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INSTITUTIONS AND FOREIGN DIRECT INVESTMENTS: EVIDENCE FROM SOUTHERN AFRICAN COUNTRIES (2009 - 2015)

BY

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DECLARATION

I, the undersigned, do hereby declare that this Dissertation is a result of my own original research and that no part of it has been presented for examination in any other University.

Signed_____ Date_____

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DEDICATION

To my father Kabanga Aleck Muleya, may you find pride in my academic achievement!

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ABSTRACT

The study sought to analyse the factors that influence FDI inflow in the Southern Africa region with particular emphasis on institutions using panel data of Southern African countries for the period 2009 to 2015. FDI expressed in billions of United States dollars was regressed on institutions, government expenditure (%GDP), market size as proxied by gross domestic product per capita, gross fixed capital formation (%GDP) representing infrastructure development and total trade (%GDP) proxing trade openness. The study ran two separate regression models employing the fixed and random effects models. The first model used a composite measure of institutions which was found by averaging the value of six governance indicators; and the other model employed only the control of corruption to proxy institutions. Results from the first model showed that institutions do not matter in attracting FDI in the region and the second regression model with corruption as a measure of institutions showed that corruption actually has had a positive impact on FDI inflow in the region post the 2008 global financial crisis. From the results of the study, it is recommended that instead of encouraging corruption or not improving institutional quality, responsible authorities should rather improve institutional environment especially reducing corruption and dealing with any bureaucracy or inefficiency that hinders smooth flow of FDI. The Southern African region governments should also conduct due diligence on the kind of FDI and type of investors so that needed investments flow into the region to ensure that positive impact of FDI on economic development will be realized in the long run. In addition, the governments should also revise their expenditures downwards, consider removing trade barriers and implement policies that increase market size in order to attract FDI in their respective countries.

TABLE OF CONTENTS

List of Tables

List of Figures

LIST OF ACRONYMS

ARDL	Auto Regressive Distributive Lag
COMESA	Common Market for Eastern and Southern Africa
EAC	East African Community
FDI	Foreign Direct Investment
FE	Fixed Effects
GDP	Gross Domestic Product
GDPP	Gross Domestic Per Capita
GFCF	Gross Fixed Capital Formation
GLS	Generalized Least Squares
GMM	Generalized Method of Moment
GOVEXP	Government Consumption Expenditure
INF	Inflation
INFR	Infrastructure
MNCs	Multi National Countries
NIE	New Institutions Economies
OLS	Ordinary Least Squares
OECD	Organization for Economic Co-operation and Development
POP	Population
RE	Random Effects
SADC	Southern African Development Community
TR	Total Trade
UAE	United Arab Emirates
WB	World Bank
WTO	World Trade Organization

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.0 Introduction

In the past decades, many African countries have prioritized undertaking reforms in line with tax, trade, market, infrastructure and finance in the hope that they can attract foreign direct investment[1] (FDI) as an engine of economic growth, (Abdulla et al., 2012); (United Nations, 2010). Countries in the Southern African region[2] have joined regional economic blocs in order to attract FDI. Some of these countries are members of the Southern African Development Community (SADC), the Common Market for Eastern and Southern Africa (COMESA), the World Trade Organization (WTO), the tripartite East African Community (EAC) - SADC-COMESA and the Rand Monetary Union. SADC has developed policies and procedures encouraging FDI, placing funding directly into production, instead of accumulating it through the sale of stocks and bonds.

FDI inflow in the Southern Africa region seems to respond well to these reforms. FDI inflow in the region has followed an upward trend since 2010. In 2014 and 2015, the region had the highest FDI compared to other regions on the African continent. In 2015, FDI inflow into the region was about 18 billion United States dollars, while North Africa was the second region with about 12.6 billion United States dollars, (UNCTAD, 2016). This shows a great difference and imply that the Southern African region is doing very well as compared to other regions in absolute terms.

The region is showing to be able to attract FDI in a weak institutional environment. According to statistics from the worldwide governance indicators, only South Africa, Botswana and Namibia have institution values which lie in the positive side but not high enough to be considered to be strong institutions in the region. The rest have persistent negative average value institution indexes as it shown later in this chapter.

In light of the above considerations, the study is therefore motivated to investigate whether improvement in the institutional environment will further increase FDI inflow in the region and

[1] Foreign Direct investment (FDI), as defined in Dictionary of Economics, is direct investment into production or business in a country by a company in another country, either by buying a company in the target country or by expanding operations of an existing business in that country.

[2] Southern African region consists of 10 countries namely: Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe.

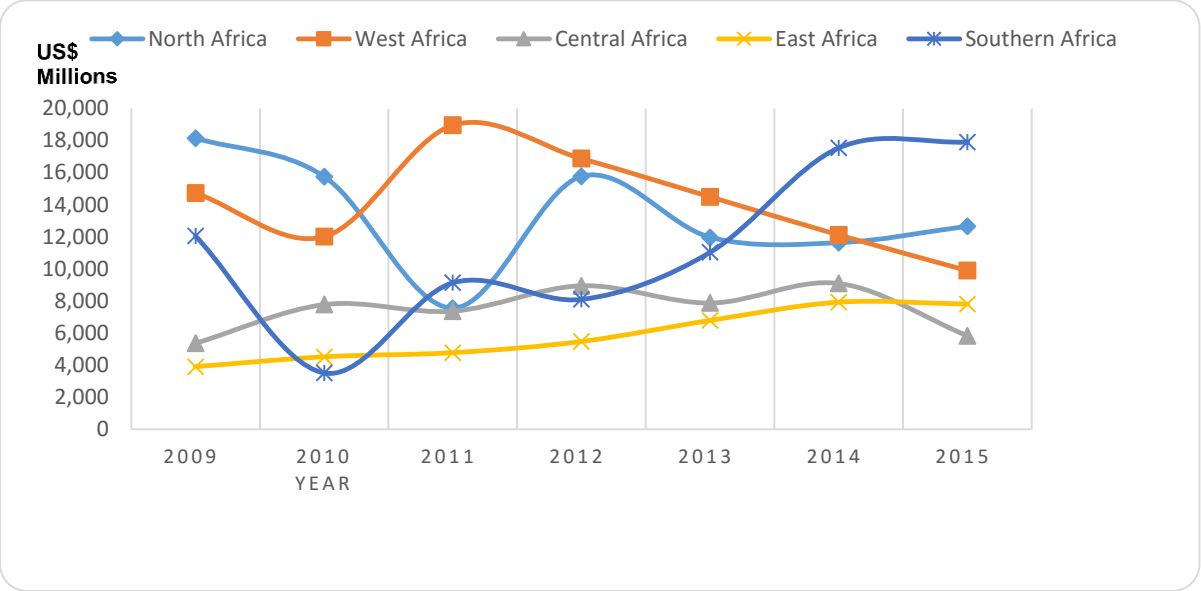
possibly allow other countries in this same region to attract significant FDI in their countries. The study is also going to contribute by examining the other factors that contribute in FDI inflows.

1.2 Background of the study

Foreign direct investment has been an important component of development success stories in developing countries around the world including Southern African countries. However, although the Southern African region has of late performed well in attracting FDI among other African regions as depicted in Figure 1 below, it is still lacking far much behind in attracting FDI when compared with other regions of developing economies outside Africa.

1.2.1 Overview of FDI inflows in Southern Africa and other African regions

Figure 1: Overview of FDI inflows in Southern Africa and other African regions: 2009-2015

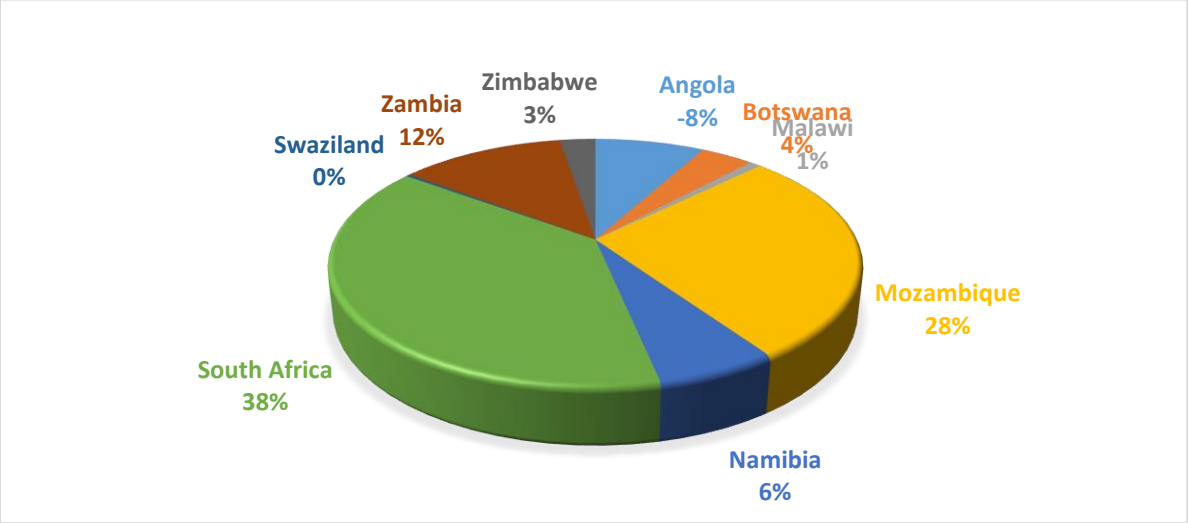


Source: UNCTAD database 2016

Figure 1 above shows the inflow of FDI to Africa by region from 2009 – 2015. It can be noted that from 2009 to 2013, the Southern African region recorded average performance in attracting FDI as it was better than East Africa and Central, but it performed below North Africa and West Africa regions. In the years 2014 and 2015, the Southern African region became the highest in attracting FDI in Africa. However, this is only good news at regional level but sad news for some countries at country level as explained below.

Bringing the analysis down to country level in the Southern African region, it is revealed that South Africa is the recipient of the bigger share of the regional FDI. The FDI share for each country is shown in the pie chart in Fig 2 below.

