2018

Investigating the Impact of Foreign Direct Investment on Domestic Investment in Sub-Saharan Africa: A Case Study of Kenya and South Africa

George Anaman
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INVESTIGATING THE IMPACT OF FOREIGN DIRECT INVESTMENT ON DOMESTIC INVESTMENT IN SUB-SAHARAN AFRICA: A CASE STUDY OF KENYA AND SOUTH AFRICA

(TITLE)

BY

GEORGE ANAMAN

THESIS

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF Master of Arts in Economics

IN THE GRADUATE SCHOOL, EASTERN ILLINOIS UNIVERSITY CHARLESTON, ILLINOIS

2018

YEAR

I HEREBY RECOMMEND THAT THIS THESIS BE ACCEPTED AS FULFILLING THIS PART OF THE GRADUATE DEGREE CITED ABOVE

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INVESTIGATING THE IMPACT OF FOREIGN DIRECT INVESTMENT ON DOMESTIC INVESTMENT IN SUB-SAHARAN AFRICA: A CASE STUDY OF KENYA AND SOUTH AFRICA

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2018

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Abstract

In the progression towards economic growth, countries consider investment as a critical feature in raising productivity levels by boosting technological progress and reducing the unemployment rate. In recent years, the government of South Africa and Kenya have both enacted policies to entice Foreign Direct Investment (FDI) in the view of creating more jobs and bolstering the economy. However, in the bid to attract these foreign investors, FDI may either end up complementing or stifling local investments over time. From this perspective, the objective of the study is to investigate the impact of FDI on Domestic Investments in Sub-Saharan Africa (SSA) with an individual investigation on Kenya and South Africa. Analyzing annual series of data from 1972-2011, our Pooled OLS results shows that FDI has no impact on domestic investment in SSA countries. Using time series to dig deeper to establish the relationship between FDI and domestic investment in both countries, we found out that FDI does not impact domestic investment in both the Short -run and the long -run period for Kenya but has a crowding-out effect in South Africa only in the short -run period. However, economic growth, inflation rate, trade openness and exchange rate were critical drivers of domestic investment in SSA countries.
Acknowledgement

I would like to foremost thank the almighty God for how far he has brought me in life. A special acknowledgment goes to my supervisor Dr. A. Désiré Adom for his immerse support, guidance, and effort in assisting me to complete my thesis on time. I also like to thank the thesis committee members Dr. Mukti Upadhyay and Dr. Ali Moshtagh for their thoughtful inputs in nourishing my paper.

To my parents, Mr. Francis Anaman and Ms. Augustina Agyemang, I say a big thank you for encouraging and imbibing in me the “can do” spirit. In addendum, my sincere gratitude goes to Drs. Nina Banks, Michelle Johnson, Ned Searles, and Kurt Olausen, Mr & Mrs. Ofori, Mr. Eric Anaman, Estella Anaman, Omel Anaman, Eric Thomford, Bobbie Hunter, Samuel Eliason and my host parents Mr & Mrs. Trueblood for their immeasurable support and care throughout my journey at EIU.

Finally, I would like to thank my colleagues especially Temiyemi Akinsuyi and Tinuke Laguda for cheering me on during difficult moments of my life.
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CHAPTER ONE

INTRODUCTION

According to the annual report issued by the United Nations Development Program (UNDP), Human Development Indicators (HDI\(^1\)) for Sub-Saharan Africa (SSA) countries are recorded to be the lowest relative to the rest of the world. The region accounted for an average HDI index of 0.475 among regions of the world (UNDP, 2013). The World Bank indicators show that the region has half of its population below the poverty line with a headcount ratio at $1.25 a day (PPP) (World Bank, 2010; Demelew, 2014). Also, SSA countries have a Gross National Income (GNI) per capita, five times lower than the world average with a per capita income of $2,010 (UNDP, 2013).

In the progression towards economic growth, countries consider investment as a crucial feature in raising productivity levels by boosting technological progress and reducing the unemployment rate. It bolsters long-run capital accumulation as investment creates new capital goods and increases the productive capacity of countries. The Investment Promotion Act\(^2\) (IPA, 2004) defines investment as the contribution of local or foreign capital by an investor, including the creation of, or the acquisition of business assets by or for business enterprises, and includes expansion, restructuring, improving or rehabilitating of a business enterprise. Investment of a country may be domestic or foreign.

The modern economy has investment as one of the four pillars – along with government spending, private consumption, and trade – of the macroeconomic

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1 The United Nations Development Program (UNDP) issues yearly report on HDI by compiling a multidimensional poverty indicators including education, health and income per capita.

2 The IPA, 2004 is an ACT enacted by the Kenyan Parliament to promote and facilitate investment by assisting investors in obtaining the Licenses necessary to invest and by providing other assistance and incentives and for related purposes.
expenditure model. It has empirically be revealed that countries with high investment levels have higher economic growth and that investment is the nub of an economy and any instability in investment levels have significant effects on the long–term growth path of the economy (Guma, 2013).

Domestic investment can generally be referred to as the investment in the companies and products of one’s own country rather than in those of foreign countries. Domestic investment comprises of private and public investment. Private investment can be defined as investment by private businesses for the motive of generating profit whiles public investment refers to investment by the government sector primarily, but not exclusively, on social and core economic infrastructure (Matsila, 2014). Domestic investment is one of the most important components of economic growth that countries consider as the main engine of the economic cycle. Recent theories on the neo-classical growth model as well as theories of endogenous growth has emphasized the role of domestic investment in economic growth such as capital spending on new projects in the sectors of public utilities and infrastructure like roads projects, housing, electricity extensions, as well as social development in the areas of health, education, and communication projects among others.

Foreign direct investment (FDI) on the other hand can be defined as an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor (UNCTAD, 2014).

For the last 50 years, FDI has propelled both theoretical and empirical debate on the grounds of its costs and benefits to the host countries. It is an established facts in FDI literature that one of the rudimentary rationale encouraging developing countries to
welcome FDI is the promise that these foreign firms would come along with capital which beforehand was not available in the recipient countries and equip the domestic economies with new potentials for economic growth and development (Ahmed et al., 2015). Other developing countries are emulating South East Asian countries in light of the positive and crucial role played by FDI in their economic development and growth.

Following the surge of FDI to the developing economies, a major controversial issue on the impact of FDI on recipient country is whether FDI complements or substitute domestic investment. The effect on domestic investment after liberalizing FDI may vary depending on the domestic investment environment and the previous trade regime of the host country (Acar et al., 2012). FDI could displace domestic investors with less technological and financial might. That is, if an inward flow of foreign capital enters sectors that are already flooded with domestic firms (or firms already producing for export markets), market stealing effect will be evident. Many studies done after the mid-1990s have exposed that the productive performance of domestic firms has been stagnating and most of the domestic firms are not able to meet their objectives due to competition from their foreign counterparts (Teal, 1999). The contribution to total capital formation of such FDI is likely to be less than the FDI flow itself (Agosin and Machado, 2005). On the flip side of the argument, FDI could complement or have a positive spillover through the diffusion of new technological know-how, managerial skills, market and labor skills.

In light of the theoretical ambiguity, this paper seeks to analyze if the presence of Multinational corporations (MNCs) stimulates new downstream or upstream domestic investment that would not have taken place in their absence or whether they end up
displacing domestic investors pre-emptying their investment opportunities in SSA with a focus on Kenya and South Africa. If our empirical analyses were to show that indeed FDI crowds out domestic investment, there would be a good reason to question its benefit for recipient SSA countries particularly Kenya and South Africa (Agosin and Machado, 2005). This is because if FDI crowds out the domestic investment, then the growth of domestic capital stock will be squeezed.

Kenya and South Africa have been landmarked to be part of Africa’s fastest-growing economies, and over the last few decades have attracted a large amount of FDI. It is therefore imperative to examine the effects of FDI on domestic investment in these countries.

1.1 Justification of the Study

The significance of this study is based on the score that among the research works conducted on FDI, domestic investment and economic growth in Sub-Saharan Africa (Morrissey, 2012; Ndikumana and Verick, 2008; Ndikumana, 2003; Dupasquier and Osakwe, 2006) just a few have examined the impact of FDI on domestic investment in Kenya and South Africa on a time series analysis. A distinguishing feature of this study is the use of FDI as the determinant of domestic investment in both countries. This work will give an in-depth knowledge of the workings of FDI and its rippling effect on the domestic firms of these two countries. In addition, this will assist the government in designing or having a second look at the FDI policy framework to ensure that any negative effect of foreign investment on the domestic economy is curtailed before it is too late.
Also, domestic investors and other stakeholders will benefit from the information that will be revealed in this work so as to adopt to the necessary measures and techniques to ensure longevity on the market if FDI is causing substitutability effect or complementarity effect. The proper understanding of the impact of FDI on the domestic market will better equip both local and foreign investors on initiatives to take for the betterment of all. Equally, the study could set off the mark for further research into the effect of FDI on other macroeconomic variables or on this same variable to bring on the table other potent factors that may be in play.

1.2 Objective of the Research

In recent times, the government of South Africa and Kenya have both enacted policies to entice FDI with the rationale of creating more jobs and bolstering the economy. However, higher FDI inflows may also have a negative impact on the local economy through crowding out of the domestic investment.

The objective of the study is to analyze the impact of FDI on domestic investment in SSA countries using pooled OLS. We then conduct an individual time series analyses of the effect of FDI on domestic investment in Kenya and South Africa using annual data from 1972 – 2011.

To achieve this aim, this research work specifically analyses the trends in domestic investment and FDI from 1972 to 2011. We then estimate the impact of FDI on domestic investment in SSA on the pooled level and individual investigations of the two countries on the time series level.
1.3 Hypothesis

This study seeks to empirically test the following hypothesis based on research objectives:

$H_0$: FDI has no impact on domestic investments.

$H_1$: FDI has an impact on domestic investments.

1.4 Organization of the Study

For the purpose of this study, we have divided the paper into 6 chapters. The rest of the project is organized as follows. Chapter 2 presents a comprehensive survey of literature and review of FDI and domestic investment across the globe. Chapter 3 gives a background information on Kenya and South Africa together with trends in domestic and foreign investment.

Chapter 4 describes the methodology and data used in the study. The next chapter discusses our empirical results with policy recommendations. Lastly, chapter 6 concludes with the main findings of the study.

CHAPTER TWO
LITERATURE REVIEW
Empirics on the relationship between FDI and domestic investment of the recipient country have been evinced to be mixed. Conducting a study on the crowding-out effects of FDI on domestic investment in China, Li-jun and Hong-qin (2006) made use of data dating from 1985 – 2003 to aid them in their analyzes. The study revealed that the effect of FDI on economic growth is not certain from the capital formation perspective. Thus, it is dependent on whether FDI crowds out or crowds in domestic investment in its entirety. The result showed evidence of a simultaneous crowding in and crowding out effects of FDI on domestic investment but in collective terms, there is a “net crowding –in” effect. Additionally, Tang et al., (2008) adopting multivariate VAR system with error correction model (ECM) and the innovation accounting (variance decomposition and impulse response function analysis) technique investigating the causal link between FDI, domestic investment and economic growth in China over the period 1988 -2003 also found that while there is a bi-directional causality from FDI to domestic investment and to economic growth, there is only one-way directional causality from FDI to domestic investment and to economic growth. FDI was found to rather have a positive spillover effect on domestic investment. Thus, FDI has not only bolstered in overcoming the shortage of capital but it has also promoted economic growth by complementing domestic investment in the country of China.

Utilizing the model of Fry (1995), Ying-Jun (2006) investigated the influence of FDI on Chinese domestic investment. The study showed a remarkable crowding –in effect of FDI on domestic investment as a whole. Further analysis of the study also showed that FDI effect varied across the Chinese region. That is, FDI exhibited crowding in effect and crowding out in the East part of China while its positive externalities are
limited or insignificant or uncertain in Central China. But in the west, the effect of FDI is
discreet in most provinces or even outcompeting domestic investment in some districts.

