoretical Framework

3.2. Markov Switching

The study re-examines the determinants of inward FDI stock to Kenya. In so doing, we adopt the State Space Markov-Switching Regression Model for two main reasons. First, the approach, unlike the traditional approaches, allows for unobserved variables within the observed model. Second, the model by using a robust algorithm allows for convergence in a dynamic system. Similarly, the approach accommodates the existence of asymmetry and persistence of extreme data.

In addition, its solution can be attained in a non-linear context and as a result, has now widely become an alternative model to linear models such as the Autoregressive (AR) and Moving Average (MA) models that do not allow for parameter change. It captures data dynamics, however, it does not allow for asymmetry, dependency and volatility. As aptly pointed out by Kim and Nelson (2000), under the Markov-Switching approach the state variable is unknown and evolves through a stochastic difference equation and as presented by Hamilton (1988) in a seminal paper on regime-switching, the shifts in the regime are estimated by the Markov-Switching Model and considers an AR (1) model of the form;

$$y_t = \begin{cases} a_{01} + a_{11} y_{t-1} + \varepsilon_t \\ a_{02} + a_{12} y_{t-1} + \tilde{\varepsilon}_t \end{cases} \quad (2)$$

To characterize the regime shift, each period t belongs to one regime with different coefficients and disturbance variance. From Equation (2) above,y_t is the state variable with the transition matrixπ represented by Equation (2) with p_{ij} being the probabilities of transiting from state i to state j

$$\pi = \begin{bmatrix} p_{11} & p_{12} \\ p_{21} & p_{22} \end{bmatrix}, \quad p_{ij} = \Pr\{s_t = j | s_{t-1} = i\} \tag{3}$$

3.3. Empirical Model and Variable Measurement

As noted from Equation (2), the Markov-Switching Regression model can be extended into a multivariate MSM and is formally stated in Equation (4) below;

$$FDI = \beta_0(s_t) + \beta_{1t}(s_t) + \sum_{i=2}^{n} \beta_i X_{it}(s_t) + \mu_t \tag{4}$$

Where;

The dependent variable is FDI which is logged inward FDI stock, s_t is the state or regime, t is the trend, X_i is a explanatory variables vector adopted and informed by the literature review and includes proxies of market size, stability and trade openness, human capital, host country's infrastructure, natural resources, agglomeration economies and financial development. Further in Equation (4) is a vector of states/regimes; $state$ 0 and $state$ 1 and therefore the parameters β_0, β_1, …, β_n are time-varying parameters to be estimated. The MSM in the spirit of Hamilton (1988) and Kim and Nelson (2000) will be estimated using a quasi- maximum likelihood method.

3.4. Data

Annual data for the period 1970-2018 used in the study and will be obtained from the CBK, the various Statistical Bulletins, IMF, International Financial Statistics, UNCTADstat and the National Bureau of Statistics. The definition and measurement of the variables are in Table 3.1 below.

Table 3.1. Definition of Variables

Variable	Measurement and description	Expected Sign
FDI stock per capita	Cumulative Inward FDI stock as % of GDP	-
Lagged FDI	One-year lagged cumulative Inward FDI stock as % of GDP	Positive
Institutional Quality	The rule of law, accountability and corruption.	Positive
Fiscal imbalances	Government budget deficit as a percentage of GDP	Positive
Market size	Percentage growth in GDP	Positive
Education	General secondary school enrolment (%)	Positive
Telephone lines	Number of telephones mainlines per 1,000 people	Positive
Inflation	Inflation rate (%)	Negative
Natural resources	Total natural resources rents (% of GDP)	Positive
Gross fixed capital formation	Gross fixed capital formation as a percentage of GDP	Positive
Financial development	The ratio of private credit to GDP	Positive
Interest rate differential	Interest rate differences between the Kenya T-Bill rates and the average T-Bill rate in the US (%)	Positive

3.4 Diagnostic Tests

In order to ensure the estimates are in line with time series data estimation technique, we test to ensure robustness and reliability of estimates. In particular, the study tests for multicollinearity, unit roots, heteroscedasticity, and autocorrelation.