Figure 2: Share of FDI inflow stocks in US$ Millions for Southern African countries: 2009- 2015

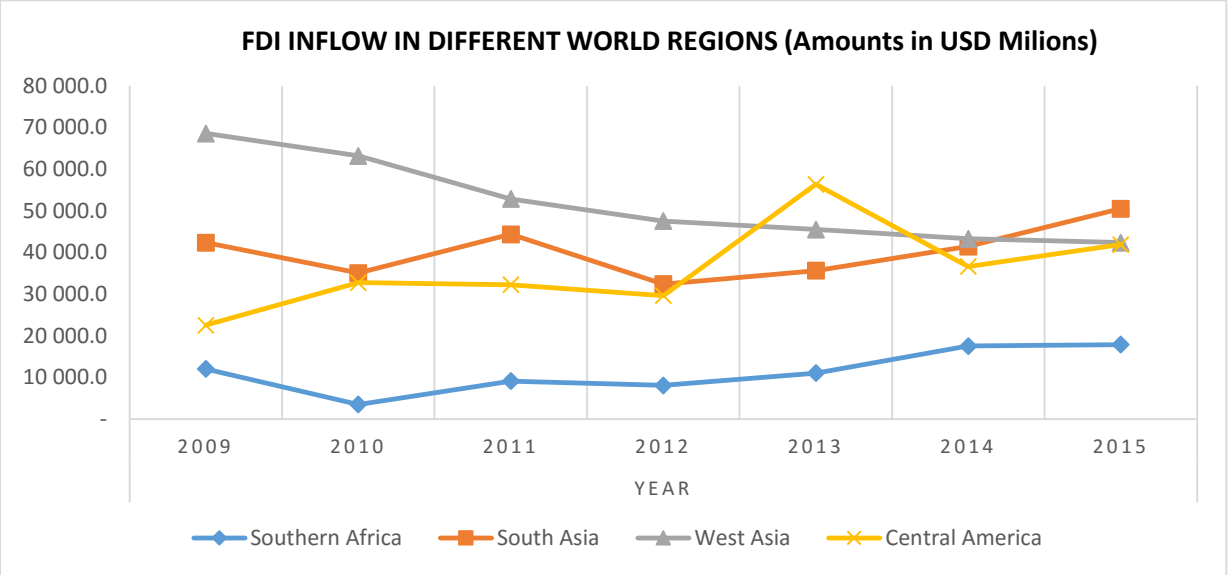


Source: UNCTAD database 2016

Figure 2 above shows that 38% of FDI inflow into the Southern African region goes to South Africa alone. Mozambique, Zambia and Namibia are also good performers because they have better shares than the rest of the countries. Angola is the worst performer as its net FDI inflow is negative 8%. This means that the region can do better in terms of FDI inflows if the individual countries can improve on FDI inflows.

1.2.2 Overview of FDI inflows in Southern Africa and other different world regions

Figure 3: Overview of FDI inflow in Southern Africa and other different world regions: 2009-2015



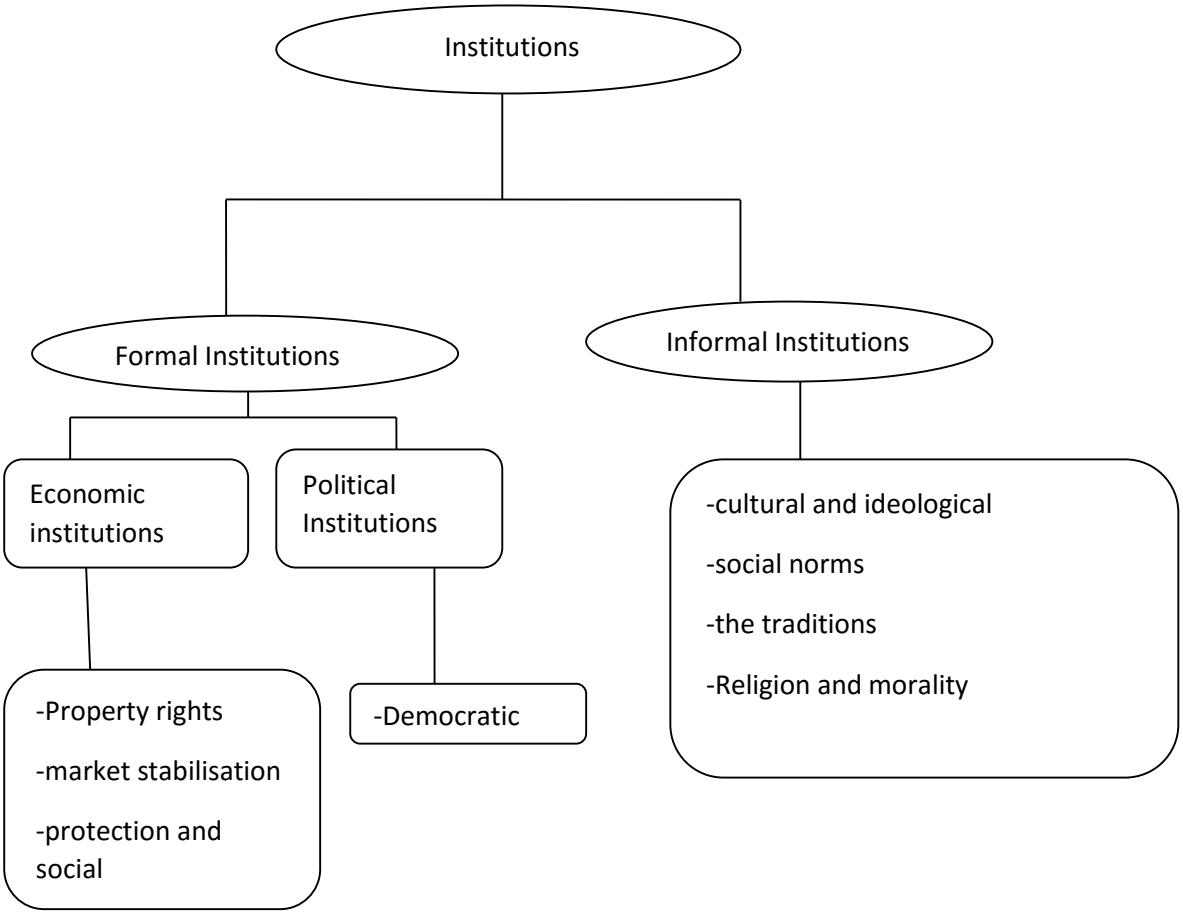
Source: UNCTAD database 2016

It can be seen from the graph above that the Southern African region has been the worst performer in attracting FDI during the period under review as compared to other regions of the world, indicating that even though it is a good performer among African regions, more still needs to be done for the region to become competitive in attracting FDI on the global arena. Therefore, this study seeks to find out the impact of institutions on FDI inflows into the Southern African region.

1.2.3 Definition of institutions and Institutional environment in Southern African region

North (1990) defined institutions as the set of formal and informal rules that govern human interactions. According to North, the analysis of the institutions helps to clarify their economic performance based on their organizational behavior and change management. North asserted that the well-functioning institutions represent an indispensable factor of attracting FDI. The diagram below summarises institutions as defined by North.

Figure 4: Types of institutions



As explained in the introduction, many African countries have prioritized embarking on reforms in line with taxes, trade, market, infrastructure and finance in the hope that they can attract as much inward FDI as possible since it is believed to be an engine of economic growth. However, as noted by Abdulla *et al.* (2012), little is done on institutional reforms in these countries especially in Southern Africa, yet literature states that investors are much sensitive to the quality of institutions when making investment decisions.

Institutional environment in Southern African region is poor and there are generally weak institutions. Estimates of governance (institutions) range from approximately -2.5 (weak) to +2.5 (strong). The table below shows the values of the average of six measures of governance indicators which are voice and accountability, regulatory quality, control of corruption, government effectiveness, rule of law and political stability .In the exception of Botswana,

Namibia and South Africa, all other countries have relatively weak institutions as shown by negative rankings in the table below.

Table 1: Institutional rankings in Southern Africa

	2009	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**
ANGOLA	-1.03	-1.01	-1.05	-1.00	-1.06	-1.03	-1.03
BOTS	0.65	0.67	0.68	0.71	0.68	0.63	0.66
MOZ	-0.24	-0.27	-0.33	-0.35	-0.50	-0.55	-0.62
NAMIB	0.33	0.30	0.30	0.35	0.36	0.27	0.31
SWAZI	-0.09	-0.09	-0.10	-0.10	-0.09	-0.09	-0.09
SA	0.26	0.25	0.26	0.20	0.24	0.20	0.17
ZAMB	-0.35	-0.36	-0.28	-0.19	-0.22	-0.27	-0.28
ZIM	-1.58	-1.55	-1.48	-1.41	-1.36	-1.31	-1.20
MALAWI	-0.25	-0.29	-0.34	-0.34	-0.40	-0.42	-0.44

Source: Worldwide Governance Indicators (2016)

Another measure of institutions looks at corruption only. Transparency international defines corruption as the misuse of public power for private gain. This nongovernmental organization compiles a corruption perception index and ranks 176 countries and States from a scale of 100 (very clean countries) – 0 (highly corrupt countries).

Table 2: Corruption perception index for Southern African countries

Country	Rank	2012	2013	2014	2015	2016
Botswana	35	65	64	63	63	60
Namibia	53	48	48	49	53	52
South Africa	64	43	42	44	44	45
Zambia	87	37	38	38	38	38
Malawi	120	37	37	33	33	31
Mozambique	142	31	30	31	31	27
Zimbabwe	154	20	21	21	21	22
Angola	164	22	23	19	15	18

Source: Transparency International 2017

Looking at table 2 above, it shows that most Southern African countries are highly corrupt. Bearing in mind that the index is from hundred which implies a clean country to zero implying high level of corruption, we see that the score of these countries since 2012 is below 50, hence implying that there is high level of corruption in these countries. The exception is Botswana which has a score of above 60 although the index follows a downward trend since 2012 and fell by 5 points from 2012 to 60 in 2016. In the world rankings, the country is number 35 out of 176 countries. Namibia is somehow sitting at the middle that is around a score of 50 and is among top 53 better countries in terms of corruption.

However, the index of around 50 cannot allow us to say the country is clean but it shows rather that there is also a problem of corruption although it is not as serious as in Mozambique, Zimbabwe and Angola. Angola proves to be the worst country in the region and in the whole world on corruption. In the world ranking it occupies position 164 with a corruption index of around 20. This therefore implies that there are weak institutions in Southern African region in general, thus motivated the researcher to do a study to investigate whether institutions matter in the flow of FDI.

1.3 Problem Statement

As noted in the background, the Southern Africa region is doing relatively well in attracting FDI as compared to other African regions. However, the region is underperforming in FDI

inflows when compared to different regions of the world. This points to the fact that the Southern Africa region can do better in attracting more FDI.

As explained in the introduction section above, many African countries have prioritized embarking on reforms in line with taxes, trade, market, infrastructure and finance in the hope that they can attract as much inward FDI as possible since it is believed to be an engine of economic growth. Yet, little has been done on institutional reforms but literature, North (1990), states that investors are much sensitive to the quality of institutions when making investment decisions.

The ability of the region to lure foreign investment in a weak institutional environment motivated the current study to do an investigation to see if there is an improvement in institutions, can this lead to further increase in inward FDI in the region. In other words, the study seeks to investigate the impact of institutions on FDI inflows into the Southern Africa region. The investigation will also seek to identify other determinants of FDI inflow in the Southern African region.

1.4 Research Objectives

The overall objective of the study is to investigate the determinants of FDI in the Southern Africa region.

Specifically the study wants to investigate:

- Whether institutional factors or variables matter for attracting FDI.
- Other factors other than institutions that are important in attracting FDI

1.5 Research Questions

The study will be guided by the following research questions:

- Do institutions matter for attracting FDI in the Southern African region?
- What other factors affect FDI in the Southern Africa region?