Using quarterly and more up to date data covering periods subsequent to the
Asian financial crisis, Deok-Ki Kim and Seo (2003) employed a vector autoregression
(VAR) model to estimate the dynamic relationship between the inflow of FDI, economic
growth and domestic investment in Korea covering the period of 1985 to 1999. This
technique according to Deok-Ki et al., (2003) gives plausible structural techniques and in
addition employed impulse response and variance decomposition techniques to examine
dynamic interactions of FDI, economic growth and domestic investment. The output of
their correlation matrix of residuals confirmed that shocks to FDI are contemporaneously
orthogonal to domestic investment. To capture the post-financial crisis period, they
included a dummy variable to capture if there is any possible significance of this period
in their estimation. The study revealed that, while FDI effect on the growth rate of output
is temporary, it shock (FDI) could have a permanent effect on the level of output. FDI
shock had a negative but insignificant effect on domestic investment. However, if
domestic investment is allowed to be contemporaneously most endogenous, the response
of domestic investment to the shock of FDI becomes positive, albeit statistically
insignificant for the overall sample period for the study. FDI also responded positively to
domestic investment shocks while the response was negative over the entire sample
period. The reason accounted was that, in the pre-crisis era, a positive shock to domestic
shock is taken as an opportunity for foreign investors to flow in their resources in Korea.
This implies that a thriving environment for domestic investors also gave foreign
investors' confidence to transfer their resources to Korea during the sample period before
the Asian financial crisis. However, FDI responded negatively to domestic investment shock considering the entire sample period. In conclusion, overall FDI had a positive but statistically insignificant effect on both domestic investment and economic growth. But there was evidence that a positive domestic investment shock causes a crowding out of FDI inflow while positive economic growth shock has positive and persistent effects on the future level of FDI. FDI played a more important role after the crisis by substituting, without necessarily implying negative externality on domestic investment following a drastic fall in domestic investment in the post-crisis era.

In his article, Prasanna (2010) analyzed the direct and indirect impact of FDI on domestic investment in India. Using time series data from 1991-92 to 2006-09, the author followed the methodology utilized by UNCTAD (1999a) for the study. The reason for adopting such a model with lags was because the model had been developed from an unbiased dimension and studies both the direct impact of FDI on domestic investment and the indirect impact that is crowding in or out of FDI. Prasanna (2010) did not include the years 2007-08 and 2008-09 in order to avoid the repercussions of the global economic crisis. Reporting the estimations of the research, FDI had a positive effect on DI in the short run. But the indirect impact of FDI on DI, in the long run, was neutral after introducing the time bound effect. The reasons for FDI not crowding in as explained by the author stems from the vast domestic market and cheap labor in India. The study also found that FDI inflow is a powerful factor than the growth in real GDP in directly contributing to DI in India. For policy implications, Prasanna (2010) proposed that FDI policies cannot be pursued in isolation but must be inextricably linked with polices in core areas of economic development. Secondly, India should model the Chinese FDI
policy framework where their policies offer a number of fiscal incentives to MNCs but the recipients of these favors are faced with a number of restrictions. That is, recipients should have compulsory joint undertakings with the locally owned firms, obliged to export and restrictions as to where foreigners can set up their plants. In addition, FDI inflows into India can be decentralized by spreading these MNCs across the country rather than concentrating them in already crowded cities.

On the African frontiers, Ahmed et al., (2015) examined to know whether FDI has a negative effect on domestic investment at the sectoral level or the overall economy of Uganda. Using time series data from 1992 – 2012, Ahmed et al., (2015) adopted the model of investment used by Agosin and Machado (2005), which was specifically built for the purpose of investigating the displacement effect of FDI on domestic investment in the developing world. The model also assumed that the inflow of FDI becomes part of the basket of the gross capital formation of the host country. Regressing the least squares estimate on the 9 sectors of the economy (Agriculture, Community, Construction, Electricity, Finance, Manufacture, Mining, transport, and wholesale), their findings discovered a crowding out effect in the agriculture, community, construction and finance sectors. It was also revealed that FDI had a crowding-in effect on the mining and wholesale sectors. Ahmed et al., (2015) explained that these sectors are either under-invested by the domestic investors or FDI brings in product or service innovation like better management or new market which translates into positive externalities in these sectors otherwise known as spillovers from the MNCs. There was a neutral effect of FDI in at least three sectors – Electricity, Manufacturing, and Transport. Lastly, the long run coefficient linking inward FDI with domestic investment in the economy was
insignificant. Their research was in consonance with earlier studies which reported these three effects in different regions or industries (Agosin and Machado, 2005; Borensztein et al., 1998; Mišun and Tomšík, 2002).

Moving to the Western part of Africa, Harrison and McMillan (2003) address the problem of whether FDI causes domestic firms to be more credit constrained and whether borrowing by foreign firms aggravates domestic firm credit constraints in Ivory Coast. Modifying the augmented Euler investment model by introducing a borrowing constraint to be used as proxies for the shadow value of the constraint, two measures of financial distress; the debt to asset and interest coverage ratios, were employed by the researchers to investigate the differential impact of DFI on the credit constraints of state-owned enterprise (SOEs) and private domestic firms. The results showed that private domestic firms face credit constraints leading to a crowding out effect of direct foreign investment on these local firms albeit this crowding out takes place via product markets. The reason, the authors suggested is through a plausible mechanism where foreign firms may simply be more profitable and have access to collateral or that lending institutions may see domestic firms to be more risky borrowers. When domestic investment is split into private and public (government-owned) firms, the Harrison et al., (2003) found that investment decisions by public firms are not responsive to debt ratios or affected by foreign firms borrowing in domestic credit markets. Little evidence was found on the subject of relative profitability being the driving force of credit constraint of domestic firms but rather the study found enough evidence to the claim that the share of foreign borrowing drives credit constraints of domestic firms. As policy implications, the authors encouraged foreign firms to relocate to host countries in order to bring in scarce resources
or capital. But, the slippery road is for policymakers not to assume FDI expands the availability of credit base for domestic firms.

Seeking to investigate the linkages between FDI and domestic investment by unraveling the developmental impact of foreign investment in SSA, Ndikumana and Verick (2008) posited that a key mechanism or channel of the impact of FDI on development is through its effects on domestic factor markets, especially domestic investment and employment. Using a sample of 38 SSA countries, Ndikumana et al., (2008) employed a robust OLS estimator to control for outliers which was important to employ because of the high differences across the African countries; and a fixed-effects specification to take into consideration country-specific effects. The paper concluded there was a Granger causality running both ways, but the impact of private domestic investment on FDI was stronger and more robust than the reverse relation. Ndikumana et al., (2008) in their study accounted that, the effort to increase incentives for private investment will pay off by, among other things, making African countries more competitive in the eyes of foreign investors. Also, they recommended national policies to aim at harnessing complementarities between domestic private investment and FDI rather than regarding them as mere substitutes. Resource endowment was documented as an important driver of FDI. This implies countries not endowed with rich resources have extra work of enticing foreign investors. At the same time, this also implies that there are alternatives to resource endowments as a means of attracting foreign investment.

Analyzing data from some selected MENA countries, Acar, Eris, and Tekce (2012) studied the effect of foreign direct investment (FDI) on domestic investment for the period 1980 – 2008. Acar et al., 2012 segmented or classified 7 of the MENA
countries into oil-rich, 6 as oil-poor and 13 for all selected countries. Employing dynamic panel GMM techniques in their analyses, Acar et al., 2012 argued that the use of this technique allows the explanatory variables that are strictly exogenous to be relaxed and the estimators from GMM appear to be robust to heteroskedasticity and autocorrelation. It also gets rid of the endogeneity problem through the instrumental variable estimation since it allows for the inclusion of instrumental variables. The results of their study showed a negative effect of FDI on domestic investment in the 13 MENA countries as a group. Egypt, Israel, Jordon, Morocco, Tunisia, and Turkey which were classified under the 6 oil-poor countries showed FDI having a positive effect on Gross fixed capital formation (GFCF). Even though a positive relationship existed between FDI and investment, they could not conclude that crowding in does occur in these 6 oil-poor countries because the coefficient obtained was less than one. A negative significant coefficient between FDI and GFCF was obtained for the 7 oil-rich countries.

Employing panel data for 91 developing host countries, Al-Sadig (2013) reconnoitered the effects of foreign direct investment on private domestic investment over the period 1970 – 2000. The study tells apart from the existing literature in the following aspects. First, owing to the lack of data on private domestic investment, existing studies used gross domestic investment which is the summation of private and public investment. However, since most foreign investors are probable to invest in the private sector rather than the public sector, using gross domestic investment would result in bias estimates. To circumvent this problem, the author resorted to employing data on private domestic investment and utilized a large cross-sectional sample of 91 countries over the period of 1970 – 2000. Secondly, to fully control for the simultaneity bias most
literature overlooked, Al-Sadig (2013) utilized the generalized method of moment (GMM) to eliminate these potential biases. The estimated results came out that, FDI displayed a spillover effect on domestic investment rather than crowding-out effects. Splitting host countries into three groups based on their level of income, the study reported FDI positively affects private domestic investment in middle and high-income developing countries, while the spillover effect of FDI on private domestic investment in low-income developing countries depended on the availability of human capital. The author in his regressions and hypothesis testing did not find any support for the claim that FDI strongly and positively supports private domestic investment when the host country is open to trade. In addition, evidence of FDI of the host country depending on the financial development in the recipient country was also not momentous.

Filling existing gap in the literature on how domestic investment itself affect inward FDI, Lautier and Moreaub (2012) explored the impact of domestic investment on FDI in developing countries. Using a sample of 68 counties over the period of 1984 - 2004, their result showed that lagged domestic investment has a strong influence on inward FDI implying that domestic investment is a strong catalytic agent for FDI in the recipient country. The study showed the inflow of FDI to countries with existing MNC investment and country stability. Furthermore, there was a confirmation that political and economic risk was negatively correlated with FDI and the leading reason is the irreversible nature of FDI due to the large share of sunk cost in FDI project.

Herzer (2012) made two key contributions to existing literature on FDI and economic growth. The study investigated the effect of FDI on economic growth for 44 developing countries using heterogeneous panel cointegration techniques that are robust
to endogenous regressors and omitted variables. The heterogeneous panel cointegration was utilized to estimate the long-run relationship between FDI and output for both individual countries and as a whole. Using a bivariate model, the author used FDI-GDP ratio as its main independent variable rather than the normal level of FDI. Secondly, a general-to-specific model-selection approach was used to estimate the determinant of FDI-growth relationship with the estimated growth effect as the dependent variable.

Arguing that previous studies mainly focused on four variables as probable determinant of the FDI-growth relationship, that is; the general level of development, trade openness, human capital, and the development of local financial market, the author in his analysis redefined the aforementioned variables by representing the general level of development by real per-capita GDP, and the Sachs and Warner openness index as the measure of openness. Secondary school enrollment rate was used as a proxy for human capital, while the ratio of money and quasi-money to GDP was used as the measure of financial development. The results of the model reported in the paper challenged the widespread belief that FDI on the general does not have a crowding in effect on economic growth in developing countries. First, the panel cointegration techniques used showed that FDI crowds out economic growth on average. Herzer (2012) categorically noted that openness, per-capita income, human capital, property rights and freedom from corruption are several factors that may play an imperative indirect role in the FDI-growth relationship considering cross-country differences. Many developing countries such as Mexico, Venezuela, Zambia, and Zimbabwe are still heavily dependent on primary commodity exports according to the author. The results suggested that growth effect of FDI is negatively associated with primary dependence on export partially explaining why
these countries have suffered losses from FDI. He cautioned on a slippery notion that we cannot generalize that there is a negative relationship between the growth effect of FDI and natural resource abundant countries. Chile, India, and Indonesia who are resource-abundant countries (registered a positive relationship between FDI and growth) and have over time diversified their exports in order to reduce their reliance on primary product export.

Kamaly (2014) studied whether FDI crowd in or out domestic investment in 16 emerging countries. Stemming from the premise that there are many country-specific factors affecting how FDI influences domestic investment, Kamaly (2014) addressed the hypothesis of the study by not imposing equality restrictions on the effects of FDI on investment as most studies do use panel data. Such restrictions lead to aggregation bias explaining why most studies end up having ambiguous results (Kamaly, 2014). In the panel data analysis covering a 30-year period, 3SLS was employed in estimating the effect of FDI on domestic investment. In the outcome of the study, it was observed that the effect of FDI on investment and domestic investment was quite varied across countries. The short-run effect of inward FDI on investment was positive in 13 countries comprising with Mexico and Thailand having a significant negative effect of FDI on domestic investment. Formally testing the long-run effect of FDI on domestic investment, it was examined that, 12 out of the 16 countries (Argentina, Chile, China, Columbia, Egypt, Indonesia, India, South Korea, Malaysia, Philippines, South Africa and Thailand) registered a neutral effect between FDI and domestic investment. Kamaly (2014) found evidence of FDI crowding out domestic investment in Israel, Mexico, and Peru whereas positive spillover of FDI on domestic investment was confirmed in Morocco. Taking the
case of Israel, the author argued that the country of Israel is almost getting to the point of being categorized as a developed country with one of the highest research and development (R&D) spending per capita in the world. With respect to Morocco, the situation is reversed because Morocco is an emerging market with lots of investment opportunities that can be explored by local and foreign investors (Kamaly, 2014).

