DETERMINANTS OF FOREIGN DIRECT INVESTMENT IN SELECTED SOUTHERN AFRICAN DEVELOPMENT COMMUNITY (SADC) FOR THE PERIOD 2001 to 2010

HAPPY MUTUNGWAZI

A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS OF THE MASTER OF SCIENCE DEGREE IN ECONOMICS

Department of Economics
Faculty of Social Studies
University of Zimbabwe
May 2014

DECLARATION

I declare that this piece of work is my own effort, and it has never been submitted anywhere as part of a degree study or to any other University.

DEDICATION

I dedicate this dissertation to my two sons and daughter Yeshua Munashe, Yakari Mishael and Yolatishi Maranatha who have encouraged me to face the challenges obtaining in the global village.

ACKNOWLEDGEMENTS

I wish to express herein my sincere gratitude to my supervisor Doctor H. Zhou. I am greatly indebted to his invaluable supervision techniques that made this dissertation a worth script of literature. I really cherish Dr H. Zhou's support, guidance, and expert information since the inception of the dissertation idea throughout the final writing.

I am thankful to the Department of Economics for creating an enabling environment for me to finish my dissertation. My special thanks go to Mr C. Pindiriri for his assistance on the econometric parts of this dissertation.

I am humbled at this juncture to extend many thanks to the African Economic Research Consortium (AERC) for the financial support and opportunity that I be part of the Joint Facility for Electives (JFE) in Kenya (Nairobi) in the year 2012. I wish to thank my current employer National Social Security Authority (NSSA) for the financial assistance and time readily provided for me to complete this course.

I am forever indebted to all my colleagues especially Felix Mufunda and Admire Mutizwa for the experience and inspiration we shared together during this programme.

A special credit also goes to my wife Rosemary and the entire Remnant Christian Church branch for their love and unwavering support throughout this journey.

On a final note, I exalt the name of my Saviour and Lord Jesus Christ to the glory of the Almighty God for the wisdom, good health, and strength he rendered to me during my studies.

ABSTRACT

The Southern African Development Community (SADC) regional bloc has been undertaking investment reforms with a view of creating an enabling and conducive environment for all their member states to increase Foreign Direct Investment (FDI) inflows. FDI is preferred to because of its arguable economic benefits among them that it closes domestic resource gaps. Furthermore, FDI can reduce unemployment levels common in several SADC nations. FDI introduces managerial skills through technological transfers, as well as producing export enhanced economic developments. In view of the foregoing, many SADC countries have promulgated various policies that can incentivise foreigners to pour FDI inwards. Despite these efforts, studies have shown that FDI levels are dismally low as compared to the rest of Africa. Efforts to establish the reason for such poor FDI inflows have been extensively carried out in many studies. However, these studies omit some recent key noneconomic determinants that affect FDI inflow to the SADC bloc. This study analyses the determinants of FDI inflow to the SADC bloc for the recent decade of 2001 to 2010 using the panel data methodology. Our study estimated macroeconomic determinants of FDI in the SADC region namely: rates of interests, current account balances, gross domestic product, national external debt, and exchange rates as well as institutional determinants of FDI namely: political stability, control of corruption and voice and accountability issues. Interest rates, exchange rates, and gross domestic product variables were all found to be important determinants of FDI in the region. All institutional variables were proved to be essential determinants of FDI in the SADC bloc. The study concluded that SADC FDI inflows are positively influenced by a growing demand in terms of an expanding SADC bloc coupled with a stable single currency exchange rate. Policies that advocate for a bigger integrated common economy and the adoption of single currency are the best way in attracting large FDI inflows to SADC. SADC states should, in addition pursue policies that take into considerations the effective uphold of political stability and absence of violence, measures to nip out corruption and a tolerant governance structure. The unstable macroeconomic environment obtaining in many SADC states such as high interest rates are negatively affecting FDI inflows to the region.

TABLE OF CONTENTS

DECLARATION ii

DEDICATION iii

ACKNOWLEDGEMENTS iv

ABSTRACT v

LIST OF TABLES viii

LIST OF FIGURES ix

CHAPTER ONE 1

1.1 INTRODUCTION 1

1.2 THE PROBLEM STATEMENT 2

1.3 THE OBJECTIVES OF THE STUDY 4

1.4 THE RESEARCH QUESTION 4

1.5 HYPOTHESIS 4

1.6 SIGNIFICANCE OF THE STUDY 4

1.7 ORGANISATION OF THE STUDY 5

CHAPTER TWO 6

2.1 OVERVIEW AND BACKGROUND 6

2.2 SUMMARY 13

CHAPTER THREE 15

LITERATURE REVIEW 15

3.1 INTRODUCTION 15

3.2 THEORETICAL REVIEW 15

3.3 EMPRICAL LITERATURE REVIEW 18

3.4 SUMMARY 21

METHODOLOGY 23

4.1 INTRODUCTION 23

4.2 MODEL SPECIFICATION AND JUSTIFICATION OF VARIABLES 23

4.3 ESTIMATION TECHNIQUE 27
4.4 DATA SOURCES 29
4.5 TARGET POPULATION AND SAMPLING DESIGN 30
4.6 CONCLUSION 30
CHAPTER FIVE 31
5.1 INTRODUCTION 31
5.2 DESCRIPTIVE STATISTICS 31
5.3 ECONOMETRIC TESTS AND DISCUSSION OF RESULTS 32
5.4 CONCLUSION 36
CHAPTER SIX 38
CONCLUSION AND POLICY RECOMMENDATIONS 38
6.1 SUMMARY OF STUDY 38
6.2 POLICY RECOMMENDATIONS 39
6.3 STUDY LIMITATIONS AND FURTHER RESEARCH 40
REFERENCES 41
APPENDICES 49

LIST OF TABLES

Table 2.1: Global FDI flows to the low and medium countries ……..……..…7

Table 2.2: FDI in the selected SADC countries....…….……..….8

Table2. 3: The Ibrahim Index of Institutional and Governance in Africa for 2010…….....12