1.6 Justification of the study

Most studies done on this topic focus on a specific country or investigate the whole of Africa. The studies include those conducted by Wheeler and Mody (1992), Asiedu (2006), Kim (2010), and Bbale and Nnyanzi (2016), among others. Few studies have been done focusing on countries in one geographical region. In addition, literature on the determinants of FDI flow to African countries after the 2008 Global Financial Crisis is scarce and this situation has

prompted the study to focus on the period post the 2008 Global Financial Crisis. The results will be of use to policy makers on the issues that need to be addressed to further increase FDI inflow in the region. The results will also help in explaining whether the uneven distribution of FDI inflow in the region is linked to quality of institutions.

This study is necessary because it is going to focus on countries in one geographical region and also it is going to be useful to many countries in the Southern African region that are struggling to design policies to attract FDI inflows. Policies to promote FDI inflows are needed so that countries achieve maximum benefits of globalization.

1.7 Organization of the rest of the study

In addition to chapter 1, the study has chapter 2 on literature that reviews theoretical and empirical literature on the determinants of FDI inflows. Chapter 3 discusses the methodology of the study, whereas chapter 4 presents study findings or results. The study ends with chapter that contains conclusion, policy recommendations, limitations of the study, and areas of further study, as informed by the study results.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

Several theories have been put forward by various economists to explain FDI. However, no single theory fits the different types of FDI made by a particular multinational corporation or country in any region. In the next sections, various theoretical reviews, as well as empirical reviews on the determinants of FDI are made. The summary and conclusion of the literature review are given at the end of the chapter.

2.1 Theoretical Literature Review

2.1.1 The New Institutional Economics (NIE) Theory

According to the New Institutional Economics (NIE) theory, the definition and enforcement of property rights is through rules and regulations that enhance economic performance through reduction of transaction costs and uncertainty. Benassy et al (1970) therefore proposed that FDI is affected by three things namely; institutions through their influence on transaction costs that are related to investment, uncertainty and prospects of productivity. FDI is elastic to transaction costs of investments that may delay production. Therefore by implication countries characterized by high corruption rates, continuous wars and strikes, disrespect of the rule of law and macroeconomic instabilities are likely to be less attractive to FDI inflows compared to those with a stable macroeconomic and institutional environment.

North (1990) argued convincingly that good institutions such as quality regulatory frameworks, administrative bodies, and judicial systems are prime determinants of FDI and long term economic prosperity. On the other hand, bad institutions such as absence of punishment for high level of corruption, inefficient protection of civil and property rights and absence of economic and political freedom particularly have been associated with less FDI.

However, as Glaeser *et al.* (2004) argued, political institutions may not influence FDI inflows; FDI inflows instead are an outcome of economic policies pursued by Government. Similarly, it has been argued on the other hand that high level of corruption can be transaction facilitating and therefore FDI inflows enhancing, Hunting (1998).

The New Institutional Economics Theory (NIE) appears to be applicable in many countries and can be relied upon in explaining the FDI inflows into a country. Therefore, in light of this study, the theory provides a useful explanation of the role of institutions in explaining FDI inflows in various countries.

However, the theory fails to note the importance of the resource rich country factor in FDI. For example, Zimbabwe cannot attract FDI in oil mining because it has no oil deposits. In addition, the theory also does not take into account the importance of infrastructural developments, for example, power generation capacities, roads and rail as a major determinant of FDI. The theory also lacks universality in application as it does not satisfactorily explain FDI determinants in all countries.

2.1.2 The Eclectic Theory

The Eclectic Theory, also known as "OLI''; that is Ownership, Location and Investment approach was developed by John Dunning (1977, 1988) and provides a framework for analyzing the determinants of FDI and activities undertaken by multinational enterprises. According to this theory, a firm has to meet three preconditions to successfully engage in international investments activities. These conditions are:

(i) Ownership advantages such as scale economies and better technologies;

(ii) Locational advantages such as policy, economic and institutional factors. A key issue under Locational advantages concerns the difference between "horizontal'' and "vertical'' FDI. In an attempt to improve access to foreign consumers market, a company locates a plant abroad and this is Horizontal FDI. As a result, domestic production facilities are replicated at a foreign location.

On the other hand, Vertical FDI seeks to avail costs of production that are low in a foreign market as opposed to producing for sale in a market that is foreign. Ordinarily, the parent company maintains its headquarters in the home country, and the ownership advantages can result in a flow of services from headquarters to the plant in the host country.

(iii) Internalization advantages which are associated with protecting the proprietary assets of foreign firms from being replicated by other competing firms, especially domestic firms.

Dunning (1988) stated that the OLI triad of variables in the determination of FDI and activities of multinational corporations is replicative of a three legged stool where its functionality is dependent on the even balancing of all the three legs. This means that a firm having ownership and locational advantages will find it more profitable to produce abroad than to produce domestically and export its product(s); however, if there are no internalization gains then the firm will be better off licensing its ownership advantage to foreign firms.

As noted by Peter (2008), the theory has proved as a fruitful way of thinking about multinational companies and has great deal of applied work in economics and international business. However, the OLI framework has some shortcomings. Firstly, it does not directly make a distinction between vertical and horizontal motives by multinational corporations in having production facilities overseas. Secondly, the theory is less effective in explaining mergers and acquisitions. Nevertheless the Eclectic Theory remains a way of enormous use of thinking about one of the most important features of world economy.

2.1.3 The Product Cycle Theory

The Product Cycle Theory came into being in 1966 by Vernon and provides useful insights on analyzing FDI. According to the theory, the labour and all parts associated with that product will be sourced from the place in which it could have been invented and keeping production of the product at home in the proximity of customers will be the firm's choice. After adoption of the product and the subsequent use in world markets, gradually the product starts being produced elsewhere other than the place of region and thus the inventors will be investing in foreign firms either to expand the market or to source for cheap factors of production.

The Theory can explain historical development of FDI quite well. It provides a good explanation for FDI inflows into a country where FDI is undertaken by huge multinational corporations who tend to export products to other countries as they search for new markets.

However, the theory fails to recognize the fact that investors may seek diversity and would therefore invest in different businesses across countries. In recent years, the international system of production has become too complicated to be precisely explained by the Product Life Cycle Theory. For example, new products are often introduced simultaneously in many countries at the same time. In addition, the theory fails to recognize other key determinants of FDI that include market size and growth, trade openness, infrastructure, labor costs, and macroeconomic environment.

2.1.4 Hymer FDI Theory

Hymer FDI Theory gives an analysis of what cause foreign investment. The Theory was discovered by Stephen Hymer in 1960 in his doctoral dissertation[3] where he postulated that foreign direct investment, which is the movement of capital across international boundaries involving both ownership and control is influenced by two main reasons.

The first one has to do with cautious use of assets for the safety of investments and the other reason is about going international. The second reason is driven mainly by the desire to control production by removing competition and have access to particular skills, capital, market or technology. The essence of Hymer's theory is that firms operating abroad have to compete with domestic firms that are in an advantageous position in terms of culture, language, legal system and consumer's preference. Hymer concluded that success of FDI is dependent upon markets imperfections that can trigger advantages and conflicts where implementing foreign direct investment can reduce competition of firms. Thus, elimination of conflicts that may arise in the market can be done by companies; in the process making the companies benefit from their specific advantages.

As Caves (1971) noted, the Hymer Theory articulates the point that the advantages are transmitted effectively from one unit to another of that firm, irrespective of the fact that are either located in one country or in more than one country. However, a number of factors influence the choice between FDI and licensing /exports, including local government policy, local market conditions and size, the reactions of rival firms and the riskiness of the investment. Thus, it is argued that possessing firm specific advantages do not necessarily mean investment abroad as firms might very well exploit their advantages through exporting or licensing. In addition, Hymer's thesis does not form a complete explanation for FDI because it fails to explain where and when FDI takes place.

2.1.5 FDI Theory based on strength of currency

Aliber (1970) pioneered to explain FDI on the basis of the strength of currency. He anchored his theory on the basis of differences in the strength of the currencies in recipient and source country. He postulated that weaker currencies compared with stronger investing country currencies had a higher capacity to attract FDI in order to take advantage of differences in the

[3] Hymer's dissertation was subsequently published in book form in 1976

market capitalization rate. Aliber had tested his hypothesis and found the result to be consistent with FDI in the United States, the United Kingdom and Canada.

Although Aliber claimed that it was an alternative theory, and may be a valid explanation for direct investment in developed countries, it does not seem to be a particularly relevant to that in less developed countries with highly imperfect or non-existent capital markets and with heavily regulated foreign exchanges (Lall, 1976). Among other notable studies in the same genre are Caves (1988), Froot and Stein (1991).

Even though Aliber's theory found wide support, the theory does not provide an explanation for investment between two developed countries that have currencies of equal strength. Furthermore, the relevance of the theory cannot explain the investment of a developing country's (weaker currency) MNCs in a developed country (stronger currency). Recent investment in the United States and the United Kingdom by Indian and Chinese firms can be cited as examples.

Almost all the theories reviewed in the above sections are based on a Western developed world perception. Few theories have been formulated that explain FDI from developed Asian countries such as Japan.

One of the first theories on FDI from Asian developed countries was put forward by Kojima (1973, 1975, and 1985) mainly with regard to FDI outflow from Japan. He argued that the inability of firms to compete domestically in Japan had compelled them to look for investment opportunities abroad. He was of the opinion that the more efficient local firms were pushing the less competent firms out of the local market. As a result, the weaker firms were moving overseas, especially to other developing countries. However, Kojima's hypothesis failed to explain the expansion of business activities in international markets by the domestically competent firms.

2.2 Empirical Review

There are various empirical studies carried out by various researchers on the determinants of FDI. Some studies found positive influence and some produced negative influence, while others found no effect of institutions on FDI. In addition to institutions, other variables were found to be influential on FDI inflows as explained below.

A significant relationship between quality of institutions and FDI inflows were found through studies that used indicators measuring particular institutional quality aspects such as corruption

and effectiveness of legal systems. On the other hand, studies that did not find a relationship employed a composite measure of institutional quality. That is they computed an average value of the six governance indicators to form one composite measures of institutions.

For example, Wheeler and Mody (1992) combined different indicators of institutional quality such as corruption and rule of law. However, it is likely that different types of institutions may have different effects on FDI.

Asiedu (2006) employed an unbalanced panel data for 22 African countries over the period 1984–2000. The study findings were that endowments of natural resources, infrastructure that is good, large local markets, a framework for investment that is good and an efficient legal system promote FDI. On the other hand, political instability and corruption were found to have a negative impact on FDI. However, the study did not look at the possible linkage between institutions, trade liberalization, financial development and FDI which might have an effect on the results obtained.

Bbale and Nnyanzi (2016) researched on the role of institutions in explaining FDI inflows to SSA over the period 1996-2013. The panel regression was based on the fixed effects estimator with country fixed effects and robust standard errors. The research showed that institutional quality matters for FDI inflows but this nexus may further be influenced by trade and capital account liberalization as well as financial deepening.

Gani (2007) used panel data for 164 developed and developing countries over the period 1996-2006 and estimated the econometric model using the fixed effects approach. The estimation provided evidence that one standard deviation change in institutional quality improves FDI inflows by a factor of 1.69, thus confirming that institutions were influential in FDI. However, the institutional variable used was only corruption, yet a more broad variable set could have been used to give a better outcome because institutions go beyond corruption. Other variables are: control of corruption, rule of law, government effectiveness, political stability and lack of violence, regulatory quality, and voice and accountability.