3.4.1 Testing for Multicollinearity

Embedded in the econometric practice is the need to ensure that variables that enter any regression do not suffer from being highly correlated. In spirit of this requirement, this study will test for multicollinearity by using the Pearson correlation coefficients and the variance inflation factor. In line with the extant literature any Pearson correlation amongst the variables in excess of 0.7 will be dropped from the model.

3.4.2 Testing for Unit Roots

The existence of a stochastic trend in the data is often in econometric terms associated with spurious estimates. These estimates cannot be conclusively relied upon as they could be due to the existence of a unit root. In this case, the study will adopt the Augmented Dickey Fuller (ADF) test to test for the existence of a unit root under the null hypothesis of presence of a unit root. If the variables are established to have a unit root at levels, they will be differenced and again the ADF test will be applied until we the null hypothesis.

3.4.3 Testing for heteroskedasticity

Key in time series models are the assumption of error terms being spherical (i.e. they should have a constant variance). To test whether this assumption holds, the White's test is used. The null hypothesis states that the error terms are homoscedastic (i.e. have a constant variance) against the alternative hypothesis that the error terms heteroscedastic. If the error terms are established to be heteroscedastic, this will be remedied by adopting the Huber-Sandwich estimator and the robust standard errors reported.

3.4.4 Testing for autocorrelation

Alongside the other tests expounded on in the preceding section, estimating an econometric model especially of time series nature requires that error terms do not suffer from first-order serial correlation. In order to test whether this assumption is valid, the Wooldridge's test is used. This test is premised on the null hypothesis of no first-order serial correlation. If the null hypothesis is rejected, first-order serial correlation will be addressed by a lagged dependent variable in this case the first lag of inward FDI stock and the model will be estimated using the Huber-Sandwich estimator where the robust standard errors will be reported.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1. Summary Statistics

A look at the summary statistics in Table 4.1 shows that the average inward FDI stock being 79.4% of GDP and its lag being 77.0% of GDP. The average institutional quality is 2.792 with a minimum of 1.5 and a maximum of 4. This implies that the country's institutional quality remains limited as the maximum value of institutional quality is 6.

On the other hand, the average fiscal imbalances are -6.03% of GDP. In terms of market size, the natural logarithm of GDP per capita is 6.8 with a standard deviation of 0.119 and a minimum of 6.4 and a maximum of 7.1. Further, education, as measured by the general secondary school enrolment ratio has a mean of 38.05% with a standard deviation of 11.8% with a minimum of 16.4% and a maximum of 56.76%. The average number of telephone lines expressed in natural logarithmic terms is 0.662 and with a SD of 0.329 while the average inflation rate during the period stood at 11.76%.

The average trade openness, measured as the ratio of the sum of total trade (i.e. imports and exports) to GDP stood at 43.24% with a standard deviation of 10.65% and a min and max value of 26.23% and 72.34% respectively. In terms of natural resource rents, the average during the period stood at 3.99% as a proportion of GDP with the highest ever achieved being 7.29% and the least being 2.36% of GDP.

Similarly, the average gross fixed capital formation 19.032% of GDP and with a standard deviation of 2.08, a minimum of 15.39% and a maximum of 25.08% which indicates lower levels of domestic investment. In terms of financial development measured by the ratio of domestic credit to GDP, the average over the period stood at 34.35% with a minimum of 16.40% and a maximum of 45.21% a clear manifestation of the country's shallow financial system. For nominal exchange rates, the average nominal exchange rate of shilling to the US dollar during the period of the study is 46.80 with a minimum of 7.00 and a maximum of 103.411. Lastly, the average interest rate differential during the period was 7.47% with a minimum of 1.59% and a maximum of 52.69%.