Latin America's lackluster investment performance since the onset and aftermath of the debt crisis during the 1980s has puzzled regional economists and frustrated policymakers. Ramirez's (2006) paper was one of the first empirical studies to investigate the complementarity hypothesis between domestic private investment and FDI using panel data for the period 1981-2000. The paper utilized a modified model that pooled both cross-section and time-series data for nine major economies of Latin America namely Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico, Peru, and Uruguay. The results showed that the lagged real GDP growth rate, the lagged ratio of gross FDI to GDP, the lagged ratio of public investment to real GDP, and the lagged credit variable had a positive and significant effect on private capital formation. Also, the estimate for the real exchange rate variable suggested that as exchange rate depreciates, there is a deflationary effect on private investment spending, but it is only marginally significant. The ratio of FDI spending to GDP exhibited a positive relationship with private investment. On the other hand, when real exchange rate index increases by 10 point, private investment ratio decreases by 5.1 percent within one year. This relationship according to Ramirez (2006) suggested that the onset and the aftermath of the debt crisis as well as the “Tequila effect” of 1994-95 had a devastating effect on the rate of private capital formation. The return on foreign capital including portfolio and debt capital to the
region in the early 1990s had a positive and significant effect on private capital formation. From a policy standpoint, the results of the paper recommended that foreign capital inflows, particularly foreign direct investment should be encouraged via the pursuit of sound macroeconomic policies and institutional/legal reforms. However, the latter should be dealt with caution so that they do not give rise to a substantial reverse flow of profits and capital in the future than then diverts scarce resources away from the financing of domestic private investment.

Economic theory pinpoints FDI as a predictor of major importance for the growth of an economy. Apergis et al., (2006) confirming this assumption empirically analyzed for the first time the dynamic relationship between FDI inflows and domestic investment for a panel of selected countries by means of panel cointegration techniques. Investigating the long-run relationship between inward FDI and domestic investment, annual streams of data on FDI inflows, public deficits (or surpluses) exports of goods and services, imports of goods and services, gross fixed capital formation, and the effective exchange rate for each region were used. Four blocks of regions were created namely America, Europe, Asia (Australia and New Zealand included), and Africa. Reporting the output of the results, FDI had a negative relationship with domestic investment in all the regions or areas combined but the results were mixed considering each region separately. Asia and Africa registered a spillover effect whiles America and Europe evidenced a crowding-out effect of FDI on domestic firms. The paper concluded on the canons that, there exist a two-way dynamic relationship between FDI and domestic investment. Thus, it holds for both the bivariate and the multivariate case. A conjecture put forward to explain the positive long-run relationship between FDI and domestic investment under
the bivariate case was, in developing areas such as Asia and Africa, FDI inflows promote domestic investment through advanced production technology, better organizational and managerial skills, access to market and market know-how. By contrast, the multivariate model which considered the group of America and European countries showed crowding-out effect. The reasons may be as a result of the penetration of MNCs in sectors where is abundant of local firms that cannot stand the increased competition posed by these foreign firms leading to further exploitation of possible opportunities. It could also be as a result of possible mergers and acquisitions of FDI.

Titarenko (2005) studied the influence of foreign direct investment on domestic investment processes in Latvia. The author defined “crowding out” to mean FDI displacing domestic investment. Using time series data from 1995 - 2004, the paper demonstrated an evidence of FDI crowding out domestic investment in Latvia. This means that one additional Lat of FDI inflow into Latvian economy leads to less than a one-Lat increase in total investment. Titarenko (2005) explained that the reasons for the crowding out effect can be the relatively low inflow of foreign investment intensity in Latvia over the last 10 years. The study shed light on the fact that, low FDI inflows cannot ensure any significant crowding-in effect. The second reason for the crowding out effect can be attributed to the peculiarities of FDI distribution in Latvia which, as it was mentioned above, pretty precisely corresponds to the sectoral distribution of total investment. According to the author, the FDI inflows in Latvia are oriented generally to the most dynamic sectors of the national economy. Some of these dynamic sectors de facto are monopolized or are oligopolies (gas supply, telecommunication, retail sale of fuel, metal industry and others). In other sectors, foreign investors operate in areas
already flooded with domestic firms (banking and insurance sector, real estate, wholesale trade and other services). In many cases, these MNC end up outcompeting these domestic firms. This is especially pertinent to Latvia joining the EU. Concluding the paper, Titarenko (2005) proposed that national investment policy should focus on improving the investment climate for all kinds of capital, domestic as well as foreign. The government should find new incentives for FDI inflow in less developed industrial sectors where the foreign investors can contribute new technologies, introduce new products and stimulate the activity of domestic firms to bring out spillovers in the Latvian economy.

We can conclude from the long list of existing literature reviewed above that empirical findings have not offered a conclusive relationship between FDI and domestic investment. Foreign investment may crowd-in, crowd-out or may have no impact depending on the type of the economies and domestic policies in place of the host country.

CHAPTER THREE

BACKGROUND AND TRENDS IN DOMESTIC AND FOREIGN INVESTMENT

3.1 Background of Kenya
Kenya is an East African country with its capital and largest city in Nairobi. The country is bordered to the south by Tanzania, to the west by Uganda, to the north by South Sudan, Ethiopia, and Somalia. Kenya’s total population was estimated to be around 48 million people in January 2017 (“The World Factbook — Central Intelligence Agency,” 2018). Kenya is the economic, financial, and transport hub of East Africa. The country’s real GDP growth has averaged over 5% for the last eight years with a real GDP growth rate of 5% in 2017. Kenya has been ranked as a lower middle-income country because its per capita GDP crossed a World Bank threshold (“The World Factbook — Central Intelligence Agency,” 2018). Despite its growing entrepreneurial middle class and steady growth, Kenya has weak governance and corruption impairing the economic and development trajectory of the economy. Agriculture still remains the economic backbone contributing one-third of GDP in Kenya. The labor force participation in the agriculture sector is 61.1% whereas the services employs 32.2% of the total labor with the industrial sector accounting just 6.7% of the workforce.

Inadequate infrastructure continues to hamper Kenya’s efforts to improve its annual growth to the 8% to 10% range for it to meaningfully combat poverty and unemployment. The Kenyatta administration has been successful in attracting foreign investment for infrastructure development. Kenya recently opened a $3.8 billion Chinese built railway, its largest infrastructure project in 50 years (Gaffey, 2017). The new standard gauge railway connects Mombasa and Nairobi.

In early 2012, inflationary pressures and sharp currency depreciation reached its peak but have since reduced following the low global and fuel prices and monetary interventions by the Central bank of Kenya. Due to chronic budget deficits, including a
shortage of funds in mid-2015, the government's ability to implement proposed
development programs were hampered, but the economy is back in balance with many
indicators, including interest rates, foreign exchange reserves, and FDI moving in the
right track.

Owing to the weakness in the banking sector, the government in 2016 enacted
legislation act that limits interest rates banks can charge on loans and set a rate that banks
must pay their depositors. This measure led to a sharp shrinkage of credit in the economy

Kenya’s economic freedom score is 54.7, making its economy the 129th freest in
the 2018 Index. Its overall score has increased by 1.2 points, with improvements in
business freedom and property rights offsetting declines in the government spending and
fiscal health indicators. Kenya is ranked 22nd among 47 countries in the SSA region, and
its overall score is above the regional average but below the world average (“Kenya
Economy,” 2018).

3.2 Background of South Africa

South Africa, on the other hand, is located in the southernmost part of Africa. In
the north, it is bordered by neighboring countries of Namibia, Botswana, and Zimbabwe.
In the east and northeast by Mozambique and Swaziland; and surrounds the kingdom of
Lesotho. South Africa’s total population was estimated to be around 54.8 million people
country is classified as middle-income emerging market with an abundant supply of
natural resources namely gold, diamond, and natural gas among others. The country has
well-developed financial, legal, communications, energy, and transport sectors; and a stock exchange that is Africa’s largest and among the top 20 in the world 2017 (“The World Factbook — Central Intelligence Agency,” 2018).

Economic growth in South Africa has decelerated in recent years, slowing to an estimated 0.7% in 2017. Unemployment, poverty, and inequality in the country are notably high on international records. The official unemployment rate is roughly 27% of the workforce and runs significantly higher among black youth 2017 (“The World Factbook — Central Intelligence Agency,” 2018). Despite the country having modern infrastructure, unstable electricity supplies curtail the usefulness of these infrastructures thus retarding growth.

South Africa’s economic policy has focused on controlling inflation while empowering a broader economic base; however, the country faces structural constraints that also limit economic growth, such as skills shortages, declining global competitiveness, and frequent work stoppages due to strike action.

South Africa’s economic freedom score is 63.0, making its economy the 77th freest in the 2018 Index. Its overall score has increased by 0.7 points, with significant improvements in investment freedom and judicial effectiveness outpacing declines in scores for the tax burden and trade freedom indicators. South Africa is ranked 4th among 47 countries in the Sub-Saharan Africa region, and its overall score is above the regional and world averages (“South Africa Economy,” 2018). However, political infighting among South Africa’s ruling party and the volatility of local currency risks economic growth. Both domestic and international investors have been concerned about the

3.3 Trends in Domestic Investment in Kenya and South Africa

The figure below shows that Kenya recorded steady and increasing growth from the first decade since independence up to the late 1970s. But owing to external shocks like the oil crises of 1973-74 brought about by Yom Kippur War, Iranian Revolution (1979-80), Gulf war (1990-91) and the Iraqi Invasion (2003), the economy declined and continued shrinking (Blanchard, 2007). The situation was worsened by droughts in 1979, 1984, 1992, 1994, 2000 and 2004, and the subsequent freezing of aid and grants in 1992 and 1997 (Ronge and Kimuyu, 1997). All these factors led to an increased import bill given few exports. Since Kenya domestic investors mostly rely on foreign intermediary goods to produce finished goods, the rise in the import bill displaced some number of local entrepreneurs due to the high cost of production. This resulted in unfavorable balance of payments, current account deficits, accelerating inflation and exchange rate depreciation (Njeru and Randa, 2001). The situation was worsened by the fact that demand for Kenyan goods abroad dwindled due to the global recession of the 1980s. This eventually led to a fall in domestic investments and economic growth.
Figure 1: Author’s calculations, using UNCTAD data

South Africa’s total investment in Figure 1 shows it has been fluctuating from 1972 – 2011. Showing some form of instability in trend, domestic investment has increased during the decade of the 1990s increasing through to the late 1990s, peaking at 16% in 1998. The period before 1975 was the high economic growth period in South Africa and provided evidence that a country with high investment rate is compensated with a high boost in economic growth (Matsila, 2013). The decline in total investment after 1998 started gaining momentum from 2002 onwards having a peak at 23% contribution to GDP. Although total investment is almost where it was back in the late 1970s current economic growth rates are failing to recover to the growth rates that were achieved during that period. The brief rebounding of domestic investment in the late 70s was due to the rising prices of commodities (Rodrik, 1991) and the privatization efforts. Since then, total investment started declining due to intensifying political isolation following the 1976 Soweto Uprising, pressure from anti-apartheid movements and the Sullivan Code (Matsila, 2013). This decline in investment followed through until the
mid-1990s, coinciding with or due to the inception of the new democratic dispensation in South Africa.

3.4 Trends of FDI in SSA

We examine the trend and progress of FDI in SSA countries. Morris and Aziz (2011) documented that globalization has driven an explosion of FDI around the globe. More specifically, the last couple of decades have experienced a significant rise in the flow of FDI of which SSA countries are of no exception. Figure 2 shows the flow of inward foreign investment to SSA countries have significantly increased in the late 1990's and continue to increase until slowed down by the financial crisis of 2008 and later continued to regenerate itself. Notwithstanding the progress made by SSA countries to entice more FDI, SSA is far from adequate compared to the other regions. The inflow of FDI to the region represents a low percentage to the rest of the world (Anyanwu, 2012).

Net FDI inflow in SSA, 1972 - 2011, in Millions (USD)
3.5 Trends of FDI in Kenya and South Africa

Breaking down the SSA region into our two main countries of observation, Figure 3 shows that trend of net inflow of FDI in Kenya and South Africa. There has been a general increase of FDI inflows to Kenya from 2006 – 2011. In spite of a previous decline, the performance of FDI has improved recently and averaged US$123.6 million in 2000-2007. Net FDI increased to an average of 3.2% of gross investment in 2000-2007 majorly due to investment by mobile phone companies.

Kenya’s strategic location and sound government policies after gaining independence have attracted many nations wanting to invest in the country. Some of the countries having FDI inflow to Kenya are the United States of America, Malaysia, United Kingdom, Belgium, Portugal, South Africa, and the Netherlands (UNCTAD, FDI/TNC database). Notably, India, South Korea, China and South Africa have increased
their presence and are among the first five countries leading in terms of FDI flow to Kenya overtaking UK, Germany, and the Netherlands (GoK, 2011). China seems to overtake the lead position that was enjoyed by the UK since independence to be the number one source of FDI for Kenya (GoK, 2013).