In contrast to the findings that good quality institutions are essential for FDI inflow, a study by Kim (2010) found evidence in support of the argument that countries with high level of government corruption and low level of democracy instead have higher FDI inflows while FDI is lower for those countries with greater political rights. Kim (2010) used a sample period from 1990 till 2002 spanning 28 countries and three different empirical techniques were performed on the panel data so as to strengthen empirical results. Firstly, the pooled ordinary least squares

(OLS) was performed, and the second one was the generalized least squares (GLS) for the cross-sectional time-series linear, and thirdly was the random effects estimation of the panel data.

According to the findings of the research, hosting countries with higher political rights experience higher FDI outflows following the control for macroeconomic variables and this is supported by Lucas (1990). Secondly, FDI inflows are more in those countries where democracy is low and government corruption is rampant. And thirdly, corruption and FDI inflows have a positive correlation, and FDI has an inverse relationship with the level of democracy.

It can be concluded that there may be good reasons to expect this positive correlation between corruption and FDI. For example, a bureaucracy that is not efficient maybe motivated through corruption where officials offer to remove obstacles in return for bribes and those willing to pay bribes invest more and may end up enjoying monopoly power in a foreign country. Again due to inefficient systems in some country, corruption act as a helping hand to fast track the investment procedures. Foreign investors are rent seekers, if a country is corrupt a company may find it easy to evade taxes, invest in illegal businesses and be able to smuggle in and out goods.

In addition, Egger and Winner (2005) found out that corruption, acting as a helping hand, can sometimes be an incentive for inward flow of FDI. Using panel data estimation on 73 developed and less developed countries and for the time period 1995–1999, they find a positive relationship between corruption and FDI, and concluded that corruption can indeed be a stimulus for some kinds of FDI.

Alshammari *et al.* (2015), found out that institutions, as measured by political stability and absence of violence have no effect on FDI. Political stability and absence of violence did not yield significant effect in the model developed from Ordinary least squares (OLS) regression.

A research by Wheeler and Mody (1992) showed that US foreign affiliates where not affected in their location decisions by a composite measure of risks based on institutional variables like instability on the political field, legal system, corruption and bureaucratic red tape. The study was estimated by the dynamic generalized method of moments (GMM) specification. By employing the GMM estimator, it attempted to address some common empirical problems in the cross country FDI literature such as the unobserved country heterogeneity and the dynamics of the FDI process. However, assessment of individual variables used was made impossible by

the aggregation of their index with other variables like terrorism risk, lack of equality and living environment.

While theory predicts that investor friendly institutions enhance a country's ability to attract FDI, Onyeiwu and Hemanta (2004) found no significant relationship between the quality of institutions and inward FDI by using panel data study and fixed effects estimation model. This is attributed to the differences in the institutional indicators used in empirical work, for example, property rights.

While some studies like Asiedu (2006), showed that secure property rights strongly affect the levels of FDI positively, other Onyeiwu and Hemanta (2004), found an insignificant effect due to the use of different measure of property rights. In addition, the type of estimation also matters in the results. For example, a study that is done on panel estimations gives different results from a study done on cross-sectional estimations. Most empirical studies, like Onyeiwu and Hemanta (2004) showed that the problem of endogeneity is not accounted for when FDI is linked to institutions. In their argument, Benassy-Quere *et al.* (2007) stated that where there is pressure on governments to improve institutions due to absence of FDI, endogeneity arises thereby causing reverse causality.

2.3 Conclusion

There are various theories in the literature that seek to explain the determinants of FDI as well as the correlation between FDI and institution and other variables. It has been shown through theoretical and empirical literature that the quality of institution matters in attracting FDI. On the other hand, it has also been shown that institutions have no significant relevance on attracting FDI while some researchers found out that institutions such corruption and political variables have a negative influence on attracting FDI. Therefore it follows that the debate on the importance of institutions in attracting FDI remains an empirical one. Most of the researches done used panel data analysis. Few studies analyzed the relationship between institutions and other determinants of FDI in one country, but focused on a group of countries. Main econometric estimation methods used include the generalized method of moments (GMM), Ordinary Least squares (OLS), GLS, ARDL, fixed and random effects models. Of the above models, the fixed effects and random models are relevant to this study and therefore the study shall make use of the fixed effects and random effects models on the basis of explanations given in Chapter 3.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter explains the methodological steps that were used to examine the impact of institutions and other potential variables on the flow of FDI to the Southern African region. The chapter will explain the theoretical framework and the specification of the empirical model, the estimation technique that was used and the definitions of the variables. Data sources will also be stated in this chapter.

3. 1 Theoretical Framework and Empirical Model

In order to examine the impact of institutions and other variables on inward FDI to Southern African countries, the study follows Dunning's (1977, 1988) theoretical framework. The model is specified as follows:

$$fdi_{it} = \beta_0 + \gamma' inst_{it} + \rho' x_{it} + \varepsilon_{it} \quad \text{.....1}$$

Where FDI_{it} stands for foreign direct investment, *i* represent a country and *t* time. Institutions are represented by $inst_{it}$ while X_{it} are other explanatory or control variables that were found to affect FDI from previous studies. $\beta_0, \gamma', \ and \ \rho'$ are constant term, vector of parameters for institutions and vector of parameters for control variables to be estimated, respectively and ε_{it} is the error term. Included in X_{it} are variables that capture market size, financial development and macroeconomic stability.

Inserting the actual variables, the model will be as follows:

$$fdi_{it} = \beta_0 + \beta_1 fdi_{i,t-1} + \beta_2 insti_{i,t-1} + \beta_3 gdpp_{i,t-1} + \beta_4 pop_{i,t-1} + \beta_5 gfcf_{i,t-1} + \beta_6 tr_{i,t-1} + \beta_7 infl_{i,t-1} + \beta_8 infr_{i,t-1} + \beta_9 govexp_{i,t-1} + \varepsilon_{it} \quad \text{.....2}$$

Where FDI_{it} denotes foreign direct investment as % of GDP

$insti_{i,t-1}$ is institutions

$gdpp_{i,t-1}$ is gross domestic per capita

$pop_{i,t-1}$ is population

$gfcf_{i,t-1}$ is gross fixed capital formation as a % of GDP

$tr_{i,t-1}$ is total trade as a % of GDP

$infl_{i,t-1}$ is inflation rate

$infr_{i,t-1}$ is infrastructure

$govexp_{i,t-1}$ is government consumption expenditure as a % of GDP

The above model used composite measure of institutional quality from the six categories that is the average value of institutions from the six different categories of institutions which are voice and accountability, regulatory quality, control of corruption, government effectiveness, rule of law and political stability.

A panel data analysis will be used to investigate the determinants of FDI for three scenarios namely:

(i) Southern Africa region using data for the nine countries and an average value for the six institutional indicators.

(ii) The second model will use control of corruption as a measures of institutions

3.2 Estimation Procedure

There are many ways of estimating panel data from the literature. There is generalized method of moments (GMM) estimator which is designed for short time-dimension and large-N (cross sectional units), Blundell and Bond (1998). The disadvantage with GMM is that it uses too many instruments such that GMM estimators will have a relatively large standard deviation compared to other methods like the fixed effects (FE) estimator, Arellano and Bond (1991).

There is also the robust pooled ordinary least squares (OLS) and the robust maximum likelihood optimization of the generalized linear model (GLM). These methods allow estimation in the presence of AR (1) autocorrelation within cross-sectional correlation and heteroscedasticity across panels (Anyanwu, 2011).

Panel data can also be estimated using the fixed effects (FE) and random effects (RE) models. Fixed effects model assumes that the individual specific effect is correlated with the independent variables while the random effect model assumes that the individual specific effect is uncorrelated with the explanatory variables. According to Baltagi (2001), the fixed-effects estimator is consistent when lagged values of the dependent variable are included and when the time dimension t is large while the RE is appropriate for small time dimension and small cross sectional units. However it was found that the results from all these techniques were

similar in most cases, Bbale & Nnyanzi (2016). Thus, a choice shall be made between the FE and RE as explained in detail below.

3.2.1 Fixed effects and Random effects model

The model using panel data can be expressed as follows.

$$y_{it} = x_{it}\beta + \varepsilon_{it}$$

Y is the dependent variable, x is vector of explanatory variables and β is the vectors of parameters to be estimated, *i* stand for individual or country in this case and *t* represents time period and ε_{it} is the error term.

The error term is then decomposed into two:

$$\varepsilon_{it} = \alpha_i + \mu_{it}$$

Where α_i is a time invariant individual specific effect, that is, it may vary across cross sections or individual variables but is constant over time. This component may or may not be correlated with the independent variables, Johnston and DiNardo (1997). μ_{it} is assumed to be uncorrelated with the explanatory variables and it varies unsystematically or independently across time and individuals. It is the treatment of the individual effect α_i that differentiates the fixed effects model with the random effect model. The distinction is whether this individual specific effect is correlated or not with the explanatory variables. The RE assumes that this individual specific effect is uncorrelated with the explanatory variable while the FE assumes that it is correlated with the explanatory variables.

Although these two methods differ in the way they treatα_i, it was observed that when the RE model is valid, the FE also produces consistent estimates. The FE model was found to be robust when we omit any time invariant regressors from the model. If *t* (time) is large and *n(*number of cross sectional units) is small, both the FE and RE produces similar results but when *t* is small and *n* is large, estimates obtained from these two models will differ significantly (ibid, 1997). In the latter case FE will be appropriate but the cross-sectional units in the sample must not be randomly selected while RE model is appropriate when cross-sectional units were randomly selected.

3.3 Hausman Test

This is the method that can be used to test which model is best between the FE and RE models (Gujarati, 2003). If α_i uncorrelated with the explanatory variables, the random effects estimator

will be consistent and efficient but the fixed effects estimator will only be consistent but not efficient. In the case that the individual specific effect are correlated with the explanatory variables, it will be the fixed effects estimator that will be consistent and efficient while the random effects estimators will be now inconsistent.

It is a hypothesis test with the null hypothesis that the random effect estimator is correct and the alternative stating that the fixed effect model is appropriate. The test follows a Chi-square distribution with k degrees of freedom. The test statistics will be computed as follows.

$$h = (\hat{\beta}_{RE} - \hat{\beta}_{FE})'(\sum_{FE} - \sum_{RE})\,(\hat{\beta}_{RE} - \hat{\beta}_{FE}) \sim X_K^2$$

Thus h_0: $Co\ (Xit, \alpha_i) = 0$

h_1: $(Xit, \alpha_i) \neq 0$

Failure to reject the null hypothesis implies that the RE model is appropriate and otherwise we will fail to accept the RE model.