Table 4.1. Summary Statistics

Variable	Description/Measurement	N	Mean	Std.Dev.	Min	Max
FDI Stock	FDI stock as % of GDP	49	0.794	1.003	0.003	4.028
Lagged FDI Stock	Lagged FDI stock as % of GDP	48	0.770	0.999	0.003	4.028
Institutional Quality	The rule of law and order	49	2.792	0.788	1.580	4.000
Fiscal imbalances	Budget deficits as a percentage of GDP	44	-6.026	4.798	-18.68	0.888
Market size	Percentage growth in GDP	49	6.777	0.119	6.394	7.092
Education	General secondary school enrolment (%)	49	38.052	11.813	16.428	56.760
Telephone lines	Number of telephones mainlines per 1,000 people	49	0.662	0.329	0.128	1.624
Inflation	Inflation rate (%)	49	11.758	8.075	1.554	45.979
Trade openness	The sum of exports and imports to GDP	49	43.237	10.647	26.277	72.339
Natural resources	Total natural resources rents (% of GDP)	49	3.991	1.099	2.359	7.286
Gross fixed capital formation	Gross fixed capital formation as percentage of GDP	49	19.032	2.080	15.388	25.076
Financial development	The ratio of private credit to GDP	49	34.350	6.741	16.403	45.212
Exchange rate	Nominal exchange rate	49	46.798	34.150	7.001	103.411
Interest rate differential	Interest rate differences between the Kenya and US T-Bill rates	49	10.263	7.472	1.586	52.685

4.2. Correlation Matrix

First, the correlation coefficients among the variables are less than 0.7 and hence we conclude that they are not highly correlated and therefore rule out the existence of multicollinearity. Second, we find that FDI stock to GDP and its lag are positive and significantly correlated in line with the expectation that persistence in FDI flows is also guided by its history. In addition, market size, trade openness, exchange rate and education positively affect inward FDI stock. Institutional quality, fiscal imbalances, inflation and interest rate differential are negatively correlated.

Table 4.2. Correlation matrix

Variables	FDI Stock	Lagged FDI Stock	Institutional Quality	Fiscal imbalances	Market size	Education	Telephone lines	Inflation	Trade openness	Natural resources	Gross fixed capital formation	Financial development	Exchange rate	Interest rate differential
FDI Stock	1.000													
Lagged FDI Stock	0.696*	1.000												
Institutional Quality	-0.437*	-0.449*	1.000											
Fiscal imbalances	-0.027	-0.130	-0.121	1.000										
Market size	0.470*	0.526*	-0.441*	-0.146	1.000									
Education	0.579*	0.559*	-0.607*	0.028	0.746*	1.000								
Telephone lines	0.179	0.038	-0.161	0.021	-0.182	0.336*	1.000							
Inflation	-0.187	-0.108	0.132	0.163	-0.064	-0.106	0.198	1.000						
Trade openness	0.498*	0.576*	-0.303*	-0.156	0.014	0.207	-0.071	-0.239	1.000					
Natural resources	-0.350*	-0.374*	0.350*	-0.100	-0.239	-0.219	0.328*	0.538*	-0.452*	1.000				
Gross fixed capital formation	0.218	0.320*	0.206	-0.109	0.053	-0.145	-0.349*	-0.116	0.346*	-0.180	1.000			
Financial development	0.267	0.379*	-0.506*	-0.233	0.720*	0.811*	0.192	-0.134	-0.111	0.064	-0.183	1.000		
Exchange rate	0.459*	0.433*	-0.700*	-0.062	0.613*	0.870*	0.253	-0.169	0.410*	-0.225	-0.260	0.736*	1.000	
Interest rate differential	-0.253	-0.188	0.328*	-0.169	-0.149	-0.195	0.018	0.567*	-0.067	0.493*	-0.103	-0.154	-0.069	1.000

* shows significance at the 0.05 level

4.3. Unit Root Testing

Table 4.3 gives the ADF unit root test results. In addition, optimal lag structure included in the test for the existence or inexistence of the unit root is based on the HQIC. All the variables except market size, inflation and gross fixed capital formation are non-stationary as their unit root test critical value at 5% level of significance is less than the calculated value. As such market size, inflation, and gross fixed capital formation are said to be integrated of order zero (i.e. I(0)) and the other variables are non-stationary.