In the bid to increase the inflow of FDI, the Kenyan government has initiated some policies in the hope of assisting the rooting of MNCs. Particularly, Kenya launched its long-term development blueprint, Vision 2030 (covering the period 2008 to 2030 with successive five-year Medium Term Plans) after the pass of the term for the Economic Recovery Paper in 2007. According to Socrates (2012), Kenya has five export processing zones with the government owning two (Mombasa and Athi) and the private owning the rest (Nairobi, Della Rue, and Nakuru) which strengthen the operating environment for zone-based industries. Currently, special incentives are being given to Multinational Corporations (MNCs) investing in lesser developed sectors by abolishing exports and import licensing besides the rationalization and the reduction of import tariffs. In addition, there are no restrictions to MNCs with the unrestricted repatriation of profits and also unrestricted borrowing by foreign investors as well as domestic firms (Socrates, 2012). The rationale, to make Kenya globally competitive to attract FDI in the assistance of industrialization.

South Africa has experienced some fluctuations in the net inflow of FDI from the period of 1972 – 2011. Over this period, net inflow recorded negative values in the years 1976 – 1980, 1984 – 1987, and 1989 – 1990. This period saw major disinvestment of foreign firms. According to Arvanitis (2006), the low FDI inflows were partly due to the apartheid political environment, the financial and trade sanctions imposed on the country
as well as the inability to pay external creditors which led the country to the road of suspension on the international capital market. Notably, in 1985, FDI in South Africa witnessed a huge drop in the inflow of FDI because of the non-fulfillment of the world’s expectations of P.W. Botha’s Rubicon speech in August 1985. This sent a negative signal to the international investors and further contributed to the buildup of the bad expectations about the country’s economy. But, from 1991 onwards, net inflow recorded positive values. FDI into South Africa’s economy grew from 1241.22 million dollars in 1995 to 4242.86 million in 2011 despite a few downturns. The high spike in 2001 according to Arvantis (2006), was due to the partial sale of government shares in Telkom in 1997 and the acquisition of the DeBeers by the Anglo American in 2001 which amounted to almost 3.5 billion USD of the inflow of FDI (Arvantis 2006; Diwambuena et al., 2017).
CHAPTER FOUR
METHODOLOGY AND DATA

This chapter is mainly in two parts namely methodology and data. Under the methodology part, we lay down the steps we take to reaching the objective of the theses. In addition, we specify the model, the estimation technique, and theoretical use of variables. For the data part, we define the variables used, their measurement, and sources of the data.

4.1 Methodology

Our paper basically breaks the methodological process into two main parts. The first part looks at the estimation procedure for the pooled ordinary least squares (OLS) whiles the second part deals with the time series analyses for the individual countries. These parts are discussed below.

In part one which we investigate the impact of FDI on domestic investment using pooled OLS, we first construct a baseline model which we call Model I. We log all variables that are in constant dollars since most macro-economic variables tend to display geometric growth at levels hence the logarithms of the variables will linearize their movement over time. Using three other variants model as robustness checks, we run a pooled OLS estimation. Lastly, we subject all four models to diagnostic checks using Breusch –Pagan test for heteroskedasticity and Jarque –Bera test for normality to determine the robustness our models.

In part two, we further conduct an individual investigation through time series analyses for each country. Our baseline model equally follows that of the pooled OLS
model. For consistency, we use the same three variants models used in the pooled OLS and together with the baseline model, we check for the stationarity of all the variables using Augmented Dickey Fuller (ADF) test. This is because most time series data tend to be trended and non-stationary. If our variables are all integrated at levels, standard regression analysis will be valid. But if our variables are integrated of different order, that is some being stationary at levels 1(0) with the others being stationary after first difference 1(1), we transform the model. To do that, we run OLS estimation for each country using all four models at levels. We then check for the stationarity of the residuals for all models to see if they are stationary at level. We derive an Error Correction Model (ECM) for each country if residuals captured from all four models were all stationary at level. This is to indicate that there exist a short run and long run relationship between the dependent variable and the independent variables.

Lastly, we subject our model to further robustness checks using Durbin Watson, Breusch–Pagan test for heteroskedasticity and Jarque-Bera test for both the long run and the short run parsimonious models for both countries.

4.1.1 Model Specification

Based upon a variety of studies completed by scholars in the literature, this theses proposes a baseline model that draws from economic theory and many notable empirical bodies of work. The baseline model for both pooled OLS and time series analyses is specified below

\[ DI = f(\text{FDI, RGDP, Trade, NER}) \]

Pooled OLS Equation
Therefore, to estimate the parameters $\beta_i$, the equation can take the following form:

\[ \ln D_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln RGDP_{it} + \beta_3 \ln Trade_{it} + \beta_4 \ln NER_{it} + \epsilon_{it} \] \hspace{1cm} (1)

Adding the three other variants, our equation takes the following form:

\[ \ln D_{lit} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln RGDP_{it} + \beta_3 \ln Trade_{it} + \beta_4 \ln NER_{it} + \sum_{n=5}^{7} \beta_n X_{it} + \epsilon_{it} \] \hspace{1cm} (2)

Time Series Equation

The baseline equation is specified below:

\[ \ln D_{it} = \beta_0 + \beta_1 \ln FDI_{t} + \beta_2 \ln RGDP_{t} + \beta_3 \ln Trade_{t} + \beta_4 \ln NER_{t} + \epsilon_{t} \] \hspace{1cm} (3)

Adding the three other variants, our long-run equation takes the following form:

\[ \ln D_{it} = \beta_0 + \beta_1 \ln FDI_{it} + \beta_2 \ln RGDP_{it} + \beta_3 \ln Trade_{it} + \beta_4 \ln NER_{it} + \sum_{n=5}^{7} \beta_n X_{it} + \epsilon_{t} \] \hspace{1cm} (4)

The error correction model equation is as follows:

\[ \Delta \ln D_{it} = \alpha_0 + \alpha_1 \Delta \ln FDI_{t} + \alpha_2 \Delta \ln RGDP_{t} + \alpha_3 \Delta \ln Trade_{t} + \alpha_4 \Delta \ln NER_{t} + \sum_{n=5}^{7} \alpha_n \Delta X_{t} + \epsilon_{t-1} + \mu_{t} \] \hspace{1cm} (5)

Where

The $\beta_i$'s are the coefficients for the independent variables, and $\alpha_i$'s are the coefficients for independent variables for the error correction model.

$X$'s = Set of other explanatory variables

$\epsilon_{t-1}$ = Error term lagged by one period

$\Delta =$ Difference operator
\[ \mu = \text{Error term for error correction model} \]
\[ \varepsilon = \text{Error term} \]

The variables employed for our pooled OLS and times series analyses are defined below where:

DI = Gross Fixed Capital Formation (constant 2010 USD)
FDI = Foreign Direct Investment, net inflows (constant 2010 USD)
GDP = Gross Domestic Product (constant 2010 USD)
Trade = Trade openness (constant 2010 USD)
NER = Official exchange rate (current LCU, period average)
Credit = Domestic credit to private sector (constant 2010 USD)
Inflation = Inflation, GDP deflator (annual %)
Civil liberty = Proxy for social stability

4.1.2 Theoretical and Empirical use of variables

In their paper, Mutenyo et al., (2010) document that the effect on FDI on domestic investments is abstruse. On one hand, by competing in the product, labor, and financial markets, inward investment from abroad may crowd-out domestic firms. On the flip side, FDI may crowd-in domestic firms by complementing their productivity through spillover of advanced technology (Mutenyo et al., 2010). From an analytical point of view, domestic investment includes FDI thus if the coefficient is significantly greater than unity, it indicates the crowding-in effect. But if the reported coefficient is significantly less than unity, then it implies the crowding-out effect and if the coefficient equals to one, then FDI has a neutral effect on domestic investment (Mutenyo et al., 2010).
Mutenyo et al., (2010) in their paper accounted that private investment according to the neoclassical investment theory is assumed to be positively related to the growth of real GDP (Green and Villanueva, 1991; Fielding 1997; Mutenyo et al., 2010). In the same light, we postulate that higher income levels will positively affect domestic investment since an increase in income would lead to higher savings which then causes a spur in the growth of financing investment. GDP is a predictor variable in the determinant model. The relevance for GDP growth is that a growing economy will improve the prospects of market potential. Profit-maximizing investors have high confidence in fast-growing economies to take advantage of future market opportunities (Li and Resnick, 2003). High growth economies indicate stable and credible macroeconomic policies which give green light to domestic investors to invest.

Openness of an economy to the international market makes it more competitive. As a result, increase in trade openness will mean high level of domestic investment to meet up with the international demand. The ease of capital movement to and out of the country and the trade openness of the country affect the domestic investment. Taking it from the standard point of view, countries with capital control and restrictive trade policies discourage business, relative to countries with liberal policies. On the other hand, critics of trade liberalization claim that it can cost jobs because cheaper goods could flood the domestic market. A very open country allows countries to trade goods without regulatory barriers or their associated cost. Trade liberalization increases competition from abroad, which might provide an incentive for greater efficiency and cheaper production by domestic firms. It might also act as an incentive for an economy to reallocate resources to industries they may have a competitive advantage in. Citing an
example to buttress this point, trade liberalization has encouraged the UK to concentrate on the service sector rather than the manufacturing. On the cons of trade liberalization, it can negatively affect certain businesses within a nation because imported products increase the competition from foreign producers and may result in less local support for certain industries. In addendum, trade openness can also pose a threat to developing nations or economies because free trade introduces stiff competition from more established economies or nations. According to Asante (2000) restrictive trade regime has a negative effect on private investment, while trade liberalization affects it positively. Conversely, Bibi et al., (2012) in his study of Pakistan found that trade openness affects negatively the domestic investment in Pakistan because trade openness helps in creating more chances for the outflow of capital out of the economy. In equal vein, Frimpong and Marbuah (2010) found that trade liberalization leads to a rise in the foreign competition of domestic private investment which affect private investment negatively in Ghana.

According to Mutenyo et al., (2010), financial markets in developing economies are generally underdeveloped. Most domestic firms in these countries rely heavily on banks for loans or credits. In this vein, credit policies would affect domestic investment through the stock of credit available that have access to preferential interest rates (Mutenyo et al., 2010). As our a priori expectations, we hypothesize that availability of bank credits will have a positive impact on domestic investment. Some past studies confirm this hypothesis (Gomanee et al., 2005; Ouattara, 2004).

The rate of inflation used as a proxy for the health of the economy is included to capture the uncertainty of investment. A rise in domestic inflation relative to foreign inflation with a given level of real exchange rate causes the nominal exchange rate to
depreciate adversely hurting investors who rely on imported goods for their business operations. Macroeconomic instability is manifested by double-digit inflation, large external deficits, and excessive budget deficits (Benjamin 2012; Demelew, 2014). While a stable single-digit inflation rate is apparently known to indicate a sign of economic stability, a high inflation, on the other hand, is perceived as a sign of instability of the macroeconomic policy. Stated differently, it is recommended that the stability of price levels is a potent driver for investment and growth. Onyeiwu et al., (2004) states a high rate of inflation results from irresponsible monetary policy and fiscal policies, including excessive money supply, budget deficits and a poorly managed exchange rate regime (Demelew, 2014). On a general note, inflation increases the cost of capital for investors and this affects profitability adversely and subsequently discourages investment and economic growth. We hypothesize that inflation which is used as a proxy to measure macroeconomic uncertainty will be negatively related to domestic investment.

Olson (1996) pointed out that the complex system of political and social institutions are not given the maximum light in empirics. Mutenyo et al., (2010) argues that political freedom and civil rights seem to be an important factor for public investment. Defending their points, they said that benefits of investment spending generally are not realized in the short-run thus dogmatic policymakers at the helm of affairs will be inclined to reduce capital spending. In this light, we used civil liberty as a proxy for social stability. We hypothesize that improved civil liberty in the short –run will disrupt domestic investment due to higher social instability but this will correct itself in the long –run.
4.2 Data

Gross Fixed Capital Formation (constant 2010 USD): Gross fixed capital formation (formerly gross domestic fixed investment) includes land improvements (fences, ditches, drains, and so on); plant, machinery, and equipment purchases; and the construction of roads, railways, and the like, including schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings. According to the 1993 SNA, net acquisitions of valuables are also considered capital formation.

Foreign Direct Investment, net inflows (constant 2010 USD): Foreign direct investment are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. This series shows net inflows (new investment inflows less disinvestment) in the reporting economy from foreign investors.

Gross Domestic Product (constant 2010 USD): GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in constant 2010 U.S. dollars. Dollar figures for GDP are converted from domestic currencies using 2010 official exchange rates. For a few countries where the official exchange rate does not reflect the rate effectively applied to actual foreign exchange transactions, an alternative conversion factor is used.
Trade openness (constant 2010 USD): Trade is the sum of exports and imports of goods and services.