3.4 Definitions and Justification of Variables

Dependent variable

Foreign direct investment expressed in billions of United States dollars are the net inflows of investment into a host country to acquire a lasting management interest that is at least 10 percent in a business organization operating in a foreign country particular to that investor (World Bank, 2017). It is the total of capital in equity, earnings that are reinvested, and other long and short-term capital. Investments that are new less disinvestments in the host country gives us net FDI inflows. The study uses the actual figures of net FDI expressed in billions of United States dollars. As a result, it should be noted that FDI can be positive or negative. This is the dependent variable.

Institutional Variables

Estimate of governance ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance (World Bank, 2017). Institutional variables are either political or economic. In this study, political variables are government effectiveness, political stability, corruption, and voice and accountability; economic institutional variables are regulatory quality, and rule of law.

Interaction between political institutions and economic institutions is important in FDI determination as good political institutions lead to good economic institutions because the

realm of economic policy formulation and implementation is driven by political institutions. It is expected that good institutions will have a positive impact on FDI.

Voice and accountability Index captures the perceptions at which the citizens of a country participate in selecting their governments, freedom of expression, freedom of association and a free media. In general this institutional index implies a democratic country which is believed to be important at minimizing the possibility of election driven strikes and riots. It is expected that this index will have a positive impact on FDI.

Regulatory quality Index captures the ability of the government to formulate and implement sound policies and regulatory framework aimed at promoting the private sector. Some policies like more corporation tax on foreign corporations are not in favor of foreign investors. Transnational corporations are part of private sector in an economy and a government that aims at promoting the private sector is likely to attract FDI inflows. In Zimbabwe, the Indigenization and Economic Empowerment policy does not favor foreign investors as it gives them 49% or less shareholding stake, yet foreign investors are eager to have more than 49% shareholding. Thus, the Indigenization and Economic Empowerment policy has exacerbated the scarcity of FDI in Zimbabwe. Thus a positive relationship is expected.

Corruption Index measures the extent to which public power is exercised for private gains. Holmes et al. (2008) defines corruption as the failure of honesty in the system, a distortion by which some individuals are able to gain personally at the expense of others. Corruption might scare away foreign investors since it is considered illegal and in most cases leads to operational inefficiency of the whole economy. Corruption was found to hinder FDI inflows by (Voyer and Beamish, 2004, Khamfula (2007), and Al-Sadig 2009). Conversely, noting that African governments are characterized by excessive red tape, unnecessary bureaucracy and centralized power, corruption can speed up the process of going up the hierarchy of power and makes it easier for transnational corporations to pursue investment procedures.

In light of the foregoing assertion, there are studies that found a positive relationship between corruption and FDI. The argument is that corruption might be a stimulus for some kinds of FDI. Egger and Winner (2005) stated that corruption might act as a helping hand and can sometimes be an incentive for attracting FDI. Kim (2010) also found out that FDI inflows are higher in countries with high level of government corruption and low democracy level than in countries with the opposite scenario; while FDI inflow was found to be lower for countries

with greater political rights. A positive or negative relationship is expected. In the case of Zimbabwe, a negative is expected because FDI inflows have been minute in the past owing to rent seeking behavior by senior government officials who allegedly demand kickbacks to license foreign investors. In addition, corruption is blamed for poor tender management systems in Government where an undeserving bidder wins the tender at the expense of a competent bidder because of bribes. For example, the resuscitation of Zimbabwe Iron and Steel Company failed to take of five years after Essar Holdings Private Limited won the tender, but later failed to deliver due to lack of capacity.

Government Effectiveness Index measures the quality of public and civil services and the ability to formulate and implement good policies free from political pressures. This will ensure policy consistency and policy credibility. It is expected that government effectiveness will be positively related to the inward FDI in a country. In Zimbabwe, formulation of good policies is done, but the policies fail on implementation because of inconsistencies in policies implementation and as a result, FDI has not been coming into the country.

Rule of law index captures the quality of contract enforcement and also the likelihood of crime and violence. It measures the perceptions of the extent to which economic agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police and the courts, as well as the likelihood of crime and violence. A country with weak rule of law, weak contract enforcement mechanisms, no respect of property rights is likely to attract low FDI inflows. Thus a positive relationship is expected.

Political stability and absence index measures the likelihood that the government can be destabilized either through civil disobedience or overthrown by unconstitutional means. Stable countries are expected to attract high levels of FDI inflows in the country since rational investors will prefer politically stable economies to unstable ones. A study by Clarke and Logan (2008) showed that FDI flows are greater to countries that have less political risk. However countries with civil wars and continuous social unrest are likely to attract high FDI since that instability will provide opportunities for looting and a high demand for weapons and drugs for the soldiers. Thus foreign investors might take advantages of the political instability to make high profits. Assuming all investors are rational and risk averse, a positive relationship between political stability and FDI inflow is expected

Other explanatory variables

Gross Domestic Product Per Capita GDP is the sum of gross value added by all producers in a country despite their citizenship plus any product taxes minus any subsidies not included in the value of the products (World Bank, 2017). This is a proxy for market size. From empirical literature we expect positive relationship between market size and FDI inflows; (Johnson, 2006 and Mateev, 2008).

Total population is a proxy for market size again. Total population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship (World Bank, 2017). The values shown are midyear estimates. Foreign investors are market seekers hence a positive relationship is expected.

Trade (% of GDP) – Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product (World Bank, 2017). It is proxy for trade openness. Investors prefer to invest in countries with no strict trade barriers so that they can access cheap raw materials from other countries (Onyeiwu and Hemanta, 2004). Market seeking investors might also need to participate in the international markets or international trade without facing trade barriers. Hence FDI is expected to be positively affected by trade openness.

Inflation (as measured by GDP deflator). Inflation reflects the annual percentage change in the cost of living. It is the change of cost of acquiring a basket of goods and services by an average consumer (World Bank, 2017). This is a proxy for macroeconomic stability. Inflation indicates macroeconomic instability (Buckley et al., 2007). Inflation has been found to negatively affect FDI inflows (Nnadozie and Osili, 2004). A stable macroeconomic environment will thus attract FDI inflows hence a negative relationship is expected.

Gross fixed capital formation (% of GDP) includes land improvements such as putting fences, ditches, drains etc.; the purchases of plant, machinery and equipment and the construction of roads, railways, schools, offices, hospitals, private residential dwellings, and commercial and industrial buildings (World Bank, 2017). It measures infrastructure development and good infrastructure reduces the cost of operation to firms. A positive relationship is expected.

Government consumption expenditure (% of GDP) includes all government current expenditures for purchases of goods and services (including compensation of employees) (World Bank, 2017). It also includes most expenditure on national defense and security. The level of government consumption expenditure can indicate the extent of government involvement in the economy. Recent economic reforms by countries both developed and developing are aiming at reducing the relative size of the government. Small government

expenditure might imply fewer taxes thus creating a conducive environment for robust private investment both domestic and foreign. Again relatively large government investment tends to "crowd out" private investment in an economy (Mkenda and Mkenda, 2004). On the other hand, high levels of government expenditure in areas like infrastructure development is beneficial to private investors since good infrastructure will enable smooth operation at low cost. Furthermore, if government spends in the country (local procurement), this will boost demand for locally produced goods and the foreign investors will tend to benefit too. However, it is argued that a larger share of government expenditure in Africa goes for recurrent expenditures like payment of salaries for civil servants not capital expenditures. In this sense, we expect a negative relationship between government consumption expenditure and FDI inflows.

3.5 Nature of data and data sources

The study used panel data obtained from the World Bank database; the world development indictors and worldwide governance indictors for the period 2009 - 2015. It is data for nine[4] Southern African countries. Lesotho was excluded due to data unavailability.

3.6 Conclusion

This chapter outlined the methodology that was employed in this study. Model specification, estimation technique, and the definitions and justification of variables included together with the prior expectation were outlined. The next chapter will present results after employing the methodology explained in this chapter.

[4] Southern Africa region consists of ten (10) countries namely: Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe. However Lesotho was left out due to data unavailability on most variables.

CHAPTER FOUR

RESULTS ESTIMATION, PRESENTATION AND INTERPRETATION

4.0 Introduction

In this chapter, actual results from the regression models as well as their interpretations are presented. Tests that were done on data are presented. This chapter forms the basis of chapter five which is the concluding chapter.

4.1 Descriptive Statistics

Table 3: Descriptive Statistics

	FDI	GDPP	GFCF	GOVEXP	INF	INSTI	MOBI	POP	TR
Mean	1.28E+09	3373.722	21.63766	18.02411	10.55835	-0.263151	70.58660	16460440	90.07070
Median	5.98E+08	3804.240	20.50190	18.87449	7.279562	-0.254192	63.47921	14565482	95.06895
Maximum	9.28E+09	7623.128	43.05132	26.15595	156.9640	0.712461	167.2976	54058647	127.5450
Minimum	-7.12E+09	389.1872	3.285910	2.047121	-0.217286	-1.579341	10.66390	1153750.	48.78787
Std. Dev.	2.79E+09	2598.196	8.099439	4.699250	19.37044	0.623868	39.84267	15025515	22.17632
Skewness	0.191678	0.250329	0.458471	-0.726337	7.022627	-0.424968	0.686621	1.179534	-0.146759
Kurtosis	5.521758	1.601379	2.694570	3.987665	53.50620	2.374740	2.730246	3.803527	1.845685
Jarque-Bera	17.07884	5.792846	2.451938	8.100086	7213.881	2.922520	5.141215	16.30349	3.723816
Probability	0.000196	0.055220	0.293473	0.017422	0.000000	0.231944	0.076489	0.000288	0.155376
Sum	8.05E+10	212544.5	1363.173	1135.519	665.1759	-16.57851	4446.956	1.04E+09	5674.454
Sum Sq. Dev.	4.83E+20	4.19E+08	4067.257	1369.143	23263.27	24.13110	98421.20	1.40E+16	30490.93
Observations	63	63	63	63	63	63	63	63	63

Source : Extracted from E Views using data from the WDI (2017)

Table 3 is showing that the observation for each variable is 63 which is 7 time periods multiplied by a cross sectional units or countries. The average value of FDI in the region from 2009-2015 is about US$1.28 billion, while the maximum FDI inflow was US$9.28 billion. The mean value of institutions is also negative 0.26 which indicates that the institutional environment in the region has been weak under the study period. The summary statistics are showing that most variables are normally distributed as their mean and median are close to each other. There is no problem of outliers as the skewness from the variables is small.