Table 4.3. Unit root testing at level

Variable	Optimal lag length	Unit Root Testing				Conclusion
		Without Trend		With Trend		
		$Z(t)$	$p-value\ Z(t)$	$Z(t)$	$p-value\ Z(t)$	
FDI Stock	2	-1.700	0.4311	-2.270	0.4507	Non-Stationary
Institutional Quality	1	-2.216	0.2006	-3.152	0.0945	Non-Stationary
Fiscal imbalances	1	-2.984	0.0364	-2.942	0.1491	Non-Stationary
Market size	1	-6.768	0.0000	-6.383	0.0000	Stationary
Education	1	-1.325	0.6175	-2.357	0.4026	Non-Stationary
Telephone lines	3	-1.370	0.5964	-0.424	0.9861	Non-Stationary
Inflation	1	-3.806	0.0028	-3.980	0.0094	Stationary
Trade openness	1	-2.428	0.1339	-3.993	0.0090	Non-Stationary
Natural resources	3	-1.952	0.3078	-2.269	0.4509	Non-Stationary
Gross fixed capital formation	1	-3.532	0.0072	-3.514	0.0380	Stationary
Financial development	1	-1.264	0.6456	-2.796	0.1983	Non-Stationary
Exchange rate	1	-0.029	0.9561	-2.416	0.3711	Non-Stationary
Interest rate differential	1	-3.230	0.0183	-3.246	0.0756	Stationary

To ensure that the variables adopted in the subsequent analysis are not spurious due to the trend element in the data series we further undertake the ADF unit root test after differencing the non-stationary series. Table 4.4reveals that the non-stationary variables identified and reported in Table 4.3 are stationary at a 5% level of significance. These time series data are integrated of order one, I (1).

Table 4.4. Unit root testing at first difference

Variable	Optimal lag length	Unit Root Testing				Conclusion
		Without Trend		With Trend		
		$Z(t)$	$p - value$ $Z(t)$	$Z(t)$	$p - value$ $Z(t)$	
FDI Stock	3	-4.413	0.0003	-4.357	-4.205	Stationary
Institutional Quality	0	-6.301	0.0000	-6.230	0.0000	Stationary
Fiscal imbalances	1	-5.959	0.0000	-5.894	0.0000	Stationary
Market size	4	-6.080	0.0000	-6.193	0.0000	Stationary
Education	0	-5.866	0.0000	-5.875	0.0000	Stationary
Telephone lines	2	-4.379	0.0003	-4.808	0.0005	Stationary
Inflation	2	-4.661	0.0001	-4.660	0.0008	Stationary
Trade openness	2	-4.280	0.0005	-4.003	0.0087	Stationary
Natural resources	1	-4.536	0.0002	-4.747	0.0006	Stationary
Gross fixed capital formation	2	-5.660	0.0000	-5.592	0.0000	Stationary
Financial development	0	-8.201	0.0000	-8.113	0.0000	Stationary
Exchange rate	0	-6.242	0.0000	-6.222	0.0000	Stationary
Interest rate differential	2	-5.597	0.0000	-5.528	0.0000	Stationary

4.4. Markov Regression Switching Estimation

Having established the variables are integrated of order zero or order one, the determinants of inward FDI stock as a % of GDP is investigated by means of Markov-Switching regression. Table 4.5 gives the results of the transition matrix are presented. The transition probability matrix presented in Table 4.5 shows FDI is strongly persistent in regime 1 and relatively persistent in regime 2. If FDI in period t is under regime 1 the probability of keeping FDI under regime 1 in the period t+1 is 0.637 and therefore a probability of 0.337 of it moving to regime 2. Similarly, if FDI in period t is under regime 2, the probability of keeping the FDI in period t+1in the same regime is estimated to be 0.391 and probability of 0.363 for FDI moving to regime 1 at period t+1. Overall, this shows the dominance and persistence of inward FDI stock are in regime 1 as opposed to being in regime 2.