Official exchange rate (LCU per USD, period average): Official exchange rate refers to the exchange rate determined by national authorities or to the rate determined in the legally sanctioned exchange market. It is calculated as an annual average based on monthly averages (local currency units relative to the U.S. dollar).

Domestic credit to private sector (constant 2010 USD): Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of non-equity securities, and trade credits and other accounts receivable, that establish a claim for repayment. For some countries these claims include credit to public enterprises. The financial corporations include monetary authorities and deposit money banks, as well as other financial corporations where data are available (including corporations that do not accept transferable deposits but do incur such liabilities as time and savings deposits). Examples of other financial corporations are finance and leasing companies, money lenders, insurance corporations, pension funds, and foreign exchange companies.

Inflation, GDP deflator (annual %): Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole. The GDP implicit deflator is the ratio of GDP in current local currency to GDP in constant local currency.

Civil liberties: This rates the freedom status of a country that allow for the freedoms of expression and belief, associational and organizational rights, rule of law, and personal autonomy without interference from the state to be measured. The
measurement is on a one-to-seven scale with one representing the highest degree of Freedom and seven the lowest. For easy interpretation, we ordered the scale in an ascending order where one represents the lowest degree of Freedom and seven the highest.

4.2.1 Sources of data

Data for this investigation purpose came from different sources. A plethora of parameters was considered to unequivocally figure out the relationship between FDI and domestic investment. Data from World Development Indicators (WDI), United Nations Conference on Trade and Development (UNCTAD), and Freedom house index sources from (www.freedomhouse.org) were used to address the given research question. The dataset covers the period from 1972 – 2011 for both Kenya and South Africa.
CHAPTER FIVE

DISCUSSION AND POLICY RECOMMENDATION

This chapter will cover descriptive statistics, correlation matrix, discussions of empirical results, and policy recommendation.

5.1 Descriptive Statistics and Correlation Matrix

From Table 5.1, domestic investment chalked an average of 27.4 billion US dollars with a maximum investment of 87 billion US dollars for both countries. On average, FDI inflow in the pooled data set is estimated to be around 1.17 billion US dollars with a standard deviation of 2.89 billion US dollars. This shows there is a considerable variation in the inflow of FDI in these two countries put together over the study period. Real GDP was estimated to sit around 132 billion US dollars over 40 years with high variations in around 120 billion US dollars. Trade which contributes a bigger share to the growth is averaged at 69.5 billion US dollars. Nominal exchange rate was very volatile with respect to the standard deviation. From the table, inflation and credit were averaged to be 11.21% and 133 billion US dollars respectively. The average civil liberty index for both countries was reported to be approximately 3.75 indicating that SSA has enjoyed fairly civil freedom over the sample period.
Table 5.1 Descriptive Statistics for Kenya and South Africa

<table>
<thead>
<tr>
<th>Variable</th>
<th>Obs</th>
<th>Mean</th>
<th>Std. Dev.</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>DI</td>
<td>80</td>
<td>2.74E+10</td>
<td>2.50E+10</td>
<td>2.04E+09</td>
<td>8.70E+10</td>
</tr>
<tr>
<td>FDI</td>
<td>80</td>
<td>1.17E+09</td>
<td>2.89E+09</td>
<td>-1.51E+09</td>
<td>1.64E+10</td>
</tr>
<tr>
<td>RGDP</td>
<td>80</td>
<td>1.32E+11</td>
<td>1.20E+11</td>
<td>9.67E+09</td>
<td>3.88E+11</td>
</tr>
<tr>
<td>Trade</td>
<td>80</td>
<td>6.95E+10</td>
<td>6.68E+10</td>
<td>5.35E+09</td>
<td>2.70E+11</td>
</tr>
<tr>
<td>NER</td>
<td>80</td>
<td>22.12171</td>
<td>27.96175</td>
<td>0.679477</td>
<td>88.81077</td>
</tr>
<tr>
<td>Credit</td>
<td>79</td>
<td>1.33E+11</td>
<td>1.73E+11</td>
<td>1.60E+09</td>
<td>6.01E+11</td>
</tr>
<tr>
<td>Inflation</td>
<td>80</td>
<td>11.21708</td>
<td>6.189707</td>
<td>0.933206</td>
<td>41.98877</td>
</tr>
<tr>
<td>Civil Liberty</td>
<td>80</td>
<td>3.725</td>
<td>1.517618</td>
<td>2</td>
<td>6</td>
</tr>
</tbody>
</table>

Table 5.2 shows the correlation between the dependent variable and the independent variables. It could be seen that all the independent variables were positively correlated with domestic investment except for nominal exchange rate it was negative. Additionally, inflation showed a weak correlation with domestic investment.

Table 5.2 Correlation Matrix for Kenya and South Africa

<table>
<thead>
<tr>
<th></th>
<th>InDI</th>
<th>InFDI</th>
<th>InRGDP</th>
<th>InTrade</th>
<th>NER</th>
<th>InCredit</th>
<th>Inflation</th>
<th>Civil Liberty</th>
</tr>
</thead>
<tbody>
<tr>
<td>InDI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InFDI</td>
<td>0.6791</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InRGDP</td>
<td>0.9899</td>
<td>0.6931</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InTrade</td>
<td>0.9875</td>
<td>0.7258</td>
<td>0.9942</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NER</td>
<td>-0.5074</td>
<td>-0.2816</td>
<td>-0.47</td>
<td>-0.4653</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InCredit</td>
<td>0.9784</td>
<td>0.7066</td>
<td>0.9958</td>
<td>0.991</td>
<td>-0.4827</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation</td>
<td>0.025</td>
<td>-0.0772</td>
<td>0.003</td>
<td>0.0095</td>
<td>-0.0795</td>
<td>-0.0429</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Civil Liberty</td>
<td>0.3077</td>
<td>0.5985</td>
<td>0.3885</td>
<td>0.3997</td>
<td>0.0237</td>
<td>0.4458</td>
<td>-0.4029</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 5.3 shows the correlation between the independent variables included in all the models and does not show any severe collinearity problems.
Table 5.3 Correlation Matrix of Independent Variables

<table>
<thead>
<tr>
<th></th>
<th>InFDI</th>
<th>InRGDP</th>
<th>InTrade</th>
<th>NER</th>
<th>InCredit</th>
<th>Inflation</th>
<th>Civil Liberty</th>
</tr>
</thead>
<tbody>
<tr>
<td>InFDI</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InRGDP</td>
<td>0.6931</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InTrade</td>
<td>0.7258</td>
<td>0.9942</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NER</td>
<td>-0.2816</td>
<td>-0.47</td>
<td>-0.4653</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>InCredit</td>
<td>0.7066</td>
<td>0.9958</td>
<td>0.991</td>
<td>-0.4827</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.0772</td>
<td>0.003</td>
<td>0.0095</td>
<td>-0.0795</td>
<td>-0.0429</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Civil</td>
<td>0.5985</td>
<td>0.3885</td>
<td>0.3997</td>
<td>0.0237</td>
<td>0.4458</td>
<td>-0.4029</td>
<td>1</td>
</tr>
<tr>
<td>Liberty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.2 Pooled OLS estimates

We first run the Pooled Ordinary Least Squares (OLS) to estimate the impact of FDI on domestic investment in Sub-Saharan Africa using Kenya and South Africa as our pooled countries. The results are tabulated below with standard errors reported in parenthesis.
Table 5.4. Pooled OLS for Kenya & South Africa, 1972 – 2011

<table>
<thead>
<tr>
<th>Dependent Variable: InDI</th>
<th>MODEL I</th>
<th>MODEL II</th>
<th>MODEL III</th>
<th>MODEL IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>InFDI</td>
<td>-0.0262674</td>
<td>-0.0054011</td>
<td>-0.0044584</td>
<td>-0.0011684</td>
</tr>
<tr>
<td></td>
<td>(0.015983)</td>
<td>(0.012282)</td>
<td>(0.011782)</td>
<td>(0.012)</td>
</tr>
<tr>
<td>InRGDP</td>
<td>0.6524108***</td>
<td>1.72625***</td>
<td>1.833983***</td>
<td>1.665279***</td>
</tr>
<tr>
<td></td>
<td>(0.156454)</td>
<td>(0.190465)</td>
<td>(0.187363)</td>
<td>(0.2329)</td>
</tr>
<tr>
<td>InTrade</td>
<td>0.3915381**</td>
<td>0.4218728***</td>
<td>0.4588474***</td>
<td>0.4689645***</td>
</tr>
<tr>
<td></td>
<td>(0.17121)</td>
<td>(0.132668)</td>
<td>(0.128014)</td>
<td>(0.1278)</td>
</tr>
<tr>
<td>NER</td>
<td>-0.0022037***</td>
<td>-0.0038639***</td>
<td>-0.0041563***</td>
<td>-0.0036917***</td>
</tr>
<tr>
<td></td>
<td>(0.000772)</td>
<td>(0.000619)</td>
<td>(0.000604)</td>
<td>(0.0007)</td>
</tr>
<tr>
<td>InCredit</td>
<td>-0.7010111***</td>
<td>-0.7931312***</td>
<td>-0.7931312***</td>
<td>-0.6863637***</td>
</tr>
<tr>
<td></td>
<td>(0.094735)</td>
<td>(0.097639)</td>
<td>(0.097639)</td>
<td>(0.1313)</td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.0065106**</td>
<td>-0.007125***</td>
<td>-0.007125***</td>
<td>-0.007125***</td>
</tr>
<tr>
<td></td>
<td>(0.002531)</td>
<td>(0.002531)</td>
<td>(0.002531)</td>
<td>(0.0026)</td>
</tr>
<tr>
<td>Civil Liberty</td>
<td>-1.93383****</td>
<td>-12.88087***</td>
<td>-14.18467***</td>
<td>-12.78384***</td>
</tr>
<tr>
<td></td>
<td>(0.475473)</td>
<td>(1.521191)</td>
<td>(1.544119)</td>
<td>(0.1925)</td>
</tr>
<tr>
<td>R-SQUARE</td>
<td>0.9848</td>
<td>0.9917</td>
<td>0.9925</td>
<td>0.9927</td>
</tr>
<tr>
<td>ADJ R-SQUARE</td>
<td>0.9839</td>
<td>0.9911</td>
<td>0.9918</td>
<td>0.9919</td>
</tr>
<tr>
<td>F Statistics</td>
<td>1071.79</td>
<td>1533.83</td>
<td>1391.45</td>
<td>1201.7</td>
</tr>
<tr>
<td>Prob&gt;F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sample</td>
<td>71</td>
<td>70</td>
<td>70</td>
<td>70</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

From the table, we had four different models trying to estimate the impact of FDI on domestic investment in Sub-Saharan African countries using two countries namely Kenya and South Africa to make an inference. From Model I, we could infer that a percentage increase in the log of FDI (InFDI) reduces the log of domestic investment (InDI) by approximately -0.02 percent holding all else equal. Although, our results showed a negative relationship between InFDI and InDI, it was insignificant. In other words, the estimation shows that we do not have enough evidence to prove that FDI indeed has some impact on domestic investment in SSA countries due to the high P-value. However, Mutenyo, Asmah, and Kalio (2010) in their investigation of whether
FDI crowd-out domestic private investment in Sub-Sahara Africa over the period 1990 - 2003 found evidence of crowding out effect of FDI on domestic investment.

Controlling for other observable variables that are independently correlated with domestic investment, we found out that a one percent change in the log of real GDP (\(\ln\text{RGDP}\)) leads to an approximate 0.65 percentage change in the log of domestic investment (\(\ln\text{DI}\)) all things being equal. This positive relationship was highly significant indicating that economic growth stimulate or drives domestic investment in a positive direction. In addition, the output confirmed our a priori expectations that higher income levels will positively affect domestic investment since an increase in income would lead to higher savings which then causes a spur in the growth of financing investment (Green and Villanueva, 1991; Fielding 1997; Mutenyo et al., 2010). Trade openness equally evinced a positive relationship with domestic investment with the coefficient being significant at 5 percent. The results shows that trade liberalization has positively helped boost domestic investment over the sample period in SSA. Lastly, there was a negative relationship between nominal exchange rate and domestic investment. As the local currency depreciates against the US dollar (a unit increase in nominal exchange rate), the log of domestic investment shrinks by 0.2 percent all else equal. The reason could emanate from the view that, Kenya and South Africa are huge importing countries thus as the local currency depreciates, importers are faced with high import duties crippling investment opportunities for them due to the high cost of production.