Table 4.1: Description of Data and Data Sources…...……..…30

Table 5.1: Summary of Descriptive Statistics…….……..……31

Table 5.2: Multicollinearity Analysis. …….....32

Table 5.3: Weighted Least Square (WLS): TABLE OF RESULTS……...33

Table 6: Appendix Data Used in the Study.....…...49

LIST OF FIGURES

Figure 1: Institutional and Gorvenance Indicators for SADC countries in 2010 ..……..13

LIST OF ACRONYMS

BERI	Business Enterprise Risk Intelligent
COMESA	Common Market for East and Southern Africa
CSA	Country Specific Advantages
DC	Developed Country
DRC	Democratic Republic of Congo
EPZ	Export Processing Zone
ESAP	Economic Structural Adjustment Programme
FDI	Foreign Direct Investment
FSA	Firm Specific Advantages
GDP	Gross Domestic Product
GLS	General Least Squares
IA	Internalization Advantages
IMF	International Monetary Fund
LDC	Less Developed Countries
LSM	Least Squares Method
M&A	Merger and Acquisition
MFEZ	Multi Facility Economic Zone
MNC	Multi-National Companies
MOZAL	Mozambique Aluminum
MW	Mega Watts
N$	Namibian Dollar
OECD	Organization for Economic Cooperation and Development

OLS	Ordinary Least Squares
PCSE	Panel Corrected Standard Error
PTA	Preferential Trading Area
SADC	Southern Africa Development Community
SME	Small to Medium Enterprises
TIC	Tanzania Investment Centre
TPF	Total Factor Productivity
TNC	Trans National Corporation
UN	United Nations
UNCTAD	United Nations Conference and Development
USA	United States of America
UNIDO	United Nations International Development Organization
WLS	Weighted Least Squares
WTO	World Trade Organization
ZDA	Zambia Development Authority
ZIC	Zimbabwe Investment Centre

CHAPTER ONE

1.1 INTRODUCTION

The United Nations Industrial Development Organization (UNIDO) (2008) submits that Sub-Saharan Africa's (SSA) economies remain poor even with increased trade as compared to South-Asia and East-Asia (Arrghi 2002; Ayittey 2005; Lall and Kraermer-Mbula 2005) where Foreign Direct Investment (FDI) has played a significant role in economic development. The reasons for poor SSA economies can be argued to be emanating from the inability of these African states to manipulate the complex institutional and governance skills (Easterly and Levine 1997; Durlauf and Quah 1998; Artige and Nicolini 2005; Pattillo et al 2005; and Rodrik *et al*., 2003) in relation to FDI inflows. FDI improves the supply side of African economies, create employment and anchor sustainable economic growth and development (Nakunyada 2011).

FDI are the net inflows of investment to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, and other long-term and short-term capital as shown in the balance of payments. Such investments may take the form of either "Greenfield" investment (also called "mortar and brick" investment) or merger and "Brownfield" acquisition (M&A), which entails the acquisition of existing interest rather than new investment.

Several SADC countries such as Zimbabwe, Zambia, Mozambique, Malawi, Tanzania and Lesotho lack domestic savings. Policies of SADC over the last three decades beginning the year 1980 were shifted towards attracting FDI. This is so despite the dismal performance in both the levels of FDI and economic growth (Organization of Economic Community Development (OECD), 2001). It can be argued that there is an association between FDI and social, economic, political, financial, infrastructural, and institutional factors.

The primary roles of FDI are arguably that of augmenting domestic savings-investment gap and the narrowing of foreign exchange shortages, as well as supporting export oriented growth policies. The preference for FDI stems from its acknowledged economic merits as submitted by Savoiu and Popa (2012) that FDI has growth effects, stimulate social development and chain-optimization; promote domestic investment through positive effects on the trade balance. FDI maintains the increase of incomes on the state budget and brings

financial resources, which are more stable, and can be readily used by the investor, as compared to commercial debt and portfolio investment. Prasad *et al.* (2003) assert the same view that FDI resources are stable during financial crisis as compared to short-term foreign capital inflows.

FDI can attract and support the transfer of managerial skills and improve technical expertise for example Balasubramanyan *et al.*, (1996) report a positive interaction between human capital and FDI; FDI generates cross-border transitional activities that can provide better approaches to exports markets, and can assist the host country to ensure a transfer of production from and exclusively domestic market to the international market. Finally, FDI allows foreign investing companies to assume leadership role in developing new technology in host countries, thus channeling managerial skills, and can enhance local companies in their skills development in areas where FDI is invested.

Khawar (2005), and Roy and Van den Berg (2006) have identified sources of total factor productivity (TFP) that stimulate growth and among them is FDI. As illustrated in by Solow (1956), long-term growth in per capita income in an economy with an aggregate neoclassical production function must be driven by growth in TFP. With this in mind, SADC economies are encouraged to increase FDI inflows such that economic benefits would accrue to the region. In short, UNCTAD (1998) asserts that the economic difficulties in developing economies, such as those in SADC may proffer reasons to lure FDI; in the belief that it increases productivity, technological transfer, employees' skills, product enhancement and market share.

1.2 THE PROBLEM STATEMENT

The United Nations Conference on Trade and Development (UNCTAD) (2006) reports that SADC countries together with the rest of Africa disappointingly accounted for less than 1% of the global share of FDI. Poor SADC economic performances are linked to low levels of FDI. This is so despite several years of macroeconomic reforms, opening up of economies, and the establishment of "one-stop" investment centres as ways to lure FDI. However, levels of FDI inflows are dismal in the SADC region despite the recognition of its importance and efforts to create an enabling environment for its attraction.

Rodrik (1989) alludes to the view that poor FDI performance could be ascribed to government regulations, poor business environment and import depression. This brings in the

suggestions that the poor FDI inflows in SADC nations could be attributed to institutional factors and other governance issues. When and where SADC countries were able to attract FDI, it was principally the result of their abundant natural resources and the size of their domestic market (Asiedu, 2006). This means that, institutional and governance issues may be other important factors that determine FDI inflows in the SADC countries.