Table 4.5. Transition Probability matrix

States	State 1 (P_1)	State 2 P_2)
State 1 (P_1)	0.637(0.113)	0.363(0.113)
State 2 (P_2)	0.337(0.102)	0.391 (0.102)

Notes: The standard errors associated with the probabilities are reported in brackets.

Further, the results of 4.6 present the expected transition period. Evidently, FDI stays in regime 2 for approximately 2.970 years while its persistence in regime 1 is shorter as it lasts for only 2.753 years.

Table 4.6. Expected Transition Period

	Estimate	Std. Err.	[95% Conf. Interval]
State1	2.753	0.855	1.674 - 5.559
State2	2.970	0.901	1.804 - 5.828

Figure 4.1 shows the probability of inward FDI from transitioning from regime 1 to regime 2 while Figure 4.2 shows the transition from regime 2 to regime 1. In both figures, the vertical axis is the transition probability between regimes, and both sum up to one while the horizontal axis is the time period from 1975 to 2018. Evidently from Figure 4.1, the FDI was for most of the period in regime 1 which is characterised with low levels of stocks. Figure 4.2, on the other hand, shows that FDI was on a few periods in state 2 which was characterised by high levels of FDI though not sustained. This observation is important for policy implication in identifying factors that drive high FDI in regime 2 compared to regime 1.

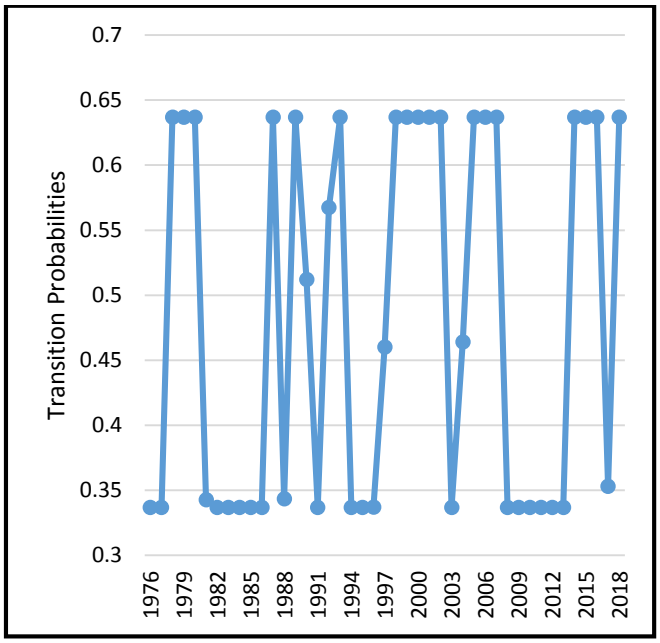

Figure 4.1.Transition probability of regime 1 to regime 2

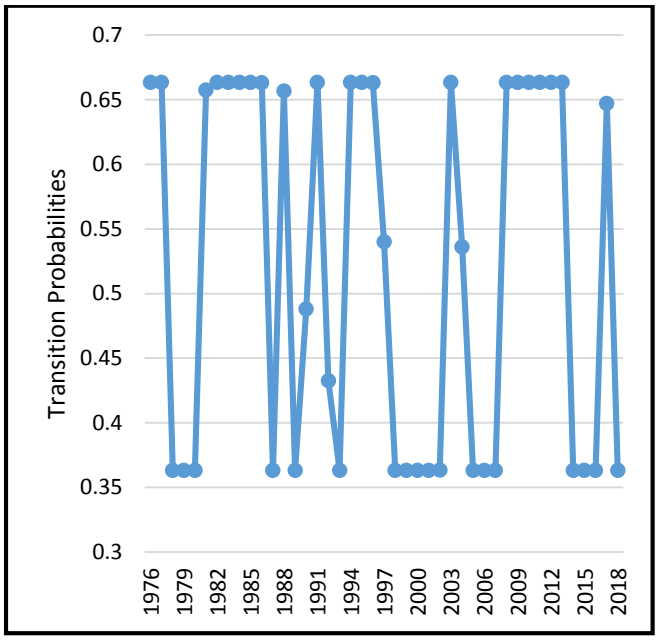

Figure 4.2.Transition probability of regime 2 to regime 1

In regime 1, a 1% increase in the previous period's (lagged) inward FDI stock cause a 0.594% increase in the current period inward FDI stock while in regime 2(high inward FDI stock regime) leading to 0.591% increase suggesting characterised persistence of inward FDI stock.