4.2 Multicollinearity test

Table 4: Correlations table

	FDI	INSTI	INFL	LNGDPP	LNGFCF	LNGOVEXP	LNPOP	LNTR
FDI	1.000000							
INSTI	0.017089	1.000000						
INFL	-0.656850	0.222840	1.000000					
LNGDPP	0.747748	-0.136310	-0.971052	1.000000				
LNGFCF	0.556576	-0.377320	-0.286847	0.219534	1.000000			
LNGOVEXP	0.031870	-0.231655	-0.727309	0.646513	-0.287778	1.000000		
LNPOP	0.357245	-0.183596	-0.831186	0.851434	-0.225882	0.884985	1.000000	
LNTR	-0.334285	0.195940	0.708062	-0.766172	0.230030	-0.752898	-0.946945	1.000000

Source : Extracted from E Views using data from the WDI (2017)

Table 4 is showing the correlations among the variables. As has been explained in chapter three, if the correlations coefficient is above 0.8 it implies there is a problem of multicollinearity between those variables. Hence, they must not enter in a regression equation together. We will have to drop one of the variables. From our table we can see that the variable lnPOP which is population is highly correlated with many variables. It is negatively correlated with inflation with a correlation coefficient of -0.83 and trade openness (-0.95). The same variable is also positively correlated with GDP per capita and government expenditure and the correlations coefficient are 0.85 and 0.88 respectively. The researcher henceforth decided to drop the variable population which was the proxy of market size which is also being captured by GDPP per capita. Therefore, this might not affect our results much. Inflation is correlated with per capita GDP with the correlation coefficient of minus 0.97. Since we need the variable that proxy for market size as well as macroeconomic situation, GDP per capita is capable of doing that. Therefore, the inflation variable has been dropped from the estimation equation.

4.3 Regression results

After test of multicollinearity, the fixed and random effects model were run. The study first ran the model with the average value of six governance indicators to measure institutions. The second model was run with only the control of corruption as a measure of corruption.

4.3.1 Model one when average value of the six indicators of governance proxy institutions.

Table 5: Correlated Random Effects-Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f	Prob
Cross-section random	0.000000	5	1.0000

Both the fixed and random effects model were run. The Hausman test was conducted in order to determine which model was the best. The results of the test are presented below in table 5. The null hypothesis states that the random effects model is appropriate while the alternative hypothesis is that the fixed effects model is the one that is appropriate. Since the p-value is large and is actually 1 it implies that we cannot reject the null hypothesis implying the random effects model is an appropriate model in this case. However, the results that we got from the two models are exactly the same as has been hypothesized by Johnston and DiNardo (1997). The results are presented below.

Table 6: The Fixed effects model regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.917481	193.0929	-9.930352	0.0000***
INSTI	0.1929479	15.64837	1.233022	0.2235
LNGDPP	0.2448224	22.50665	10.87778	0.0000***
LNGFCF	0.1116086	6.694612	1.667140	0.1019
LNGOVEXP	-0.4415184	5.229070	-8.443536	0.0000***
LNTR	0.1537088	5.023120	0.306003	0.7609
R-squared=0.919104			F-statistic=42.82450	
Adjusted R-squared=0.897642				
Durbin-Watson stat=2.793623			Prob(F-statistic)=0.00000	

****, **, * means significant at 1%, 5% and 10% respectively*

Source : Extracted from E Views 7 using data from the WDI (2017)

Table 7 :Random effects Model

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.917481	193.0929	-9.930352	0.0000
INSTI	0.1929479	15.64837	1.233022	0.2226
LNGDPP	0.2448224	22.50665	10.87778	0.0000***
LNGFCF	0.1116086	6.694612	1.667140	0.1010
LNGOVEXP	-0.44.15184	5.229070	-8.443536	0.0000***
LNTR	0.1537088	5.023120	0.306003	0.7607
R-squared= 0.919104				F-statistic= 129.5223
Adjusted R-squared=0.912008				
Durbin-Watson stat=2.793723				Prob(F=statistic)=0.00000

****, **, * means significant at 1%, 5% and 10% respectively*

Source : Extracted from E Views 7 using data from the WDI (2017)

As can be seen from the results tables, only two variables are statistically significant and these variables are gross domestic product per capita (GDPP) which proxy market size and government expenditure (GOVEXP). Institution, which is the variable of interest is not statistically significant at all convectional levels. Trade openness and gross fixed capital formation which proxy infrastructure development is also not statistically significant at any convectional level. The results imply that foreign investors are mainly attracted by market size and the government's revenue collections, institutions, infrastructure development as well as trade openness do not matter for FDI in Southern Africa.

The institutions have a positive sign which implies that a positive relationship exists with FDI but the variable is not statistically significant. As a result, it can be said that FDI inflow in the region is independent of the quality of institutions; that is whether they remain weak or they are improved, this will not have an impact on FDI, according to these results.

The results of this study are not unique, some studies found the similar results that institutions do not matter for FDI for example (Wheeler and Mody (1992), Onyeiwu and Hemanta (2004) and Alshammari et al (2015)). It is argued however in literature that using a composite measure

of institutions is likely to give misleading results. It is likely that different types of institutions may have different effects on FDI. A significant relationship between quality of institutions and FDI inflows were found through studies that used indicators measuring a particular institutional quality aspects such as corruption and effectiveness of legal systems, (Asiedu (2006) , Gani (2007 and Bbale and Nnyanzi (2016)). The study therefore picked corruption which was the governance indicator with a different prior expectation from the other governance indicators. The regression results of control of corruption used to measure institutions will be presented in the next section.

The sign of the coefficient of GDPP is positive implying there is a positive relationship with FDI. More specifically, a unit increase (one dollar increase) of GDPP will results in about 24% increase in FDI inflow in the region. This shows a huge impact of market size on FDI and this also implies that the region is attracting markets seeking investors. The higher the income per capita implies higher demand for their products hence they are motivated to invest.

The other variable, government expenditure show a negative relationship with FDI since the sign of the coefficient is negative. The results are showing that a one unit (one dollar) increase in government expenditure as a percentage of GDP will result in a fall of FDI by about 44%. High government expenditure implies high taxation since the government does not go to work and hence it does not earn income on its own. When the government spend, the taxpayers will have to finance those expenses. They are however other sources of government financing like borrowing from the financial sector within the country, or from bilateral and multilateral credit organizations. The government can use the funds from its public corporations provided they are making profits and the rents from minerals.

However in many developing countries, for example in Zimbabwe, the public owned enterprises or parastatals often operate on losses and do not make profits but rely on government financing. Whether the government is financed by loans or debt, those loans will eventually need to be paid through taxes. The tax payers in an economy are business and workers and foreign investors or business are not an exception in the payment of those taxes. Thus the foreign investors do not like to invest in countries where there is high government expenditure in fear of burdening tax obligations. Thus these results makes sense in the case of the southern African region where most governments are relying on taxes to finance their expenditures.

4.3.2 The model when control of corruption index is used to proxy institutions

Table 8: Fixed effects

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.149969	133.1402	-16.14815	0.0000***
CRP	-0.1913562	4.148054	-4.613155	0.0000***
LNGDPP	0.2605885	15.58834	16.71689	0.0000***
LNGFCF	0.3445897	4.099981	0.840467	0.4047
LNGOVEXP	-3920890	4.273753	-9.174349	0.0000***
LNTR	0.1495656	4.405371	3.395074	0.0014***
R-squared=0.941850				F-statistic= 61.04947
Adjusted R-squared=.926422				
Durbin Watson stat=3.206427				Prob(F-statistic)=0.0000

***, **, * *means significant at 1%, 5% and 10% respectively*

Source : Extracted from E Views 7 using data from the WDI (2017)

Table 9: RE Model

Variable	Coefficient	Std. Error	t-statistic	Prob
C	9.149969	133.1402	-16.14815	0.0000***
CRP	-0.1913562	4.148054	-4.613155	0.0000***
LNGDPP	0.2605885	15.58834	16.71689	0.0000***
LNGFCF	0.3445897	4.099981	0.840467	0.4042
LNGOVEXP	-0.3920890	4.273753	-9.174349	0.0000***
LNTR	0.1495656	4.405371	3.395074	0.0013***
R-squared=0.941850				F-Statistic=184.6435
		Adjusted R-squared=0.936749		
Durbin-Watson stat=3.206427				Prob(F-statistic)=0.0000

****, **, * means significant at 1%, 5% and 10% respectively*

Source : Extracted from E Views 7 using data from the WDI (2017)

In this model where corruption measure institutions, many variables that were not statistically significant in the first model are significant in this model. Institutions and Trade openness become statistically significant at 1 % level of significance. Gross fixed capital formation (GFCF) which proxied infrastructure development is consistently insignificant at all levels as in the first model, however.

Our variable of interest corruption, is statistically significant at 1% level of significant with a negative sign. This means that there is a negative relationship between quality of institutions and FDI. As control of corruption improves, FDI inflows decline. In other words, there is a positive relationship between FDI and corruption. The higher the corruption level the higher the FDI inflow. More specifically, an increase in control of corruption by one standard deviation will result in FDI falling by 0.19 units (billions of dollars). Conversely, a fall of the control of corruption by one scale unit (implying high level of corruption) FDI will increase by 0.19 points. This means that corruption levels in the region is having a positive impact in

attracting FDI[5]. The results actually make sense, if we look at the institutions figures and FDI inflow in the background sections (table 1.2) we see that the countries that attract high FDI are indeed highly corrupt. South Africa has a larger share of FDI in the region and its corruption perception index is between 40 and 45 since 2012.

The second best performing country in attracting FDI is Mozambique which has a more serious corruption problem. The country is number 142 out of 176 countries. The country is among the 35 worse countries in corruption and its scores of corruption perception index is barely around 30 which is more close to zero highly corrupt than to 100 clean countries. Botswana has lower levels of corruption as shown by its corruption perception index scores of above 60 since 2012. The country is also among 35 best countries with lower levels of corruption. The country is attracting less FDI as compared to the highly corrupt countries in the same region. The worst in the region and in the world in corruption levels is Angola. Surprisingly it is not attracting FDI as the results are suggesting[6].

However it is not only institutions that matter in bringing in foreign investors. Other factors like trade openness, government expenditure and market size matter. Again these results are not unique to the Southern African region, there are many studies that found that corruption have a positive relationship with FDI. Noting that African economies are characterized by excessive red tape, unnecessary bureaucracy and centralized power, corruption is believed to speed up the process of going up the hierarchy of power and makes it easier for transnational corporations to pursue investment procedures. Kim (2010) found evidence in support of the argument that countries with high level of government corruption and low level of democracy instead have higher FDI inflows while FDI is lower for those countries with greater political rights. Egger and Winner (2005) found out that corruption, acting as a helping hand, can sometimes be an incentive for inward flow of FDI.

On the other hand, the positive relationship between corruption and FDI might not be due to inefficient systems in the region but may actually represent kind of FDI or type of foreign investors. It is possible that some risk taking foreign investors like to invest in countries where

[5] This may be true in line with one school of thought which argues that corruption greases the wheels of economic activity and provision of services. It therefore implies that where corruption facilitates foreign investors' manoeuvres to avoid government bureaucracy and red tape, FDI easily flows into that country.

[6] This scenario may be caused by substitution of FDI with bilateral aid agreements that may not necessarily reflect the FDI inflow position of the country.

there are poor institutions so that they can evade taxes, become monopolies, venture in illegal business and smuggle banned products in and out of the country. These activities are possible only in a corrupt environment where public officials can be bribed. If FDI is of this type it will be more of looting investment and thus might not be beneficial to the host or receiving country in the long run.