Previous studies (Kravis and Lipsey, 1982, Schneider and Frey, 1985, and Asiedu, 2002; 2005) concentrated on macroeconomic determinants of FDI inflows without giving attention to institutional and governance issues. Failure by SADC countries to lure high levels of FDI after years of macroeconomic reforms might also point towards the need for more and broader consideration of the determinants of FDI. The broader considerations may help SADC countries to address FDI inflow deficits from macroeconomic, institutional and governance set ups.

Gwenhamo, 2009; Li and Resnick, 2003; Stein and Daude, 2001; and Gastananga *et al*., 1998 have empirically explored institutional factors of FDI. The studies are inconclusive on the effects of institutional factors on FDI inflows. Different results obtained might be as a result of different indicators and time periods for the studies. It can also be argued that the list of FDI determinants in developing countries is not only long and vague, but tends to change overtime. This study focuses on some specific factors, such interest rate, exchange rate, market size, current account balances, national external debt, control of corruption, governance issues of voice and accountability, and political stability, that are thought to play a crucial role in determining FDI flows into SADC.

It is against this background of inconclusive determinants of FDI and omission of political and governance issues that this study attempts to narrow the gap. This study adds to literature the empirically examined macroeconomic, institutional and governance factors that impact on FDI inflows in the SADC.

1.3 THE OBJECTIVES OF THE STUDY

- The objective is to analyse the determinants of foreign direct investment in SADC countries, and the specific objectives are to assess the macroeconomic variables (Gross Domestic Product, interest rate, exchange rate, national debt, and current account balances), and institutional and governance variables (control of corruption, voice and accountability, and political stability) on FDI inflows into SADC.

1.4 THE RESEARCH QUESTION

What are the factors that affect FDI inflows in SADC countries?

1.5 HYPOTHESIS

Political stability positively affects FDI flows in SADC.

1.6 SIGNIFICANCE OF THE STUDY

The findings of this study are important to both academics and policymakers in that, firstly, it adds knowledge in the literature kit of FDI, and secondly, it serves as a policy guide. The assessment of determinants of FDI provides empirical literature for SADC member states. FDI is undoubtedly an economic phenomenon that is increasingly attracting researchers' interests and as such, this study shall contribute in the contemporary economic development of SADC countries. In addition, FDI requires thorough studies in order to get the correct information relevant in shaping the environment needed. In this regard, a robust analysis of the determinants of FDI in SADC countries is carried out. The study will provide evidence on the likely effects of economic, political and institutional factors on FDI flows into SADC countries. The rationale of concentrating on SADC countries as a trading bloc is drawn from the fact that SADC is the single largest contributor to the SSA economy (SADC, 2006). In short, this study therefore seeks to add into literature on the determinants of FDI, stimulate economic debate and guide policies meant to attract investment in the SADC region.

1.7 ORGANISATION OF THE STUDY

This study is organised as follows; chapter two presents a global overview of FDI in SADC. Chapter three reviews the theoretical and empirical literature on FDI. Chapter four discusses the methodology, variables used, and the data sources. Chapter five presents and interprets the results. Finally, chapter six concludes by giving a summary of findings, policy recommendations and suggesting areas of future research.

CHAPTER TWO

2.1 OVERVIEW AND BACKGROUND

United Nations Conference on Trade and Development (UNCTAD) (2012) reports that SSA's global share of FDI inflows to less developed countries (LDCs) are on average 6 percent. Subsequently, SADC's FDI inflow share is below 2.8 percent. Tracing global FDI destinations by multinational companies (MNCs) is the noble way to understand capital flows distribution amongst the competing nations. A global FDI destination survey from 2008 to 2010 reveals that, the top six destinations of FDI are China, India, USA, Russia Federation, and Viet-Nam. On the other hand, LDCs collectively received green field projects and mergers and acquisitions (M&As) of a disappointing 1.7 and 2.3 percent (UNCTAD, 2010), respectively. Global FDI destinations to the low and middle income states of the world continue to be biased towards the East Asian and South Asian states followed by Latin America and the Caribbean as exhibited in Table 2.1 below. The SADC (2006) report, notes that SADC has the largest economies as compared to the northern parts of African trading communities, but the combined FDI inflows has never exceeded 3% as in shown in Table 2.1 below.

Although the global FDI trend is increasing, the SADC regional sphere of economies is almost stagnant (UNCTAD 2007a; 2010). According to UNCTAD (2012) South Africa, Angola, and Mozambique are the three top hosts of FDI inflows in the last decade in the SADC region. For instance, Mozambique managed to attract the highest FDI flows among the former conflict ridden countries (Rwanda, Burundi, Sierra Leone and Ethiopia), reaching 14.02% of GDP in 2010. IMF (2012) reports that, Mozambique stabilized her economy after she launched the first wave of structural reforms in the early 1990s, resulting in upwards surge of FDI inflows. FDI induced investments were channeled into mega mining projects and infrastructure development.

TABLE 2.1: FDI INFLOW SHARE IN THE LOW TO MIDDLE INCOME NATIONS (AS A PERCENTAGE OF TOTAL FLOWS TO LOW AND MIDDLE INCOME NATIONS)

YEAR	Low and Middle income share	East and South Asia and the Pacific	East Europe and Central Asia	Latin America and the Caribbean	Sub-Saharan Africa	SADC
2001	100	31.2	13.8	48.5	4.5	2.1
2002	100	30.3	15.6	47.7	4.1	2.4
2002	100	38.8	15.4	37.7	5.2	2.8
2003	100	41.1	15.5	35.5	5.7	2.3
2004	100	38.5	16.1	36.6	6.9	2.1
2005	100	38.5	16.1	36.6	6.9	2.1
2006	100	40.1	15.6	36.3	5.4	2.7
2007	100	44.8	14.1	34.4	4.6	2.3
2008	100	43.4	15.7	35.2	3.4	2.3
2009	100	45.2	14.3	33.7	4.1	2.7
2010	100	43.9	14.2	34.6	4.5	2.8

Source: World Bank Development Indicators. The World Bank

FDI flows in the SADC region are low relative to comparable regions and highly volatile with pronounced years of sharp increases and decreases. Table 2.2 below shows the FDI trends in selected SADC countries. Individual SADC nations' FDI figures have never surpassed 15% of their respective annual GDP as exhibited in the Table 2.2 below. The FDI trends in Table 2.2 show that beginning the year 2001, only four nations Lesotho, Zambia, Mozambique and South Africa recorded FDI figures above the 4% of Gross Domestic Product (GDP) while in 2005 all but one country Tanzania failed to surpass the 6% FDI mark. By 2008, nine out of the eleven selected SADC countries recorded FDI figures below the 6.5% point and this trend is far from satisfying as compared to Asian states which consistently top the low to middle category of FDI inflows as alluded to above. Generally, SADC countries' average FDI inflows as a percentage of GDP were high between years 2001 and 2004, declined between 2005 and 2007, before slightly improving between 2008 and 2010.