Second, in regime 1 institutional quality is insignificant but has significantly negative effect on inward FDI stock suggesting that the low institutional quality as was observed in summary statistics section is a deterrence to attracting high FDI inflows with the important channels through which institutional quality affects FDI being improved governance being associated with increased productivity while reducing additional costs and uncertainty with respect to the operating environment.

Third, fiscal imbalances have insignificant positive effect in regime 1 but have a significant positive effect in regime 2. Under regime 2, a 1% increase in government budget deficit as a percentage of GDP is associated with a 0.06% increase in inward foreign direct investment stock. This is not by surprise as the country has been experiencing a widening fiscal deficit in recent years. As a result, it must heavily rely on inward capital flows and thus attracting FDI is a natural step towards narrowing the widening financing gap.

Fourth, market size under regime 1 has a significant negative effect while having a positive and significant effect under regime 2. Given that regime 2 is a period characterised by high inward foreign direct investment stock, market size is a key positive factor of FDI attraction while negative in regime 1 which is characterised by low inward FDI stock. This is intuitive and in congruence with the theory and the extant literature such as those of Abala (2014) in Kenya who also argued that a large market is a necessary condition for market-seeking investors to efficiently utilize resources and make use of economies of scale.

Fifth, in terms of human capital investment proxied by general secondary school enrolment (%), it is positively related to inward FDI stock, but its effect is higher in regime 2 than in regime 1 by 0.034%. This indicates that higher inward FDI inflows is attracted by human capital and in line with the evidence presented in earlier studies such as those of Yasmin, Hussain, and Chaudhary (2003) and (Asiedu (2006) who also establish that gross enrolment rate in secondary schools significantly influence FDI.

Sixth, we find that infrastructure as shown by the number of telephones mainlines per 1,000 people has a significantly negative effect on inward FDI stock in regime 1 though insignificant in regime 2 which is in contrast with existing studies Asiedu (2006); Shahmoradi and Baghbanyan (2011) and Ranjan and Agrawal (2011) who find that the host infrastructure is a key classical factor considered in the literature to be key in influencing FDI activity. The negative effect of infrastructure on FDI is therefore inconsistent with the agglomeration effects and maybe a pointer to reluctance by investors to invest in regions with better infrastructural facilities as they may be characterised by congestion.

Seventh, we find that inflation and inward FDI stock are inversely related with the effect being more pronounced in regime 1 than in regime 2. That is a 1% increase in inflation in regime 1 is associated with a 0.067% reduction in when inward foreign direct investment stock compared to a 0.026% reduction when it is in regime 2. This finding supports the view in the literature by Narayanamurthy et al (2010) and Rogoff and Reinhart (2002) who find a negative relationship and which is attributed to inflation resulting in a reduction in the real returns on the investments hence acting as a deterrence to foreign investors from entering the economy.

More importantly, we look at the role of the natural resources rent in attraction of inward FDI stock. The evidence is overwhelming with the higher the natural resources attracting more inward FDI stock. In regime 1, a 1% increase in natural resource rents as a percentage of GDP has 0.286% increase in inward FDI stock and 0.465% increase in regime 2. Indeed regime 2 is a period where FDI levels are high and the high effect of natural resource rents is compelling and a clear indication that FDI, especially to

developing countries, tend to be resource seeking and tend to be attracted to the region's natural resources endowment base (Asiedu, 2006; Montero, 2008).

Domestic investment as proxied by the gross fixed capital formation has a significantly negative effect on inward FDI stock in regime 1 while being positive and significant in regime 2. Further, it reveals that financial development and higher interest rate differentials both have negative effects on attracting FDI. This is not surprising given that Kenya's financial system is still shallow. Finally, we establish that higher exchange rates have an inverse albeit insignificant effect on attracting FDI stock in regime 1. In contrast, significantly positive in regime 2.