Market size as proxied by gross domestic product per capita (GDPP) is statistically significant at 1% level and has a positive sign as expected. The results are showing that a dollar increase in GDPP will results in an increase in FDI by approximately 26%. This dollar per capita increase will yield a high value number of expenditure through the multiplier effect. Hence a larger number of FDI inflow due to just unit increase is expected. This implies that the region is dominated by market seeking foreign investors. South Africa which has high GDP per capita of above $7000, WDI (2017) on average during the study period is attracting a significant share of FDI in the region. Mozambique has been growing at a rate above 8% for the past decade and its GDP although still low was on an upward trend during the study period and FDI inflow increased as well. This shows that the results are consistent with what is on the ground.

Government expenditure is also statistically significant at 1% level of significance. The coefficient has a negative sign implying that government expenditure has a negative impact on the flow of FDI in a country. The results imply that a unit increase in government expenditure as a percentage of GDP will result in a fall of FDI by 39%.The possible explanation is that high government expenditure imply high taxes to finance those expenditures. Taxes reduce firm's income or profits and thus are not favourable. Hence it is reasonable for firms to shun away from countries with high government expenditure. Infrastructure development variable (GFCF) is not statistically significant at all levels implying that infrastructure development does not matter in attracting FDI in the region[7].

Trade openness is statistically significant in this model and has a positive sign. This is showing that there is a positive relationship between FDI and trade openness. The results imply that a unit increase in total trade as a percentage of GDP will results in an increase in FDI by14%. Foreign investors might want less trade barriers so that they can import cheap raw materials,

[7] This result may have been influenced by the mismatch of variables used in the model because infrastructure appears to be important for FDI. For example, investors who wish to invest into coal mining for export may be concerned with the availability of road and rail network to ship the coal, and similarly an investor who intends to set up a cement manufacturing plant in a foreign country may be concerned with the availability of electricity; hence infrastructure may be a key determinant for FDI.

or finished goods to sell in their firms. This will not be easy or actually possible if there are tight import controls.

4.4 Conclusion

The study found out that institutions in general do not matter for FDI and corruption was found to have a positive impact, however. The results are not unique but are consistent with what was found in the literature. The study findings differ, however, with the researcher prior expectations. The next chapter is going to give a full summary of the findings as well as policy recommendations.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

5.0 Introduction

In this chapter, summary and conclusions of the study, as well as policy recommendations deriving from the study findings will be presented. Suggested areas of further study are also outlined in this chapter.

5.1 Study Summary and Conclusion

The study sought to analyze whether institutions and other control variables have an impact on FDI inflow in the Southern African region. The study used a panel of nine Southern African countries (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Zambia and Zimbabwe) selected basing on data availability. FDI expressed in billions of United States dollars was regressed on institutions, government expenditure (%GDP), market size proxied by gross domestic product per capita, gross fixed capital formation (%GDP) representing infrastructure development and total trade (%GDP) proxing trade openness. The study period was 2009 -2015 which is the period post the 2008 Global Financial Crisis.

The study ran two separate regression models with the first model using a composite measure of institutions which was found by averaging the value of the six governance indicators (voice and accountability, regulatory quality, control of corruption, government effectiveness, rule of law and political stability) for that year for a country. The second model used control of corruption to proxy institutions.

In the first model, the results from the fixed and random effects model were exactly the same and they showed that institutions do not matter in attracting FDI since the coefficient was not statistically significant at all significant levels. Trade openness and infrastructure development were also found to be insignificant factors in explaining FDI inflow in the region. Market size and government expenditure were the only significant explanatory variables. The results showed that market size has a positive relationship with FDI while government expenditure has a negative impact.

The second regression model with corruption as a measure of institutions showed that corruption has a positive impact on FDI. The same model also showed that trade openness and market size positively impact while government expenditure has a negative influence on FDI

inflow in the region post the 2008 Global Financial Crisis. Infrastructure development was found to be an insignificant explanatory variable again as in the first model.

5.2 Policy Implications and Recommendations

It is important to understanding that FDI is not demanded for its own sake but it is needed for its perceived positive influence on economic performance of a nation. The study found that the composite measure of institutions does not explain FDI and that actually high level of corruption has a positive influence on FDI. This does not then imply that the responsible authorities should not be worried about quality of institutions. Instead, quality of institutions must be improved and the responsible authorities should deal with the bureaucratic and inefficient systems that impede on the smooth flow of FDI in the region so that the Southern African region can also attract relatively bigger FDI as the other world regions of developing economies. The governments must also look deep into the kind of FDI that the region is receiving; corruption induced investment might not be beneficial to the economy as a whole and in the long run.

A point to note is that the Southern African region is full of mineral resources, if there is corruption induced investments in this sector this might lead to the resources and income from it being looted, profits and output from this sector being undervalued as there can be a high risk of smuggling out of the minerals. For example in Zimbabwe, the Government had to take over diamond mining after suspending operations of all Chinese investors diamond mines on 22 February 2016 in a bid to address the issue of transparency where corruption and misappropriation had resulted in the Government allegedly losing US$15 billion of diamonds revenue because there had been no connection whatsoever between diamond exports made by Zimbabwe and the revenues realized thereof. The allegations were acknowledged by President Robert Mugabe in March 2016 who explained the decision to stop operation of diamond companies by blaming corruption in the industry for robbing the Zimbabwean people of their mineral wealth.

FDI of this kind will not be beneficial to an economy. Furthermore, investors must comply with environmental policies and other legislation whether they are foreign or domestic investors, but where there is corruption riddled handling of such investors, they are likely not to comply with these policies and cause damages such as environmental degradation to the recipient economy of the FDI, in the process reversing the positive long run impact of the FDI.

The governments must really look into their budgets and prioritize their expenditures so that government expenditure is not too high as it will scare away investors. The region must also consider opening up trade as FDI was found to be impacted by trade openness. This will make the firms to obtain cheap raw materials and produce outputs at costs that may allow it to charge competitive prices in the international markets. This will earn a country much needed foreign currency and uplift.

All other factors that encourage GDP per capita growth must be implemented. As the economy performs well and there is improvement in its per capita GDP, FDI will flow as suggested by the study results.

5.3 Shortcomings of the Study and Areas for Further Study

The study employed worldwide governance indicators to investigate the impact of institutions on FDI. The study found a positive relationship between FDI and corruption which raises suspicion on the kind or type of foreign investors that the region is receiving. If foreign investors want to invest in highly corrupt countries, what are their intentions? In other words, is that FDI going to be beneficial to the region in terms of GDP growth and increase in employment in the long run? Thus further investigation must be done to find out if FDI has a short and long run impact on macroeconomic variables like GDP, employment and exchange rate in the region. There is need for a further study to investigate what affects institutions in the Southern Africa region.

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Appendices

Appendix 1: Data used

COUNTRY	GOVEXP	GFCF	TR	GDPP	INFR	insti	Crp	pop	FDI
ANGO	17.13223	16.21889	127.545	3924.665	36.98369	-1.03	-1.28145	19842251	2.21E+09
ANGO	17.50471	15.22906	110.3164	3886.589	42.84657	-1.01	-1.4184	20520103	-3.2E+09
ANGO	17.65854	14.43259	105.3377	3886.479	48.10121	-1.05	-1.31938	21219954	-3E+09
ANGO	19.57332	12.90574	107.5157	3905.818	59.82619	-1.00	-1.33731	21942296	-6.9E+09
ANGO	21.21821	14.93154	102.0528	3972.601	61.40628	-1.06	-1.29282	22685632	-7.1E+09
ANGO	19.79045	14.69824	95.06895	4105.28	61.8733	-1.03	-1.3274	23448202	1.92E+09
ANGO	20.59523	15.34043	90.21022	4164.119	63.47921	-1.03	-1.45261	24227524	9.28E+09
BWA	20.35126	30.58264	96.71591	6481.134	76.83593	0.65	0.996397	1967866	2.09E+08
BWA	21.08954	34.90966	86.68602	5867.854	96.02329	0.67	0.921875	2007212	2.18E+08
BWA	19.75651	33.61618	94.8998	6243.999	120.0102	0.68	1.003046	2047831	1.37E+09
BWA	18.09659	31.36861	101.3605	6488.966	145.9839	0.71	0.978981	2089706	4.87E+08
BWA	18.94217	35.5718	108.6516	6641.102	153.7856	0.68	0.916711	2132822	3.98E+08
BWA	18.87449	32.97037	123.7875	7149.468	160.6411	0.63	0.905239	2176510	5.15E+08
BWA	16.41626	29.57617	117.5136	7234.262	167.2976	0.66	0.801954	2219937	3.94E+08
MW	13.228	21.53403	61.96577	432.1915	10.6639	-0.25	-0.4322	13904671	49130855
MW	15.94631	22.55899	51.68307	454.3186	17.05612	-0.29	-0.38181	14329056	97010028
MW	14.02326	21.01531	57.64749	471.0588	20.76347	-0.34	-0.45647	14769824	8.13E+08
MW	13.40409	10.61975	48.78787	479.1005	25.56406	-0.34	-0.37337	15226813	-8886002
MW	14.3849	12.06019	67.8814	473.4102	29.21384	-0.40	-0.43932	15700436	4.51E+08
MW	16.36725	12.71531	78.26954	482.964	32.33016	-0.42	-0.61916	16190126	5.98E+08
MW	12.53779	12.01272	73.39905	495.0477	33.46881	-0.44	-0.76181	16695253	5.15E+08
MOZ	16.94326	15.17394	68.51065	389.1872	19.35201	-0.24	-0.47276	22994867	9.3E+08
MOZ	18.08344	14.10053	71.24674	402.4777	25.55873	-0.27	-0.42059	23647815	1.26E+09
MOZ	18.59742	17.86314	77.73154	417.5012	30.14185	-0.33	-0.42838	24321457	3.66E+09
MOZ	19.94731	21.54401	88.33446	434.7848	31.9565	-0.35	-0.49036	25016921	5.64E+09
MOZ	20.84455	35.12764	110.8298	453.1129	34.93571	-0.50	-0.5703	25732928	6.7E+09
MOZ	23.86832	39.35678	114.3759	472.0048	48.00422	-0.55	-0.62395	26467180	5E+09
MOZ	26.06201	43.05132	118.1226	493.1817	69.817	-0.62	-0.70324	27216276	3.87E+09
NAM	21.79636	25.31792	121.2073	5014.05	49.83914	0.33	0.565394	2115703	4.97E+08
NAM	23.85852	27.95343	125.4776	4943.25	76.11745	0.30	0.250101	2152357	7.67E+08
NAM	25.5541	25.28382	108.4135	5143.131	89.49525	0.30	0.297686	2193643	7.44E+08
NAM	23.18895	22.69862	103.0012	5292.748	98.9573	0.35	0.278518	2240161	1.08E+09
NAM	24.97058	25.74707	103.5667	5435.725	95.01813	0.36	0.297271	2291645	8.53E+08