TABLE 2.2: FDI IN THE SELECTED SADC COUNTRIES 2001to 2010 (AS A PERCENTAGE OF COUNTRY GDP).

Country	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Botswana	-1.16	12.01	9.53	7.44	4.80	6.67	5.23	6.71	7.14	1.78
Lesotho	4.20	4.32	4.53	4.51	5.14	4.19	6.67	6.88	5.84	5.22
Madagascar	2.05	0.33	0.24	1.21	1.70	5.34	10.53	12.45	12.56	9.74
Malawi	1.12	0.22	3.43	4.94	5.07	1.14	3.41	4.57	0.98	1.80
Mauritius	-0.61	0.67	1.12	0.22	0.66	1.64	4.37	3.92	2.91	4.43
Mozambique	6.27	8.27	7.22	4.29	1.86	2.61	5.19	5.65	9.26	14.02
Namibia	1.02	1.52	0.67	1.34	5.41	7.64	7.60	8.49	8.21	6.19
South Africa	6.14	1.33	0.47	0.32	2.64	-0.07	2.00	3.52	1.89	0.34
Tanzania	3.74	3.67	3.12	1.77	6.62	2.81	3.46	6.68	4.46	4.46
Zambia	3.97	8.04	7.15	4.97	5.75	11.47	6.41	5.43	10.68	10.32
Zimbabwe	0.06	0.41	0.07	0.15	1.79	0.73	1.30	1.17	1.17	2.23

Source: World Bank Indicators. The World Bank

Narrowing down to individual countries, for instance, in Table 2.2 above, Zimbabwe exhibits the poorest performance during the period under review with figures ranging between 0 to 2%. Reasons for Zimbabwe's poor showing could range from issues such as tension between Harare and London. The controversial fast track land reform, disputed elections in 2000, and the perceived or real west imposed sanctions that followed. Zimbabwe pursued inconsistent macroeconomic policies, consequently inflation rate and interest rate reached unprecedented world records (Zimbabwe Investment Center, ZIC-2010). Madagascar, Mauritius and Malawi struggled to attract FDI figures of more than 1.8% for the better half of the decade up to 2005. Botswana, and Mauritius recorded negative FDI inflows in 2001 and South Africa registered negative FDI figures in 2006. Political turmoil that took place in Madagascar and Zimbabwe coupled with inconsistency macroeconomic policies could also explain the sorry state of FDI exhibited by these aforementioned SADC nations.

The SADC region is a mining hub of Southern Africa and this is shown by erratic FDI trends registered by Botswana, Zambia, South Africa, Namibia and Tanzania. The reasons for such FDI movements could be ascribed to volatility associated with most prices of metals. The

price of minerals, land locked-ness and poor infrastructures weighed down most mining based economies of the region. For instance, Botswana, with a stable policy environment that attracts FDI inflows recorded a negative figure of 1.16 % of GDP in 2001. Notwithstanding the 2001's negative FDI inflow, Botswana recorded the highest FDI level in 2002. The figure of 12.01 % of GDP was 10 times higher than that of the previous year.

Botswana's previous FDI inflows has shown that mining generally dwarfs other sectors due to the demand for high capital investments. For example, the Cut 8 project which is currently designed to widen and deepen the Jwaneng diamond mine pit attracted large amounts of FDI inflows in recent years. Another notable country is Namibia, which adopted the liberalization of her economy, and she managed to host large amount of foreign capital inflows in the SADC region. Namibia's FDI flows had been on the increase, due to massive pouring in of investments in the mining sector according to SADC (2006).

FDI has played a major role in the Zambian economy since 1991 by contributing to an increased capital inflow. According to (UNCTAD, 2011) FDI inflow in Zambia has steadily been increasing over the past decade. It averaged $651 million for the period 2002 to 2009 with a peak in 2007 of $1,324 million, a 115% increase compared to 2006. Mining attracted the majority share of the investments. Investment pledges by Zambia Development Authority (ZDA) licensed companies for 2008 rose to $10,405 million, 95% of which was FDI.

Zambia is managing, through bilateral agreements, to attract partners from other non-traditional countries such as China and India in public-private partnerships (PPP) or joint ventures. UNCTAD (2011) further notes that Zambia's first Multi-facility Economic Zone (MFEZ), the Chambishi Multi- Facility Economic Zone located in the Copper-belt region was developed by Chinese investors. Zambia has taken steps through the creation of ZDA in 2006 reducing business registration procedures. The efforts are in order to improve business environment although there are still challenges in attracting investors to other sectors of the economy.

Madagascar, South Africa, Namibia and Mozambique, are mineral endowed nations of the SADC region that complemented mining activities by diversification and thereby attracting FDI into other sectors of the economy. Madagascar also accesses the United States' market through the African Growth and Opportunity Act (AGOA) and the European Union. FDI in stock rose from $1 million in 2005 to about $4, 7 million in 2010. Noticeable M&A projects were Dynatec Corp in the Ferro-alloy ores in 2005; Platinum Woks Inc in 2003; Ambatovy

Nickel projects deals with Sumitomo Corp (Japan) and Impala Platinum Holdings (South Africa) all in 2005; BG Group plc in 2006, and Malagasy Mineral in 2008 among other mining firms. Madagascar's FDI trend is impressive in comparison with other sea-ported SADC countries. Higher figures of above 12% of GDP were recorded in 2008 and 2009. Madagascar, save for the political turmoil mentioned above, depicts a slow but increasing FDI trend as shown in Table 2.2. The Export Free Zone (EFZ) regime, established in 1989, provides incentives to investors in export-oriented manufacturing activities, and those that provide services to EPZ companies. Incentives offered such as tax holidays, exemption of customs duties for all exports and imports and free transfer of funds abroad attracted FDI inwards although investors have to register with Guichet Unique (established in 1994) in order to qualify for these regimes.