Table 4.7. Results of the Markov-switching model of inward foreign direct investment stock.

Variables	Variable Measurement/Description	State 1	State 2
Constant	Constant	7.176***	-1.577***
		(0.004	(0.003)
Lagged FDI Stock	One-year lagged cumulative FDI stock	0.594 ***	0.591***
		(0.780)	(0.589)
Institutional Quality	The rule of law, accountability and corruption	-0.092	-0.358***
		(0.065)	(0.036)
Fiscal imbalances	Government budget deficit as a percentage of GDP	0.007	0.062***
		(0.094)	(0.064)
Market size	Percentage growth in GDP	-0.208***	0.201***
		(0.007)	(0.012)
Education	General secondary school enrolment (%)	0.043**	0.077***
		(0.045)	(0.021)
Telephone lines	Number of telephones mainlines per 1,000 people	-2.044***	-0.064
		(0.018)	(0.012)
Inflation	Annual change of consumer price index (%)	-0.067***	-0.026***
		(0.197)	(0.186)
Natural resources rent	Total natural resources rents (% of GDP)	0.286***	0.465***
		(0.014)	(0.006)
Gross fixed capital formation	Gross fixed capital formation as a percentage of GDP	-0.047*	0.255***
		(0.103)	(0.069)
Financial development	The ratio of private credit to GDP	-0.145***	-0.191***
		(0.028)	(0.028)
Interest rate differential	Interest rate differences between the Kenya T-Bill rates and the average T-Bill rate in the US (%)	-0.029**	-0.016***
		(0.029)	(0.014)
Exchange rate	Nominal exchange rate of Kshs to US Dollar	-0.002	0.004***
		(0.011)	(0.006)
Sigma		0.123	
N		44	
Log-likelihood		4.8852227	
HQIC		1.5322	

***p<0.01, **p<0.05, *p<0.1

CHAPTER FIVE

SUMMARY, CONCLUSION, AND POLICY RECOMMENDATIONS

5.1. Summary of findings

This study analyses the dynamics of FDI in Kenya for the period 1970-2018 using annual data. Unlike existing studies in the Kenyan context, this study adopts the Markov switching regression. The use of this approach unlike other approaches allows the constants and the conditioning variables to shift.

Several findings emerge. First, inward FDI stock over the period had two regimes; high and low state FDI episodes with the low FDI episodes being dominant and more persistent. Second, the estimation indicated that FDI is positively correlated with lagged FDI, fiscal imbalances, education, natural resource rents in regime 1, a regime of low FDI flows and negatively correlated with institutional quality, market size, fixed capital formation infrastructure, inflation, financial development and higher interest rate differentials and exchange rates in the same regime. In regime 2, a regime of high FDI flows, lagged FDI, fiscal imbalances, market size, education, natural resources rent, domestic investment and exchange rates positively affect inward FDI stock while being negatively affected by financial development and higher interest rate differentials.

5.2. Conclusions

Based on the econometric analysis, we, therefore, conclude that agglomeration, as captured by lagged inward FDI flows attracts foreign investors as they tend to exhibit to invest in regions or countries that have established a good reputation and track record in

the past. We conclude that a key to attraction of high FDI flows to the country is to ensure a good development human capital as this induces higher flows to the country.

Similarly, we conclude that market size, a measure of economic performance is key in catalysing FDI flows to the economy as foreign investors are not only efficiency but also market seekers. We also conclude that foreign investors tend to be resource seekers and are therefore pulled by higher natural resource rents. While this may be an attractor of FDI flows it is imperative that government enacts policies that will ensure that the proceeds from the exploitation of the natural resources are not repatriated at the cost of economic growth and development.