Moving to Model II, III and IV, \(\ln\text{FDI}\) was consistently having a negative relationship with \(\ln\text{DI}\) albeit insignificant. In the same vain, the log of real GDP and Trade openness were both having a significant and positive association with the log of
domestic investment. This is to emphasize the importance of the growth of GDP and trade to the survival of domestic investment. Nominal exchange rate equally registered a significant negative relationship with the log of domestic investment. This reinforces the fact that, high depreciation of the local currency in both Kenya and South Africa will cause a deleterious effect on the activities and operations of domestic investors. In Model II, we controlled for the availability of resources to domestic investors by including credit accessibility to domestic investors. It was striking to notice that credit accessibility to the local investors had a negative relationship with domestic investment. In other words, as the log of credit increases, the log of domestic investment decreases. The relationship may be from the fact that as more credit is made available to these domestic investors, they tend to invest in unproductive ventures. Also, the rate of corruption and bottlenecks in SSA has been known to be on the high. Due to the high corruption rates in these countries, increasing credit accessibility may not tend to yield positive results on domestic investment in the country due to embezzlement of such funds. The level of inflation in both Model III and IV evinced an adverse impact on domestic investment. As the level of prices increases, domestic investment tend to reduce. High rate of inflation indicates an unhealthy economy and thereby discourages investment.

Considering social (and political) stability as a determining factor for domestic investors in SSA countries, we included Civil Liberty as a proxy for social stability in Model IV. Even though Civil Liberty might not be the best proxy, that was the best this paper could utilize over the time period of interest for these countries. This is because we are dealing with countries where social unrest is recurrent and can be violent to the point where widespread unrest can ensue and have a nationwide repercussions on economic
agents' decision to invest. From Model IV, Civil Liberty is negatively related to domestic investment. This relationship is not far from the truth because, improved liberties may breed more social unrest which is possible in a developing country practicing democracy. These social unrests indicating social instability will definitely impact domestic investors' decisions thereby reducing domestic investment. It should be emphasized that this relationship is not significant in the model.

The models reported a very high R-square signifying that the set of independent variables highly explains the variation of the dependent variable, domestic investment. Additionally, the probability values for the F-Statistic were all significant indicating that overall, the model is significant at 1%.

We subjected our pooled OLS models (I, II, III & IV) to the conventional test for heteroskedasticity and normality of the residual. This is shown in Table 5.5.

<table>
<thead>
<tr>
<th>Regressions</th>
<th>Heteroskedasticity (P-Value)</th>
<th>Normality (P-Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL I</td>
<td>0.0003</td>
<td>0.0561</td>
</tr>
<tr>
<td>MODEL II</td>
<td>0.5477</td>
<td>0.7841</td>
</tr>
<tr>
<td>MODEL III</td>
<td>0.2016</td>
<td>0.842</td>
</tr>
<tr>
<td>MODEL IV</td>
<td>0.4171</td>
<td>0.8844</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

Using Breusch- Pagan test for heteroskedasticity, Model I failed the test with a p-value less than 1% thus rejecting the null hypothesis of constant variance. We concluded that based on the significant p-value that Model I suffers from non-constant variance.

Utilizing Jarque -Bera test for normality of residuals, Model I barely passed the test for normality of residuals at 10% significance level. In other words, the residuals for Model I are not normally distributed at significance level of 10%. It is clearly showed on the table that Model II, III and IV were homoskedastic and having normality of residuals.
Table 5.6 Model I adjusted for Heteroskedasticity (Pooled OLS)

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model I</th>
</tr>
</thead>
<tbody>
<tr>
<td>InFDI</td>
<td>-0.0262674 (0.0169)</td>
</tr>
<tr>
<td>InRGDP</td>
<td>0.6524108*** (0.136)</td>
</tr>
<tr>
<td>InTrade</td>
<td>0.3915381*** (0.1498)</td>
</tr>
<tr>
<td>NER</td>
<td>-0.0022037*** (0.0006)</td>
</tr>
<tr>
<td>InCredit</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Inflation</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>Civil Liberty</td>
<td>Not Applicable</td>
</tr>
<tr>
<td>CONS</td>
<td>-1.93383*** (0.3897)</td>
</tr>
</tbody>
</table>

R-SQUARE: 0.9848
ADJ R-SQUARE: Not Applicable
F Stat: 1306.11
Prob>F: 0
Sample: 71

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

From Table 5.6, Model I is corrected for heteroskedasticity by applying standard robust errors reported in parenthesis. The corrected model still specifies that the inflow of FDI has no impact on domestic investment in SSA countries. The log of real GDP and Trade still maintained significant and had positive relationship with the log of domestic investment. Accordingly, nominal exchange rate was significant and negatively related to the log of domestic investment all else equal.

The reported R-square was 0.9848 which means the set of independent variables jointly explains 98.48 percent of the variation of the logged values of domestic investment (InDI).
5.3 Time series estimates for Kenya

We investigate the impact of FDI on domestic investment in Kenya over 40 years.

Before running our OLS estimation, we check for unit root for all variables used in the model which is summarized in Table 5.7. Furthermore, we apply the Engle-Granger cointegration residual test for Models I, II, III and IV as shown in Table 5.8 and the results show that all the variables are co-integrated for all the models.

Table 5.7 Unit root test for Kenya using ADF

<table>
<thead>
<tr>
<th>Variables</th>
<th>Constant I(0) Z(t)</th>
<th>Constant and trend I(0) Z(t)</th>
<th>Constant I(1) Z(t)</th>
<th>Constant and trend I(1) Z(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>InDI</td>
<td>-0.218</td>
<td>-2.548</td>
<td>-5.905***</td>
<td>-5.858***</td>
</tr>
<tr>
<td>InFDI</td>
<td>-6.270***</td>
<td>-6.513***</td>
<td>-10.014***</td>
<td>-9.906***</td>
</tr>
<tr>
<td>InRGDP</td>
<td>-0.576</td>
<td>-1.692</td>
<td>-3.685***</td>
<td>-3.601***</td>
</tr>
<tr>
<td>InTrade</td>
<td>-1.062</td>
<td>-3.703**</td>
<td>-7.002***</td>
<td>-6.894***</td>
</tr>
<tr>
<td>NER</td>
<td>0.142</td>
<td>-2.062</td>
<td>-5.241***</td>
<td>-5.239***</td>
</tr>
<tr>
<td>InCredit</td>
<td>-0.380</td>
<td>-3.497</td>
<td>-6.864***</td>
<td>-6.763***</td>
</tr>
<tr>
<td>Civil Liberty</td>
<td>-1.210</td>
<td>-1.735</td>
<td>-6.590***</td>
<td>-6.833***</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

The results for the test shows that all the variables used were having unit root at levels except for InFDI and Inflation which were stationary at level. In addition, InTrade was stationary at level when considering constant and trend. But all variables became stationary at first difference therefore the variables are integrated to the order of 1 other written as I(1).

Table 5.8 ADF test of Residuals for Kenya

<table>
<thead>
<tr>
<th>ADF test statistic</th>
<th>Z(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL I</td>
<td>-3.780***</td>
</tr>
<tr>
<td>MODEL II</td>
<td>-3.777***</td>
</tr>
<tr>
<td>MODEL III</td>
<td>-3.852***</td>
</tr>
<tr>
<td>MODEL IV</td>
<td>-4.019***</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level
From Table 5.8, the test statistic values for the cointegration of the five regressions or models were all significant at 10 percent, 5 percent, and 1 percent, showing that the residuals are all stationary and that the variables are co-integrated therefore there is both a long-run and a short-run relationship among the variables. Since the Engle-Granger two-step estimation procedure was employed and thus requires a two-step estimation method for dynamic specifications, both the long-run and short-run models are estimated using OLS estimation.

| Table 5.9 Long-run Relationship between FDI and Domestic Investment in Kenya |
|---|---|---|---|
| Variables | InFDI | InRGDP | InTrade | NER | InCredit | Inflation | Civil Liberty | CONS | R-SQUARE | ADJ R-SQUARE | F Stat | Prob>F | Sample |
| Model I | 0.0016641 (0.0133318) | 0.8372603*** (0.144386) | 0.3063638** (0.149189) | -0.0030767** (0.001249) | 0.0053789 (0.1871) | 0.0066321*** (0.0022) | 4.827922** (2.182527) | 0.946 | 0.9399 | 153.37 | 0.0000 |
| MODEL II | 0.0016565 (0.0135) | 0.8313502*** (0.2524) | 0.3062318* (0.1514) | -0.0030931** (0.0014) | 0.0053789 (0.1871) | 0.0066321*** (0.0022) | 4.803197* (2.3754) | 0.946 | 0.9381 | 119.2 | 0.0000 |
| MODEL III | 0.0081472 (0.0125) | 1.013751*** (0.2382) | 0.4532656*** (0.147) | -0.0028038** (0.0013) | -0.2522585 (0.1926) | 0.0054897*** (0.002221) | 6.883913*** (2.2797) | 0.9567 | 0.9488 | 121.51 | 0.0000 |
| MODEL IV | 0.0037239 (0.012465) | 1.128223*** (0.241864) | 0.4330454*** (0.143683) | -0.0030585** (0.001244) | -0.3246114 (0.19246) | 0.0054897*** (0.002221) | -7.553001*** (2.255731) | 0.9602 | 0.9515 | |

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level
The principal goal of this paper is to examine the impact of FDI on domestic investment. The coefficient of InFDI was approximately 0.002 for Model I which indicates a percentage change in InFDI leads to InDI changing by 0.0016 percent in the long-run all else equal. And it must be emphasized that the t statistic was statistically not significant. Stated differently the inflow of FDI in Kenya has no impact on the domestic investment over the study period. This results is in consonance with Mwega and Ngugi (2006) work on investigating the factors that constrain improved net inflows of FDI into Kenya and whether Kenya responds differently from other countries regarding the determinants of FDI. Among the issues they analyzed were the magnitudes of net FDI inflows, their composition and sectoral destination, as well as the economic, political and other factors that might influence them. The results of the study confirmed FDI over the period of their study did not play an important role in the Kenyan economy. The same was the situation in Model II, III and IV where InFDI reported a positive relationship with InDI but the t statistic were not significant.

The consistent positive relationship between InRGDP and InDI shows that economic growth is really imperative for domestic investment to thrive in Kenya. This is because of the highly significant t statistic values of real GDP across the models. For example in Model I, a percent increase in InRGDP increases InDI by 0.83 percent all else equal.

Trade openness equally demonstrated a positive relationship with domestic investment with the t statistic being significant at 5 percent in Model I, III and IV and 10 percent in Model II. The results shows that trade liberalization has positively helped
boost domestic investment Kenya. This positive relationship could be explained that the opportunity to easily import and export strongly influences domestic investment.

Nominal exchange rate was consistently significant and negatively related to domestic investment in all the regression models. As the Kenyan Shillings depreciates against the US dollar, domestic investment shrinks by approximately 0.308 percent all else equal in Model I. This reinforces the fact that, high depreciation of the local currency in Kenya cause a deleterious effect on the activities and operations of domestic investors since production cost tends to be on the rise.

In Model II, we controlled for the availability of resource to domestic investors by including credit accessibility to domestic investors. This variable reported to be positively related to domestic investment in the long-run. That is, an increase in credit to the private sector increases domestic investment by 0.005 percent albeit insignificant. It was striking to notice that credit accessibility to the local investors had a negative relationship with domestic investment in Model III and IV. This relationship was in accordance with the relationship that was established in the pooled regression earlier discussed. The relationship may be from the fact that as more credit is made available to these domestic investors, they tend to invest in unproductive ventures. Also, the rate of corruption and bottlenecks in Kenya had been known to be on the high. It should thus be emphasized that this variable, credit, in the long run does not significantly explain domestic investment in Kenya.

As aforesaid, Civil liberty was used as a proxy for social stability in Model IV. From this model, Civil Liberty was positively related to domestic investment in the long-run. Notwithstanding the insignificance of the coefficient, it makes a whole lot of sense.
That is, increased civil liberties become a positive factor as more accountability, checks
and balances and genuine expression of legitimate needs by the population force
decision-makers to address such needs in order to improve their living conditions and
alleviate poverty through high investments and employment in the long-run.

The models reported a very high R-square signifying that the set of independent
variables highly explains the variation of the dependent variable, domestic investment.
Additionally, the probability values for the F-Statistic were all significant indicating that
overall, the model is significant at 1 percent.

We subjected our time series (I, II, III & IV) to the conventional test for
autocorrelation, heteroskedasticity and normality of the residual. This is shown in Table 5.10.

<table>
<thead>
<tr>
<th>Model</th>
<th>Durbin Watson</th>
<th>Heteroskedasticity(P-Values)</th>
<th>Normality(P-Value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>0.9470042</td>
<td>0.3995</td>
<td>0.6108</td>
</tr>
<tr>
<td>II</td>
<td>0.9445058</td>
<td>0.3975</td>
<td>0.6068</td>
</tr>
<tr>
<td>III</td>
<td>1.066908</td>
<td>0.5127</td>
<td>0.6253</td>
</tr>
<tr>
<td>IV</td>
<td>1.171748</td>
<td>0.4686</td>
<td>0.7714</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

The Durbin Watson values for the long run models are reported in Table 5.10.