Mozambique has the advantage of portals although the infrastructure is not comparable to Madagascar, South Africa, Tanzania, Namibia and/or Mauritius. Mozambique's FDI trend is increasing, especially after 2006. The Cahora-Bassa Hydro electricity which has a capacity of 2,075MW per year enables Mozambique to export excess electricity. Most SADC nations are net importers of electricity energy. In addition, the Beluluane Industrial park is an Export Processing Zone (EPZ) that has acted as the main vehicle of attracting investment in Mozambique. The Mozambique Aluminum (MOZAL) project and other Germany driven FDI injections in the telecommunications and manufacturing sectors have increased in the past decade. Biggs (2012) notes that Mozambique is set to become world-class natural resources exporter with projections indicating that it will experience rapid increases in the coming future and even beyond. Mozambique is currently topping in FDI inflows at 14.02% of GDP in 2010 in the SADC region.

Another success story is exhibited by Mauritius although FDI inflows declined from 12% of GDP in 2002, Mauritius enjoyed relatively high FDI inflows compared to other countries in the region at the end of 2002. Rwelamira *et al* (2008) submits that Mauritius is the most competitive and success story of economic growth in Africa. The country has the best overall institutional ranking in SADC according to the World Bank Governance Indicators (WGI). Cultural ties with France, India and China aided the textile and garment sectors by acting as the main source of FDI in Mauritius. Rwelamira *et al*., (2008) identify three channels that could help increase FDI inflows in Mauritius as follows: Offshore business and financial services; Freeport (trans-shipment and re-export).

Namibia with her diverse economy as an example, managed to attract FDI from different sectors especially after the promulgation of the Foreign Investment Act 1990. The ACT empowers any foreign national to invest in or engage in any business activity which any Namibian may undertake. The Foreign Investment Act 1990 does not discriminate against foreign nationals as regards taxation and it permits 100% foreign ownership except in the granting of rights on natural resources. The ACT further gives several incentives to investors under flexible terms. In addition, the Act ensures availability of foreign exchange for payment of dividends and repatriation of profits and fees. It also provides for compensation in cases of expropriation and arbitration in times of disputes. Namibia's second largest receiver of FDI after the mining is the service sector dominated by international banks, and the telecommunications sector closely follows as the third FDI hosting sector.

The trend in FDI inflows within SADC nations can be linked to political, macroeconomic, institutional and governance factors. SADC nations are prone with issues of war, conflict and political instabilities, threats to personal and business safety, volatility of prices of petroleum and raw materials, financial instability, changes in investment regimes, exchange rate fluctuation, and global economic downturn (UNCTAD, 2010). Countries such as Angola, Malawi, Mozambique, DRC, Madagascar, Swaziland and Zimbabwe have experienced a fair share of war threats and/or political instabilities during the period under review. According to the World Investment and Political Risk (2010)[1] SADC countries namely, DRC, Madagascar, Swaziland, and Zimbabwe are in the high risk category; whilst the rest of SADC countries are in the medium category, save for Botswana which is a low risk nation.

There are a number of different indices which are used to measure political, institutional and governance issues. These include the Transparency International and the BERI business indicators. In empirical studies, researchers can also use their own constructed indices. This study applies the world governance indicators by the World Bank Institute. The World Bank Institute started publishing world governance indicators in 1996 as a recognized and reliable source of data. In addition, there is a new index on African called Ibrahim index, which surveys and ranks African countries in terms of governance issues and institutional set ups, since year 2007. Table 2.3 below shows ranking of the 11 selected SADC countries according to the Ibrahim Index of African Governance for the year 2010. Table 2.3 is comparable to the World Governance Indicators in Figure 2 below for same year, 2010.

TABLE 2.3: THE IBRAHIM INDEX OF INSTITUTIONAL AND GOVERNANCE IN AFRICA FOR 2010.

Country	Ranking in Africa	Percentile
Mauritius	1st	82.9
Botswana	2nd	77.6
South Africa	5th	71.3
Namibia	6th	69.5
Lesotho	9th	61.9
Zambia	12th	59.6
Malawi	16th	56.9
Tanzania	16th	56.9
Mozambique	20th	54.8
Madagascar	37th	45.7
Zimbabwe	47th	35.4

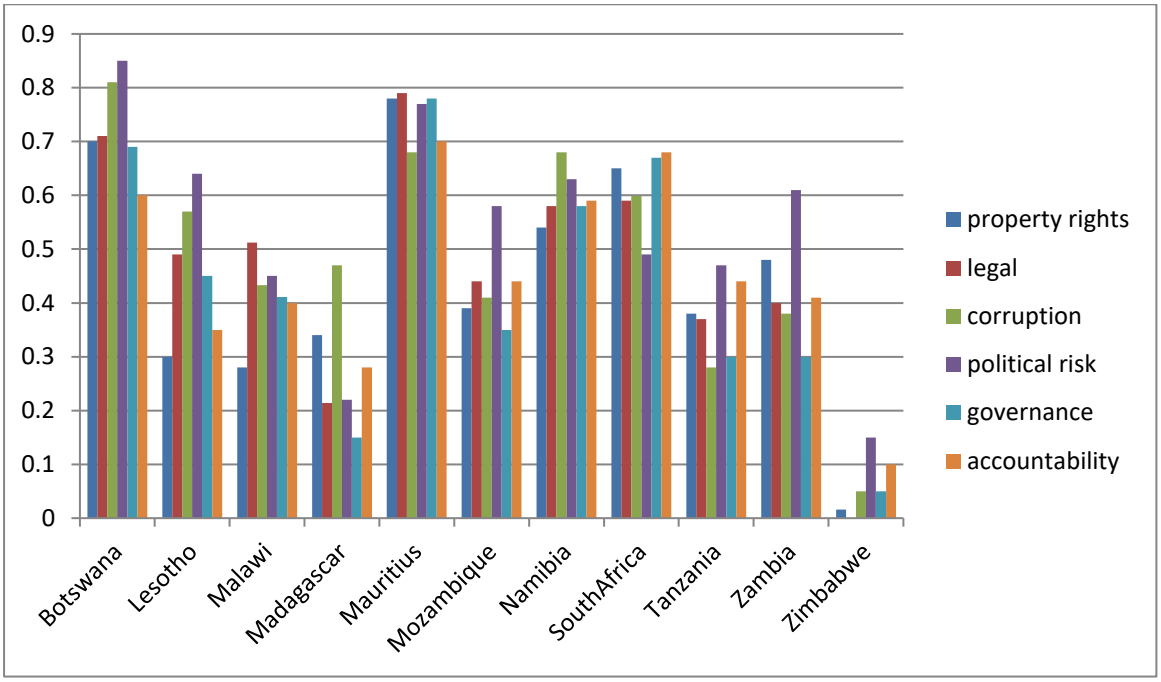
Data Source: Ibrahim Index 2010.