5.3. Recommendations

These findings provide several policy implications. First, there is a need to ensure a stable political and economic environment while also ensuring that the overall legal framework is supportive of a conducive environment for attracting FDI flows. This arises from the fact that our paper establishes the key role of macroeconomic fundamentals, more importantly high inflation rates affect flows negatively and therefore the government should ensure stable inflation that will, therefore, ensure that the real returns on investments are not eroded. Second, higher exchange rates attract more inflows, and this is because, with few foreign currencies, investors can massively invest as the shilling equivalent of their investments is high. A key policy recommendation that arises is the need for the government to strike a balance between the benefits that accrue from a weaker shilling that attracts FDI and the costs that it widens the country's debt obligations.

Third, and more importantly, is the need to ensure a well-established legal framework that would enhance the enforceability of contracts and improving the observance of law and order as the results show that the current levels of institutional quality remains low and thus acting against attracting more FDI inflow. Lastly, there is need to pay attention to improving labour force quality while keeping the economy's comparative advantage in quality labour as neighbouring countries also compete with Kenya to attract foreign investors. This policy recommendation is guided by the finding that investment in human capital translating to higher secondary school enrolment and completion rates will result to higher FDI inflows.

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Appendix 1: Markov-Switching Dynamic Regression Stata output

Markov-switching dynamic regression

Sample: 1975 - 2018		No. of obs	= 44
Number of states = 2		AIC	= 1.0961
Unconditional probabilities: transition		HQIC	= 1.5322
		SBIC	= 2.2721

Log likelihood = 4.8852227

fdiofgdp	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
State1						
lagfdiofgdp						
L1.	.594161	.0652354	9.11	0.000	.466302	.7220199
currentaccountbalanceofgdp	.0068696	.0073074	0.94	0.347	-.0074527	.0211919
gdpgrowthannual	-.2080544	.0454585	-4.58	0.000	-.2971515	-.1189573
humancapital	.0428723	.0184965	2.32	0.020	.0066197	.0791248
infrastructure	-2.043902	.1967013	-10.39	0.000	-2.42943	-1.658375
inflation	-.0674457	.0144084	-4.68	0.000	-.0956857	-.0392057
naturalresourcerents	.286385	.1033372	2.77	0.006	.0838477	.4889222
investment	-.0471661	.0283843	-1.66	0.097	-.1027984	.0084662
domesticcredit	-.1446817	.0293535	-4.93	0.000	-.2022135	-.0871499
interestratedifferential	-.0288943	.0112922	-2.56	0.011	-.0510266	-.0067619
exchangerate	-.0020412	.0039581	-0.52	0.606	-.0097991	.0057166
institutionalquality	-.0918831	.094464	-0.97	0.331	-.2770291	.0932629
_cons	7.17577	.7795056	9.21	0.000	5.647967	8.703573
State2						
lagfdiofgdp						
L1.	.5908175	.0356552	16.57	0.000	.5209346	.6607004
currentaccountbalanceofgdp	.061732	.0115934	5.32	0.000	.0390093	.0844547
gdpgrowthannual	.2013829	.0205546	9.80	0.000	.1610966	.2416692
humancapital	.0773264	.0118651	6.52	0.000	.0540713	.1005816
infrastructure	-.0637486	.1856018	-0.34	0.731	-.4275214	.3000243
inflation	-.0260248	.0056991	-4.57	0.000	-.0371949	-.0148548
naturalresourcerents	.4650163	.0688139	6.76	0.000	.3301435	.5998891
investment	.2545597	.0275444	9.24	0.000	.2005737	.3085456
domesticcredit	-.191123	.014366	-13.30	0.000	-.2192799	-.1629662
interestratedifferential	-.0161758	.0062367	-2.59	0.009	-.0283996	-.0039521
exchangerate	.0041471	.0025315	1.64	0.101	-.0008145	.0091087
institutionalquality	-.3584157	.0641336	-5.59	0.000	-.4841152	-.2327162
_cons	-1.57658	.5892824	-2.68	0.007	-2.731552	-.4216078
sigma	.1230179	.0144297			.0977518	.1548147
p11	.636748	.112807			.402607	.8201212
p21	.3367075	.1021432			.1715905	.5543825