Using Breusch-Pagan test for heteroskedasticity, all the regression models were
homoskedastic due to their high p-values. Thus we fail to reject the null hypothesis of
constant variance. The Jarque-Bera test for normality of residuals all the models came out
to be normal. In other words, the residuals for Model I, II, III and IV are normally
distributed.
5.3.1 Estimation of ECM for Kenya

The short-run Models I, II, III, and IV provide information relating to the adjustments that occur between the different variables to restore the long-run equilibrium in response to the short-run disturbances of the domestic investment Models I, II, III, and IV. For these error correction Models, the differenced variables and the lagged error correction term (EC-1) whose function is to ensure that the short-run deviations in relation to the long-run relationship are corrected are thus regressed.

Table 5.11 Short-run parsimonious regressions for Kenya

<table>
<thead>
<tr>
<th>Dependent Variable: ΔlnDI</th>
<th>MODEL I</th>
<th>MODEL II</th>
<th>MODEL III</th>
<th>MODEL IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>ΔlnFDI</td>
<td>-0.0025102 (0.007263)</td>
<td>-0.0011755 (0.007031)</td>
<td>0.0017065 (0.006543)</td>
<td>-0.0002943 (0.006518)</td>
</tr>
<tr>
<td>ΔlnRGDP</td>
<td>2.096183*** (0.568284)</td>
<td>1.940803*** (0.55287)</td>
<td>2.035134*** (0.503707)</td>
<td>1.922842*** (0.523632)</td>
</tr>
<tr>
<td>ΔlnTrade</td>
<td>0.3227819*** (0.112714)</td>
<td>0.2663395** (0.112548)</td>
<td>0.2611198** (0.102492)</td>
<td>0.2224485** (0.104725)</td>
</tr>
<tr>
<td>ΔNER</td>
<td>-0.0045627 (0.002751)</td>
<td>-0.003022 (0.002771)</td>
<td>-0.0014506 (0.00253)</td>
<td>-0.0010752 (0.002666)</td>
</tr>
<tr>
<td>ΔlnCredit</td>
<td>0.2632832* (0.137047)</td>
<td>0.070606 (0.14006)</td>
<td>0.091826 (0.148954)</td>
<td>0.091826 (0.148954)</td>
</tr>
<tr>
<td>ΔlnInflation</td>
<td>-0.0039039*** (0.001258)</td>
<td>-0.0037112*** (0.001258)</td>
<td>-0.0037112*** (0.001258)</td>
<td>-0.0037112*** (0.001258)</td>
</tr>
<tr>
<td>ΔCivil Liberty</td>
<td>(-0.0032038) (0.022422)</td>
<td>(-0.0032038) (0.022422)</td>
<td>(-0.0032038) (0.022422)</td>
<td>(-0.0032038) (0.022422)</td>
</tr>
<tr>
<td>EC (-1)</td>
<td>-0.6550039*** (0.145999)</td>
<td>-0.6793519*** (0.14124)</td>
<td>-0.6794713*** (0.143876)</td>
<td>-0.6833808*** (0.153967)</td>
</tr>
<tr>
<td>CONS</td>
<td>-0.0483316* (0.025924)</td>
<td>-0.0577465** (0.025459)</td>
<td>-0.0533445** (0.23084)</td>
<td>-0.0491167** (0.023644)</td>
</tr>
<tr>
<td>R-SQUARE</td>
<td>0.587</td>
<td>0.6285</td>
<td>0.7017</td>
<td>0.7027</td>
</tr>
<tr>
<td>ADJ R-SQUARE</td>
<td>0.5244</td>
<td>0.5588</td>
<td>0.6343</td>
<td>0.6235</td>
</tr>
<tr>
<td>F Stat</td>
<td>9.38</td>
<td>9.02</td>
<td>10.42</td>
<td>8.87</td>
</tr>
<tr>
<td>Prob&gt;F</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sample</td>
<td>39</td>
<td>39</td>
<td>39</td>
<td>39</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level
From the short-run parsimonious regressions above, we could infer that the coefficient of change in InFDI was negative and insignificant in Model I, II and IV confirming to the fact that in the short run, FDI has no impact on domestic investment. However, in Model III, ΔInFDI reported an approximate positive coefficient of 0.002. That is, a percentage change in ΔInFDI leads to a percentage increase in domestic investment (ΔInDI) by 0.002 percent. But the t statistic is not significant meaning FDI has no impact on domestic investment in Kenya in the short-run.

Real GDP and Trade were both significant and positively related to domestic investment in the short-run in Model I. This positive relationship of the variables were consistent in the remaining models and significant in explaining domestic investment.

Nominal exchange rate had a consistent negative relationship with domestic investment but was not significant in all the models in the short-run. That is to say, domestic investors in the short-run do not consider the prevailing exchange rate in making investment decision but definitely one of the critical factors they consider in the long run.

The error correction term, EC (-1), was highly significant with a probability value approaching almost zero. The negative coefficient of the error correction term (-0.6550039) confirms the existence of long-term equilibrium relationship of the model and also confirms the existence of a cointegration relationship among the variables in Model I.

Domestic credit to the private sector was positively related to domestic investment in the short-run. That means, an increase in credit accessibility to the private sector by one percent increases domestic investment by approximately 0.263 percent in
Model II. This positive relationship was significant but was not in Model III and IV. It should be noted that, in the short-run, accessibility to credit increases domestic investment but reduces domestic investment in the long-run. This switch in relationship may be due to bottlenecks, inefficiency in the financial system coupled with high rate of corruption in Kenya.

Civil liberty was negative related to domestic investment and insignificant in the short-run. This is again not far from truth. In the short-run, with their newfound freedom of belief, associational and organizational rights, rule of law, and personal autonomy without interference, it indicates that the population engages in more violent and unrestful actions that have destabilizing effects across society: sustained strikes, street manifestations, attempted coups as the military sometimes follows suit and get involved in the whole process. But this negative effect is corrected in the long-run. It should be noted here that, Civil Liberty as a proxy for social stability in the short-run was not meaningful in explaining domestic investment.

The error correction terms were all negative and statistically significant indicating that there is a long-term equilibrium relationship of the models and also confirms the existence of a cointegration relationship among the variables.

The models reported a very high R-square signifying that the set of independent variables highly explains the variation of the dependent variable, domestic investment. Additionally, the probability values for the F-Statistic were all significant indicating that overall, the model is significant at one percent.
The error correction models above looks very impressive in terms of its quality as indicated by the results from the diagnostic tests shown in Table 5.12. The Durbin Watson values shows there is no autocorrelation in all the models. Additionally, the null hypothesis of normality, and homoskedasticity were accepted.

5.4 Time series estimates for South Africa

We investigate the impact of FDI on domestic investment in South Africa over 40 years. Before running our OLS estimation, we check for unit root for all variables used in the model.

Furthermore, we apply the Engle–Granger cointegration residual test for all models as shown in Table 5.14 and the results show that all the variables are co-integrated for all the models.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Constant I(0)</th>
<th>Constant and trend I(0)</th>
<th>Constant I(1)</th>
<th>Constant and trend I(1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>InDI</td>
<td>-0.657</td>
<td>-0.922</td>
<td>-3.599***</td>
<td>-3.571***</td>
</tr>
<tr>
<td>InFDI</td>
<td>-2.795*</td>
<td>-3.508**</td>
<td>-4.294</td>
<td>-4.296***</td>
</tr>
<tr>
<td>InRGDP</td>
<td>0.288</td>
<td>-0.995</td>
<td>-4.294</td>
<td>-4.296***</td>
</tr>
<tr>
<td>InTrade</td>
<td>-0.580</td>
<td>-1.549</td>
<td>-5.328***</td>
<td>-5.270***</td>
</tr>
<tr>
<td>NER</td>
<td>-0.736</td>
<td>-2.383</td>
<td>-5.073***</td>
<td>-4.999 ***</td>
</tr>
<tr>
<td>InCredit</td>
<td>0.177</td>
<td>-2.460</td>
<td>-5.253***</td>
<td>-5.213 ***</td>
</tr>
<tr>
<td>Inflation</td>
<td>-2.974**</td>
<td>-4.857***</td>
<td>-5.121***</td>
<td>-7.017***</td>
</tr>
<tr>
<td>Civil</td>
<td>-1.469</td>
<td>-2.550</td>
<td>-7.121***</td>
<td>-7.017***</td>
</tr>
</tbody>
</table>
The results of the test show that all the variables used were having unit root at levels except for InFDI and Inflation which were stationary at levels. But the non-stationary variables were stationary after first difference.

Table 5.14 ADF test of Residuals for South Africa

<table>
<thead>
<tr>
<th>ADF test statistic</th>
<th>Z(t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL I</td>
<td>-3.522***</td>
</tr>
<tr>
<td>MODEL II</td>
<td>-4.021***</td>
</tr>
<tr>
<td>MODEL III</td>
<td>-4.052***</td>
</tr>
<tr>
<td>MODEL IV</td>
<td>-4.031***</td>
</tr>
</tbody>
</table>

From Table 5.14, the P-values for the cointegration of the five regressions or models were all significant at 10 percent, 5 percent, and 1 percent, it shows that the residuals are all stationary at levels and that the variables are co-integrated therefore there is both a long-run and a short-run relationship among the variables. Since the Engle-Granger two-step estimation procedure was employed and thus requires a two-step estimation method for dynamic specifications, both the long-run and short-run models are estimated using OLS estimation.
The regression results on South Africa showed some interesting dynamism. The coefficient for InFDI in our baseline model (Model I) was -0.0027888. Thus, a percentage change in InFDI leads to a -0.0028 percentage change in InDI. This negative relationship or crowding out effect of FDI on domestic investment was not significant.

Trade openness showed a positive relationship with domestic investment with the t statistic being significant at 1 percent in Model I, II, III and IV. The results shows that trade liberalization has positively helped boost domestic investment in South Africa just as in Kenya in the long-run. This positive relationship could be explained that the opportunity to easily import and export strongly influences domestic investment.
Nominal exchange rate was consistently significant and negatively related to domestic investment in all the regression models. As the South African Rand depreciates against the US dollar, domestic investment shrinks by 8.1 percent all else equal in Model I. This reinforces the fact that, high depreciation of the local currency in South Africa cause a deleterious effect on the activities and operations of domestic investors since production cost tends to be on the rise in the long –run.

In Model II, we controlled for the availability of resources to domestic investors by including credit accessibility to domestic investors. This variable reported to be negatively related to domestic investment in the long run. That is, a percentage change in Incredit leads to -0.28 percentage change in InDI albeit insignificant. This relationship was equally evident in both the pooled regression and Model III and IV of Kenya’s equation albeit not significant in the model. The relationship may be from the fact that as more credit is made available to these domestic investors, they tend to invest in unproductive ventures. Also, the rate of corruption and bottlenecks in South Africa had been known to be on the high thus explaining the inverse relationship. In Model III, InFDI showed a positive coefficient but was still not significant just as in Model II.

Inflation equally was not significant in both Model III and IV. As aforesaid, Civil liberty was used as a proxy for social stability in Model IV. From this model, Civil Liberty was negatively related to domestic investment in the long –run. Notwithstanding the insignificance of the coefficient, improved civil liberties increases social instability thus decreasing domestic investment. But, this does not explain the variation of the domestic investment in the model.
The models reported a very high R-square signifying that the set of independent variables highly explains the variation of the dependent variable, domestic investment. Additionally, the probability values for the F-Statistic were all significant indicating that overall, the model is significant at 1 percent.

We subjected our time series models to the conventional test for autocorrelation, heteroskedasticity and normality of the residual. This is shown in Table 5.16

<table>
<thead>
<tr>
<th>MODEL</th>
<th>Durbin Watson</th>
<th>Heteroskedasticity (P-value)</th>
<th>Normality (P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MODEL I</td>
<td>1.049939</td>
<td>0.6466</td>
<td>0.022</td>
</tr>
<tr>
<td>MODEL II</td>
<td>1.130076</td>
<td>0.4315</td>
<td>0.0557</td>
</tr>
<tr>
<td>MODEL III</td>
<td>1.136634</td>
<td>0.4537</td>
<td>0.0624</td>
</tr>
<tr>
<td>MODEL IV</td>
<td>1.131051</td>
<td>0.4251</td>
<td>0.0512</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

The Durbin Watson values for the long run models are reported in Table 5.16. Using Breusch- Pagan test for heteroskedasticity, all the regression models were homoskedastic due to their high p-values. Thus we fail to reject the null hypothesis of constant variance. The Jarque-Bera test for normality of residuals all the models came out to be normal at different significance level except for model I. The residuals for Model II, III and IV are normally distributed at 5 percent significance level but not at 10 percent significance level.