The World Bank Institute publishes the Worldwide Governance Indicators (WGI). These indicators covers six elements, namely, voice and accountability, government effectiveness, regulatory quality, control of corruption, political stability and absence of violence, and rule of law. Each variable is given a score, where scores closer to zero means low and variable closer to 1 means high. This study utilized the WGI given that they are comparable across countries and over time, based on 32 individual data sources. Kaufmann *et al*., (2008) defines voice and accountability as to the extent to which country's citizens are able to participate in selecting their government, as well as the freedom of expressions, freedom of association, and free media space. Political stability is referred to as the perception of the likelihood that the government might be destabilized or overthrown by unconstitutional or violent means including domestic, and terrorism Kaufmann *et al*., (2008). Lastly, control of corruption means the extent to which public power is exercised for private gain including petty and grant forms of corruption as well as "capture" of state by elites and private interests Kaufmann *et al*., (2008).

The snap shot analysis in Figure 1 is for 2010 alone as a comparison with Table 2.3 Ibrahim Index alluded to above. The two indices agree that Mauritius is on pole position and Zimbabwe has the lowest levels of governance indicators. The political, institutional and governance issues are consistent for the period 2001 to 2010. For example, Mughandira

(2012) and Nsiku, (2012), acknowledge that Malawi has the potential to attract FDI if it pursues policies that can improve on institutional and governance issues.

FIGURE 1: INSTITUTIONAL AND GOVERNANCE INDICATORS SADC COUNTRIES IN 2010.



Source: World Development Report (2013): The World Bank

Zimbabwe as exhibited in Figure 1 above performed dismally as all indicators were below 0.15. Botswana and Mauritius confirmed their pole positions with all indicators above the 0.70 mark. The FDI trend in Table 2.3 for 2010 figures confirm that Botswana, Mauritius, Namibia, Madagascar and South Africa improved on political, institutional and governance issues and tended host high levels of FDI in the SADC bloc.

2.2 SUMMARY

The overall FDI trends are disappointingly low in the SADC region. These trends are linked to macro-economic policies, market size in terms of GDP and population, resource endowments, worldwide mineral prices, rainfall and climatic conditions, quality of institutions, infrastructure and political instability. FDI has played a small but pivotal role in few SADC countries that improved on investment policies, adopted liberalization policies and opened up Export Processing Zones (EPZ) as augmented by quality institutional set-up show impressive trends of FDI during the period under review. Large FDI inflows were

recorded in the mining sectors although the trend is erratic in nature. The lowest figure of a negative 1.16% of FDI inflows were recorded in Botswana and negative 0.61% recorded for Mauritius all in 2001. Surprisingly these two countries top the list in terms of good governance as well as institutional set-up. The explanation to such FDI performance include *inter alia* worldwide prices of metals and the rush for oil and gas prospects currently obtaining in oil and mineral rich SADC countries.

SADC countries with growing markets, stable currency, steady exchange rate fluctuations, and favourable terms of trade among other factors, performed generally well in attracting FDI. However, some SADC nations experienced institutional and governance challenges and a result they performed dismally in terms of attracting FDI inflows. These range from ineffective governance, political risks, and corruption just to mention but a few. Another notable issue is energy shortages and poor infrastructure obtaining in most SADC states. Persistent power outages and poor infrastructure are detrimental to SADC countries in comparison to other Sub-Saharan economies.

Communication and technological enhancement as well as research and development lack in most SADC states impeding FDI enhanced growth. The downside risks to SADC's economic outlook remain skewed towards poor FDI inflows corroborated by lower world commodity prices and weak economic growth in emerging markets especially in China. It is further buttressed by increased capital volatility, tightening of global monetary regimes and regional political tensions in Mozambique and the Democratic Republic of Congo. The precise determinants of FDI that can comprehensively direct policy in the SADC countries are inconclusive and this study intervenes to narrow down this gap.

[1] World Political risk forecaster is a global Foreign Direct Investment platform.

CHAPTER THREE

LITERATURE REVIEW

3.1 INTRODUCTION

This chapter reviews theoretical and empirical development of FDI literature. The theoretical and empirical literature reviews is done on both macroeconomic and institutional determinants of FDI in many countries, focussing on LDCs and in particular Sub-Saharan Africa and SADC countries were applicable. Although FDI theories date back to the early classical economists like Adam Smith and Stuart Mill, notable theoretical work emerged after the great depression. Wheeler and Mody, (1992), Dunning (1981), Hymer (1976), Mundell (1957) and Ohlin (1933) have developed theories of FDI determinants by MNCs especially after the great depression era. Section 3.2 focuses on theoretical FDI literature review and section 3.3 reviews empirical FDI literature and the chapter closes with a summary. The empirical studies primarily focus on exchange rate movements, interest rates, investment policies, infrastructural and institutional set up, current account deficit, and the host country's national external debt.