NAM	25.97339	26.66271	101.0555	5608.602	118.4342	0.27	0.292109	2346592	4.05E+08
NAM	26.15595	32.80597	104.5041	5831.036	113.7562	0.31	0.233902	2402858	1.06E+09
ZAF	18.65792	23.51128	72.86539	7504.972	89.52108	0.26	0.162285	49296223	7.62E+09
ZAF	19.86448	21.51154	55.41826	7282.481	91.24861	0.25	0.144325	50020918	3.69E+09
ZAF	20.22964	19.26599	55.98899	7392.868	97.90029	0.26	0.093122	50771826	4.14E+09
ZAF	19.86223	19.11638	60.11263	7520.406	123.1977	0.20	0.027331	51549958	4.63E+09
ZAF	20.25919	19.22707	60.89749	7568.455	130.558	0.24	-0.15812	52356381	8.23E+09
ZAF	20.63799	20.28047	63.98307	7623.127	145.644	0.20	-0.11347	53192216	5.79E+09
ZAF	20.65398	20.5019	64.08694	7623.128	149.1935	0.17	-0.11318	54058647	1.58E+09
ZMB	8.9	29.4	59.45489	1282.721	28.41083	-0.35	-0.4706	13114579	6.95E+08
ZMB	9	27.5	56.12138	1360.203	34.36001	-0.36	-0.51278	13507849	1.73E+09
ZMB	9.379639	25.89474	67.90093	1456.127	41.21205	-0.28	-0.5654	13917439	1.11E+09
ZMB	10.2455	28.72918	76.21283	1491.492	59.88466	-0.19	-0.46904	14343526	1.73E+09
ZMB	11.8973	24.11454	79.09974	1556.725	74.77515	-0.22	-0.35311	14786581	2.1E+09
ZMB	12.18439	26.03599	84.59729	1586.193	71.50463	-0.27	-0.37619	15246086	1.51E+09
ZMB	14.52394	31.01133	80.06351	1610.476	67.33816	-0.28	-0.41467	15721343	1.58E+09
ZWE	2.047121	3.28591	109.5216	591.4657	12.94365	-1.58	-1.30453	13495462	1.05E+08
ZWE	11.17184	11.76569	68.4788	616.5575	30.96459	-1.55	-1.31692	13720997	1.23E+08
ZWE	15.89042	21.74123	100.3704	674.2687	58.88211	-1.48	-1.30873	13973897	3.44E+08
ZWE	20.29013	18.83655	122.3121	739.6331	68.86878	-1.41	-1.379	14255592	3.5E+08
ZWE	19.1367	16.77736	96.10745	800.3781	91.90938	-1.36	-1.34038	14565482	3.73E+08
ZWE	21.21506	12.99324	88.78498	817.5976	96.34987	-1.31	-1.41165	14898092	4.73E+08
ZWE	24.05568	13.1957	79.56088	829.6938	80.81642	-1.20	-1.38883	15245855	3.99E+08
SWZ	18.9685	18.54977	124.8206	3756.837	46.07242	-0.09	-0.17165	1153750	65705860
SWZ	19.7575	17.85381	118.7025	3788.434	56.6111	-0.09	-0.19449	1173529	1.36E+08
SWZ	18.75054	16.32836	103.9964	3793.659	60.83084	-0.10	-0.16681	1193148	93211829
SWZ	16.98889	14.35235	101.2765	3804.24	63.23758	-0.10	-0.29451	1212458	89720141
SWZ	16.36201	13.87538	98.96179	3873.197	65.39479	-0.09	-0.35837	1231694	29442304
SWZ	16.37272	14.38028	98.39826	3988.976	71.46779	-0.09	-0.33572	1250641	26584894
SWZ	15.48026	15.58157	102.6851	4038.96	72.31972	-0.09	-0.35731	1269112	31681320

Appendix 2: Fixed effects model with a composite measure of institutions

Dependent Variable: FDI
Method: Panel Least Squares
Date: 03/27/17 Time: 20:27
Sample: 2009 2015
Periods included: 7
Cross-sections included: 9
Total panel (balanced) observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.917481	193.0929	-9.930352	0.0000
INSTI	0.1929479	15.64837	1.233022	0.2235
LNGDPP	0.2448224	22.50665	10.87778	0.0000
LNGFCF	0.1116086	6.694612	1.667140	0.1019
LNGOVEXP	-0.4415184	5.229070	-8.443536	0.0000
LNTR	0.1537088	5.023120	0.306003	0.7609

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.919104	Mean dependent var	-0.979970
Adjusted R-squared	0.897642	S.D. dependent var	5.466088
S.E. of regression	1.748787	Akaike info criterion	4.148852
Sum squared resid	149.8546	Schwarz criterion	4.625105
Log likelihood	-116.6889	Hannan-Quinn criter.	4.336165
F-statistic	42.82450	Durbin-Watson stat	2.793623
Prob(F-statistic)	0.000000		

Appendix 3: The Random effects model

Dependent Variable: FDI
Method: Panel EGLS (Cross-section random effects)
Date: 03/27/17 Time: 20:28
Sample: 2009 2015
Periods included: 7
Cross-sections included: 9
Total panel (balanced) observations: 63
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.917481	193.0929	-9.930352	0.0000
INSTI	0.1929479	15.64837	1.233022	0.2226
LNGDPP	0.2448224	22.50665	10.87778	0.0000
LNGFCF	0.1116086	6.694612	1.667140	0.1010
LNGOVEXP	-0.4415184	5.229070	-8.443536	0.0000
LNTR	0.1537088	5.023120	0.306003	0.7607

Effects Specification	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	1.748787	1.0000

Weighted Statistics			
R-squared	0.919104	Mean dependent var	-0.979970
Adjusted R-squared	0.912008	S.D. dependent var	5.466088
S.E. of regression	1.621428	Sum squared resid	149.8546
F-statistic	129.5223	Durbin-Watson stat	2.793623
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.919104	Mean dependent var	-0.979970
Sum squared resid	149.8546	Durbin-Watson stat	2.793623

Appendix 4: Hausman Tests

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	5	1.0000

* Cross-section test variance is invalid. Hausman statistic set to zero.
** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
INSTI	1.9294790	1.9294790	0.000000	0.0000
LNGDPP	0.244822367	0.244822367	0.000000	0.0000
LNGFCF	0.11160858	0.11160858	0.000000	0.0000
LNGOVEXP	-0.44151842	-0.44151842	0.000000	0.0000
LNTR	0.1537088	0.1537088	0.000000	0.0000

Cross-section random effects test equation:
Dependent Variable: FDI
Method: Panel Least Squares
Date: 03/27/17 Time: 20:29
Sample: 2009 2015
Periods included: 7
Cross-sections included: 9
Total panel (balanced) observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.917481	193.0929	-9.930352	0.0000
INSTI	0.1929479	15.64837	1.233022	0.2235
LNGDPP	0.2448224	22.50665	10.87778	0.0000
LNGFCF	0.1116086	6.694612	1.667140	0.1019
LNGOVEXP	-0.4415184	5.229070	-8.443536	0.0000
LNTR	0.1537088	5.023120	0.306003	0.7609

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.919104	Mean dependent var	-0.979970
Adjusted R-squared	0.897642	S.D. dependent var	5.466088
S.E. of regression	1.748787	Akaike info criterion	4.148852
Sum squared resid	149.8546	Schwarz criterion	4.625105
Log likelihood	-116.6889	Hannan-Quinn criter.	4.336165
F-statistic	42.82450	Durbin-Watson stat	2.793623
Prob(F-statistic)	0.000000		

Appendix 5: Control of corruption is used to proxy for institutions

Dependent Variable: FDI
Method: Panel Least Squares
Date: 03/27/17 Time: 20:30
Sample: 2009 2015
Periods included: 7
Cross-sections included: 9
Total panel (balanced) observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.149969	133.1402	-16.14815	0.0000
CRP	-0.1913562	4.148054	-4.613155	0.0000
LNGDPP	0.2605885	15.58834	16.71689	0.0000
LNGFCF	0.3445897	4.099981	0.840467	0.4047
LNGOVEXP	-0.3920890	4.273753	-9.174349	0.0000
LNTR	0.1495656	4.405371	3.395074	0.0014

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.941850	Mean dependent var	-0.979970
Adjusted R-squared	0.926422	S.D. dependent var	5.466088
S.E. of regression	1.482691	Akaike info criterion	3.818724
Sum squared resid	107.7202	Schwarz criterion	4.294976
Log likelihood	-106.2898	Hannan-Quinn criter.	4.006037
F-statistic	61.04947	Durbin-Watson stat	3.206427
Prob(F-statistic)	0.000000		

Appendix 6: The random effects model

Dependent Variable: FDI
Method: Panel EGLS (Cross-section random effects)
Date: 03/27/17 Time: 20:32
Sample: 2009 2015
Periods included: 7
Cross-sections included: 9
Total panel (balanced) observations: 63
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.149969	133.1402	-16.14815	0.0000
CRP	-0.1913562	4.148054	-4.613155	0.0000
LNGDPP	0.2605885	15.58834	16.71689	0.0000
LNGFCF	0.3445897	4.099981	0.840467	0.4042
LNGOVEXP	-0.3920890	4.273753	-9.174349	0.0000
LNTR	0.1495656	4.405371	3.395074	0.0013

Effects Specification

	S.D.	Rho
Cross-section random	0.000000	0.0000
Idiosyncratic random	1.482691	1.0000

Weighted Statistics

R-squared	0.941850	Mean dependent var	-0.979970
Adjusted R-squared	0.936749	S.D. dependent var	5.466088
S.E. of regression	1.374710	Sum squared resid	107.7202
F-statistic	184.6435	Durbin-Watson stat	3.206427
Prob(F-statistic)	0.000000		

Unweighted Statistics

R-squared	0.941850	Mean dependent var	-0.979970
Sum squared resid	107.7202	Durbin-Watson stat	3.206427

Appendix 7: The Hausman test

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	5	1.0000

* Cross-section test variance is invalid. Hausman statistic set to zero.
** WARNING: estimated cross-section random effects variance is zero.

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
CRP	-1.9135618	-0.19135618	0.000000	0.0000
LNGDPP	0.260588535	0.260588535	0.000000	0.0000
LNGFCF	0.3445897	0.3445897	0.000000	0.0000
LNGOVEXP	-0.39208905	-0.39208905	0.000000	0.0000
LNTR	0.14956558	0.14956558	0.000000	0.0000

Cross-section random effects test equation:
Dependent Variable: FDI
Method: Panel Least Squares
Date: 03/27/17 Time: 20:33
Sample: 2009 2015
Periods included: 7
Cross-sections included: 9
Total panel (balanced) observations: 63

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.149969	133.1402	-16.14815	0.0000
CRP	-0.1913562	4.148054	-4.613155	0.0000
LNGDPP	0.2605885	15.58834	16.71689	0.0000
LNGFCF	0.3445897	4.099981	0.840467	0.4047
LNGOVEXP	-0.3920890	4.273753	-9.174349	0.0000
LNTR	0.1495656	4.405371	3.395074	0.0014

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.941850	Mean dependent var	-0.979970
Adjusted R-squared	0.926422	S.D. dependent var	5.466088
S.E. of regression	1.482691	Akaike info criterion	3.818724
Sum squared resid	107.7202	Schwarz criterion	4.294976
Log likelihood	-106.2898	Hannan-Quinn criter.	4.006037
F-statistic	61.04947	Durbin-Watson stat	3.206427
Prob(F-statistic)	0.000000		