5.4.1 Estimation of ECM South Africa

The short-run Models I, II, III, and IV provide information relating to the adjustments that occur between the different variables to restore the long-run equilibrium in response to the short-run disturbances of the domestic investment Models I, II, III, and IV. For these error correction models, the differenced variables and the lagged error correction term (EC-1) whose function is to ensure that the short-run deviations in
relation to the long-run relationship are corrected are thus regressed and reported in Table 5.17.

Table 5.17 Short-run parsimonious regressions for South Africa

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model I</th>
<th>MODEL II</th>
<th>MODEL III</th>
<th>MODEL IV</th>
</tr>
</thead>
<tbody>
<tr>
<td>( \Delta \ln FDI )</td>
<td>-0.0091301* (0.005275)</td>
<td>-0.0089439 (0.005651)</td>
<td>-0.009809 (0.005943)</td>
<td>-0.0101143 (0.0062)</td>
</tr>
<tr>
<td>( \Delta \ln RGDP )</td>
<td>0.9161281 (0.804748)</td>
<td>0.6319369 (0.978436)</td>
<td>0.7561914 (1.017257)</td>
<td>(0.7756002) (1.095)</td>
</tr>
<tr>
<td>( \Delta \ln Trade )</td>
<td>0.259483 (0.162118)</td>
<td>0.367295* (0.185823)</td>
<td>0.3445048* (0.193533)</td>
<td>0.3379894 (0.2094)</td>
</tr>
<tr>
<td>( \Delta \ln NER )</td>
<td>-0.0323637** (0.012942)</td>
<td>-0.0290087** (0.01354)</td>
<td>-0.0265958* (0.015031)</td>
<td>-0.0264831 (0.0161)</td>
</tr>
<tr>
<td>( \Delta \ln Credit )</td>
<td>0.1874984 (0.135214)</td>
<td>-0.184708 (0.137468)</td>
<td>-0.1901965 (0.1438)</td>
<td>-0.0009463 (0.003522)</td>
</tr>
<tr>
<td>( \Delta \ln Inflation )</td>
<td>0.0005059 (0.019584)</td>
<td>0.0170159 (0.023817)</td>
<td>0.0137474 (0.024739)</td>
<td>0.0131617 (0.0267)</td>
</tr>
<tr>
<td>( \Delta \ln EC )</td>
<td>-0.6565281*** (0.102972)</td>
<td>-0.6829815*** (0.113222)</td>
<td>-0.6906796*** (0.115843)</td>
<td>-0.6816063*** (0.1216)</td>
</tr>
<tr>
<td>( \Delta \ln CONS )</td>
<td>0.0005059 (0.019584)</td>
<td>0.0170159 (0.023817)</td>
<td>0.0137474 (0.024739)</td>
<td>0.0131617 (0.0267)</td>
</tr>
</tbody>
</table>

R-SQUARE | 0.7634 | 0.7552 | 0.7637 | 0.7575 |
ADJ R-SQUARE | 0.707 | 0.6778 | 0.6717 | 0.6434 |
F Stat | 13.55 | 9.77 | 8.31 | 6.64 |
Prob>F | 0 | 0 | 0 | 0 |
Sample | 27 | 26 | 26 | 26 |

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

From the short-run parsimonious regressions above, we could infer that the coefficient of \( \Delta \ln FDI \) was negative and significant in Model I which is our baseline model. A percentage change in \( \Delta \ln FDI \) leads to an approximate -0.009 percentage change in \( \Delta \ln DI \) all else equal. At 10 percent significance level, we reject the null hypothesis of FDI not having impact on domestic investment. In other words, we have
evidence that FDI indeed displaces domestic investment in South Africa over the study period.

\( \Delta \ln \text{RGDP} \) and \( \Delta \ln \text{Trade} \) were both insignificant and positively related to domestic investment in our baseline model but nominal exchange rate was highly significant at 5 percent significance level. That is, the depreciation of the South African Rand (an increase in NER) reduces domestic investment by 3.2 percent all things being equal. In Model II, our main independent variable \( \Delta \ln \text{FDI} \) was still having a negative coefficient but was not significant this time around. Meaning, we do not have enough evidence to reject the null hypothesis of FDI not having an impact on domestic investment. But \( \Delta \ln \text{Trade} \) was significant in Model II. With the positive coefficient, a unit increase in \( \Delta \ln \text{Trade} \) boost \( \Delta \ln \text{DI} \) by 0.36 percent ceteris paribus. This is to shed light on the importance of trade openness in positively influencing domestic investors' decision while holding all the other independent variables constant.

Nominal exchange rate in Model II again confirmed our a priori expectations of having a negative relationship with domestic investment. That is to say reiterate the fact that, domestic investors in South Africa definitely consider the prevailing exchange rate in making investment decision both in the short and long-run.

In Model III and IV, \( \Delta \ln \text{FDI} \) was still not significant in explaining domestic investment likewise real GDP, credit accessibility and inflation rate. It should be noted that trade openness and nominal exchange rate were both significant in Model III following the expected sign. Civil liberty introduced in the last model was negative related to domestic investment and insignificant in the short-run. This is again not far from truth. In the short-run, with their newfound freedom of belief, associational and
organizational rights, rule of law, and personal autonomy without interference, it indicates that the population engages in more violent and unrestful actions that have destabilizing effects across society: sustained strikes, street manifestations, attempted coups as the military sometimes follows suit and get involved in the whole process. It should be noted here that, Civil Liberty as a proxy for social stability in the short –run was not meaningful in explaining domestic investment.

The error correction terms, EC (-1) for all the models were highly significant with a probability value approaching almost zero. The negative coefficient of the error correction term confirms the existence of long –term equilibrium relationship of the model and also confirms the existence of a cointegration relationship among the variables in all the models.

The models reported a very high R-square signifying that the set of independent variables highly explains the variation of the dependent variable, domestic investment. Additionally, the probability values for the F-Statistic were all significant indicating that overall, the model is significant at 1%.

Table 5.18 Diagnostic Tests for Short –run parsimonious regressions

<table>
<thead>
<tr>
<th>Model</th>
<th>Durbin Watson</th>
<th>Heteroskedasticity(P-values)</th>
<th>Normality(P-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model I</td>
<td>0.9244837</td>
<td>0.9828</td>
<td>0.1902</td>
</tr>
<tr>
<td>Model II</td>
<td>0.8698506</td>
<td>0.4317</td>
<td>0.5018</td>
</tr>
<tr>
<td>Model III</td>
<td>0.8653011</td>
<td>0.3921</td>
<td>0.5597</td>
</tr>
<tr>
<td>Model IV</td>
<td>0.8783099</td>
<td>0.3753</td>
<td>0.5534</td>
</tr>
</tbody>
</table>

Note: *** Significant at 1% level; ** Significant at 5% level; * Significant at 10% level

The error correction models above looks very impressive in terms of its quality as indicated by the results from the diagnostic tests shown in Table 5.18. The Durbin Watson values are reported. Additionally, the null hypothesis of normality, and
homoscedasticity were accepted. Thus, all our models are not suffering from heteroskedasticity and the residuals are normally distributed.

5.5 Policy Recommendation

Our research work showed that FDI was not a significant driver of domestic investment in the pooled sample but real GDP, trade, exchange rate, inflation, and credit were strong predictors of investment in SSA. As to recommendations, policymakers in this region should really put measures in place to foster the growth of the economy. Economic growth entails a host of factors including improvement in human capital, infrastructural development among others. A growing economy suggests well-established infrastructures like roads, electricity, telephone, internet access, airports, vibrant and working public institutions among others which goes a long way to significantly reduce the cost of doing business. Thus, decision makers for this region should earmark a significant portion of their GDP towards investment in the home country. Some countries like China, Japan, and South Korea just to name a few have adopted similar policies of boosting their domestic investments and are now enjoying the gains from such policy. These indicators in place will definitely boost the investment climate in the region.

In South Africa to be particular, we suggest the government introduce a selective treatment policy regarding the enticement of foreign investors into the country especially with the sectors already flooded by local investors. If not, this will definitely worsen the plight of the country by shooting unemployment rate via the displacement of local businesses. In the effort to attract these foreign investors, there should be strong policies to safeguard and protect small and growing domestic investments from the market
stealing mechanism and open up for more inward foreign investment in sectors where FDI is having a spillover on domestic investment.

Furthermore, volatility of the exchange rate should be contained. A stable exchange rate and inflation rate will definitely be a good indicator of a stable economy and a congenial one for business. In addition, increasing openness to international trade is associated with significant growth rates. The research is to inform policymakers in Kenya and South Africa that trade policies have played a huge role in domestic investment. As such, trade policies that encourage specializations in areas of comparative advantage, import substitution strategies should be enacted fortified by the stability in the exchange rate and inflationary rate. Both governments rather should be redirecting it spending towards economic and social infrastructure that promotes both traditional and nontraditional exports. The region should also fight corruption and bottlenecks in the system to give a leeway for credit to positively impact local investment.
CHAPTER SIX
CONCLUSION

This theses investigated the impact of FDI on domestic investment in Kenya and South Africa during the period of 1972 - 2011. Using SSA for our preliminary discussions, the study employed pooled OLS to examine the relationship between FDI and domestic investment in both Kenya and South Africa. After applying this econometric technique, the study found that there is no relationship between the inflows of FDI and domestic investment during the study period. In other words, the study did not have enough statistical evidence to prove that FDI has any crowding-out or crowding-in effect on domestic investment in the SSA region in all four models.

Controlling for other independent variables that strongly predicts domestic investment in SSA, real GDP and trade openness came out strongly significant and positive in explaining domestic investment in all the four models. Additionally, nominal exchange rate and inflation were consistently having a negative impact on domestic investments in all models. This is to suggest that, high inflationary rate and constant depreciation of the local currency over the study period showed disinvestment on the part of local investors. Surprisingly, domestic credit to investors showed a consistently negative effect on domestic investment in Model II, III and IV. This relationship could emanate from the fact that, more credit is made available to these domestic investors, they tend to invest in unproductive ventures. Civil liberty which was used as a proxy for social stability was negatively correlated with domestic investment but was insignificant.

Conducting an individual investigation through time series for each country, we found out that FDI in both the short-run and the long-run had no impact on domestic
investment in Kenya. But FDI displayed a crowding-out effect in our baseline model (Model I) in the short-run period. This is to suggest that South Africa in the attempt of attracting more FDI to counterbalance the fall in domestic investment was rather hurting domestic enterprises in the short-run.

Real GDP and trade openness were positively related to domestic investment in both the short and long-run periods in Kenya. In South Africa, real GDP was an insignificant determinant of domestic investment in both the short-run and long-run period whiles trade in the long-run was a positive determinant of domestic investment in South Africa. Additionally, trade was positive but significant in only Model II and III.

Nominal exchange rate had a negative relationship with domestic investment in the short-run period in Kenya but this was not significant. However, it was a determining variable to Kenyan investors in the long-run. A persistent decline in the value of the Kenyan shillings against the US dollar in the long-run negatively affected domestic investment. Comparatively, the depreciation of the South African Rand against the US dollar was negatively related to domestic investment in the short-run. In opposition to local investors in Kenya, local investors in South Africa do consider the prevailing exchange rate to be really critical in their decision to invest in the short-run. But this negative relationship was not significant in the last short-run model. In the long-run, South Africa shared the same story of Kenya where the persistent decline in the South African Rand against the US dollar negatively affected domestic investment and was significant.

Domestic credit accessibility in Kenya was significant and positively related to domestic investment in the short-run period for Model II. However, the opposite was
observed in South Africa where domestic credit was having a negative relationship with
domestic investment albeit insignificant in all the short–run models. In the long–run,
domestic credit was not a significant determinant of domestic investment in Kenya. This
was in consonance to the work of Oshikoya (1994) who found no empirical relationship
between bank credit and private investment for Morocco, Tanzania, and Zimbabwe. On
the other hand, domestic credit evinced a significant and negative relationship with
domestic investment in the long–run period for Model II.

Controlling for macroeconomic stability, high inflation rate was negatively
correlated with domestic investment in Kenya in both the short–run and the long–run.
On a general note, inflation increases the cost of capital and thus negatively affecting the
profit of domestic firms and subsequently discouraging both old and potential investors.
Conversely, this was not a determining factor in South Africa. In addendum, civil liberty
which was used as a proxy for social stability was not a significant determinant of
domestic investment in both countries.

In a nutshell, this theses established that in the pooled sample, FDI was not a
consequential driver for domestic investment. In the time series analyses, FDI had no
impact on domestic investment in Kenya in both the short and long–run period but
exhibited a crowding–out effect on domestic investment in South Africa in the short–
run.
References


Appendix

Appendix 1: Summary statistics for Kenya

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Appendix 2: Pairwise correlation for Kenya

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Appendix 5: Pairwise correlation for South Africa

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Appendix 6: Pair wise correlation for South Africa (with dependent variable)

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