3.2 THEORETICAL REVIEW

Determinants of FDI range from macro and microeconomic, institutional, infrastructural, governance, and resource endowment related factors. This perspective is drawn from the robust eclectic theory of FDI decisions by MNCs as narrated by Dunning (1977). Dunning (1977, 1981, 1988, and 2001) identified and evaluated factors that influence the initial act of foreign production by MNCs and their growth thereof. From this eclectic theory, there exist ownership, location, and internalization advantages and disadvantages faced by MNCs. Dunning (1993) postulated that the precise configuration of ownership, location and internalization (OLI) advantages by MNCs, and their strategic reaction to them, determine the nature, level and structure of MNC activity.

Ownership advantages exist where MNCs experience some advantages relative to domestic firms in a particular sector as a result of privileged ownership of certain tangible and intangible assets. These assets include products development, managerial skills, patents and marketing skills. Location advantages refer to factors such as the accessibility of resources in the host nation and reduction of trade costs in a way that sufficiently justifies the decision to

produce in that country. Internalization advantages capture mainly MNCs' aim at reducing transaction and coordination costs related to FDI cross-border venture. This eclectic theory e implies that factors that affect the sum of the three advantages identified above will directly or indirectly influence FDI destinations.

SADC countries with increasing FDI inflows such as Botswana, Mauritius, Namibia and Madagascar have in general applied consistent macroeconomic and institutional frameworks. Political stability, investment policy and improved infrastructural developments may also have enticed MNCs to direct FDI toward these countries. These above factors do have an effect to incentivize FDI inflows as narrated in the ownership, location and internalization (OLI) Theory.

Drawing from the eclectic paradigm, natural resource endowments in countries such as Mozambique, Madagascar, Angola and DRC presents location advantages that attract FDI inflows. Resource-seeking FDIs are mostly undertaken to exploit the comparative advantages of individual countries, such as low costs of labour and favorable access to raw materials. A notable objective of a resource-seeking MNC is to access specific resources in the host country at lower cost levels compared to home of origin. As suggested by Dunning (1993) high FDI in counties such as South Africa, Madagascar, Angola and the DRC may be credit to MNCs seeking to sustain or protect existing markets, or to exploit new large markets.

Dunning (1993) further proposes that MNCs may seek strategic locations in countries that can be gateways to future markets. Tanzania is strategically located to both the eastern and southern markets of Africa and would expect high levels of FDI inflows. However, FDI inflows are not consistent with this theoretical suggestion. Countries with sea ports such as Namibia, South Africa, Mozambique, Tanzania, and the Indian Ocean islands of Madagascar, Seychelles and Mauritius are strategically preferred recipients of FDI in the SADC region. Land locked countries arguably pose location disadvantages from an eclectic theoretical perspective and this could explain poor flows in countries such as Zimbabwe, Lesotho, Malawi and Zambia.

Hymer (1976)'s imperfect competition theory can also be used to explain FDI inflows in the SADC region. The theory postulates that MNCs are "only" able to compete with local firms that have better knowledge with their environment and markets because MNCs harbor some discriminatory advantages. Imperfect competition in the form of product differentiation is an example in explaining why MNCs would take capital beyond borders. MNCs have access to

capital, labour skills and technical expertise; enjoys economies of scale and utilizes bilateral to multilateral government arrangements. This gives MNCs operating discriminatory advantages.

FDI destinations in many SADC nations are done in sectors that require huge capital, technical expertise and bilateral relations. These include Jwaneng Diamond mining in Botswana, Zambia's Kariba north hydro expansion, MOZAL in Mozambique, and Madagascar's nickel project. It can be concluded from this theory that FDI in the SADC region can be linked to discriminatory powers of MNCs.

Mundell (1957) motivated the idea of substitution between FDI and trade in a Heckscher-Ohlin model with factor mobility. In the Mundell model, mobility of capital may substitute trade flows. Mundell submits that there exist huge differences between capital rich and capital poor countries precisely on relative endowment and relative costs. The incentives for FDI flows increases especially when trade is restricted and labour migration laws are put in place. According to Mundell, SADC countries that put in place strict labour migration laws and trade barriers might benefit from an increased FDI inflow so as to compensate for trade flow shortages.

The Mundell theory fails to apply in the SADC countries such as South Africa, Botswana, Namibia, Zambia and Zimbabwe where the mining sector account for the large share of FDI inflows. Even the fact that FDI inflows are different from zero in the SADC region can testify against the theory which postulates that increased trade is negatively related to FDI inflows. Mundell argued that the big differences between capital rich and capital poor countries can account for mobility of capital. However, in the SADC regions, South Africa and Madagascar account for a larger proportion of FDI inflows relative to other smaller nations such as Zimbabwe, Lesotho, Malawi and Botswana. These smaller nations should have been the ones attracting more capital given their differences with capital rich nations. The Mundell theory however remains important in guiding how trade intensification affects FDI flows.

Ohlin's (1933) market growth theory identifies interest rates and raw materials as the determinants of FDI inflows. The theory proposes that FDI is motivated by high profits emanating from growing international markets. MNCs pursue the need to finance cross-border investments at relatively low interest rates in the FDI hosting country. Ohlin asserts that low interest rates means cheap cost of capital and ideally attracts more FDI compared with high interest's rates. However, low interest rate should be complemented by openness to

trade. Low rates of interests are perceived to attract FDI. Zimbabwe, Malawi, Madagascar, Zambia, and Tanzania exhibited high interest rates above 15% per annum between 2001 and 2010. Consistently, FDI inflows were relatively low for these countries compared to nations that had low interest rates.

Globerman and Shapiro (2002), and Wheeler and Mody, (1992) provide literature on institutions and FDI. Globerman and Shapiro concluded that countries that do not promote governance infrastructure such as legislation, security of property rights, transparency of government and legal processes fail to receive FDI. Wheeler and Mody studied thirteen variables including institutional risks such as bureaucratic red tape, political instability, and corruption, the quality of legal and judicial systems. They report that quality of institutions help developing countries in attracting FDI.

3.3 EMPRICAL LITERATURE REVIEW

The empirical analyses (Bayai and Nyangara 2009; Asiedu, 2006; Chakrabarti, 2001 and Wheeler and Mody, 1992) have typically managed to examine how exogenous macroeconomic and institutional factors affect MNCs' FDI decision in host nations. Nyamwange, (2009); Gwenhamo, (2009); Hakro and Ghumiro, (2007), and Ahmed *et al*., (2005) have analysed variables such as stable macroeconomic policies, market size, human development, and institutional factors including property rights and political risk as determinants of FDI. However, there is no consensus on the determinants of FDI. Nyamwange (2009) using the OLS method and data drawn from Kenya concluded that market size; stable macroeconomic policies and level of human capital are determinants of FDI. Gwenhamo (2009) examined the impact of property rights on FDI in Zimbabwe for the period covering 1964-2005 using a multivariate cointegration framework. She used a constructed property rights index which makes it difficult to compare with other countries. Gwenhamo concluded that property rights, GDP ratio, political risk and educational levels are explanatory variables of FDI.

Hakro and Ghumro (2007) have focused on the need to quantify determinants of FDI. In their case study for Pakistan they used policy shocks in dynamic econometric model to quantify determinants of FDI flows. The results showed that investment environment such as openness to trade is an important factor of FDI in the short run. Long run dynamics between FDI and trade openness as well as macroeconomic factors show consistency with short run results. The study concluded that stable macroeconomic factors, country's risk profile, cost related

and investment improving factors are determinants of FDI. The magnitude of the effects of these identified factors may differ between SADC countries and Pakistan.

SADC countries such as Botswana and Mauritius have consistent macroeconomic policies and good country risk profiles according to UNCTAD, (2012). On the other hand, Zimbabwe, Madagascar, and the DRC have struggled in terms of policy consistency and institutional determinants. For instance, FDI inflows are generally low for Zimbabwe and high for Madagascar.

A study by Ahmed *et al*., (2005) used OLS method and the general methods of moment (GMM) to investigate the level and composition of foreign capital flows in LDCs. Data was drawn from 81 developing economies covering the years 1975 to 2002. The study concluded that external factors such as interest rates and business cycles in developed countries can influence FDI flows. The study proves that FDI tends to concentrate on certain locations known as agglomeration effects. The stock of past FDI stock does influence future flows of FDI in many studied economies. For SADC states FDI is pronounced in mineral endowed countries.

Fedderke and Romm (2004) empirically analysed growth impact and determinants of FDI in South Africa over the years 1960 to 1997. They used the cointegration and error correction modelling techniques and found out that political instability, property rights, real GDP, average wage rates, corporate tax rates and exports plus imports as a percentage of GDP are all significant factors in attracting FDI. Nyamwange, (2009) and Gwenhamo, (2009) in their respective studies, concluded that macroeconomic and institutional factors are important determinants of FDI.

Asiedu (2002) analysed whether determinants of FDI in other developing countries do also influence SSA countries in the same manner. He used OLS method on Africa 'only' sample of 32 countries included in his main study sample of 71 developing countries. Asiedu's study included variables such as National Product (GNP), infrastructure set-up as measured by communication lines per thousand people, openness to trade, labour costs, taxation and tariff duties, as well as political instabilities as measured by upheaval and revolutions as factors that impact on FDI. He also included macroeconomic variables such financial deepening and government size. Although data on taxes, tariff duty and labour costs were unavailable in many SSA economies, Asiedu proved that FDI inflow to SSA is not the same as FDI flow to other developing countries. He found out that higher returns on FDI were significant to other

developing countries but not so to SSA economies. Geographical location was found to significantly impact FDI flows to SSA countries. However, trade openness was less significant in SSA economies as compared to other developing nations while infrastructural developments were insignificant in many African states. These results from Asiedu are intriguing in their precise applicability in the SADC countries. Narrowing down from SSA to a few countries in the SADC region may help to precisely focus in this region. The study results of SADC countries may further provide a comparative base with those found outside other developing countries.

Exchange rates, trade balance, external debt, and interest rates are among the controversial macroeconomic variables that determine FDI. Chakrabarti (2001), for example, studied a vast empirical literature using ad hoc linear cross-country regressions to investigate on the determinants of FDI. Chakrabarti (2001) used extreme bound analysis (EBA) to examine if any of the conclusions from the existing studies is robust to small changes in the conditioning information set. The EBA upheld the robustness of the correlation between FDI and market-size, as measured by per-capita GDP, but indicated that the relation between FDI and many of the controversial variables (tax, wage, openness, exchange rate, tariff, growth, and trade balance) have high sensitive to small alterations in the conditioning information set.

Government and investment policies are quite unique in several SADC economies. Morriset (2000) used panel data to analyse the policy effects on FDI in 29 African states. His approach targeted African countries that have recent increasing trends of FDI inflows without concentrating on abundant natural resources and market size. He constructed business climate index which was used to control total FDI inflows excluding natural resources and market sizes. Morriset concluded that Namibia, Mali and Mozambique were the top destinations of FDI during 1997 to 1998. He further found that economic growth and trade openness were the main determinants of FDI in African countries. This was arrived at after regressing of explanatory variables (GDP increase, literacy rates, trade ratio to GDP, telephone lines available per thousand people and urban ratio to national population) to FDI. Finally, he noted that privatisation schemes, investment codes and bilateral to multilateral government agreements do influence FDI flows.

Corruption is prominent in many SADC nations and high levels of corruption are perceived to be detrimental to FDI inflows. Mauro (1995) used the institutional environment indices and found that corruption lowered investment and therefore economic growth. Mauro (1995)

used a data set consisting of different indices of corruption, the amount of red tape, the efficiency of the judicial system, and various categories of political stability for a cross section of countries. The results were robust to controlling for endogeneity by using an index of ethno-linguistic fractionalization as an instrument, and again concluded that corruption does lower FDI inflows.

Volatility in exchange rates in the SADC region may account for unstable FDI inflows. The Southern African Customs Union (SACU) comprising the Rand Community of South Africa, Namibia, Botswana, Lesotho and Swaziland has relatively less volatile exchange rates in the SADC region. The rest of the SADC countries have pronounced levels of volatility in exchange rates. Frost and Stein (1991) found that increased FDI inflows in host countries are a result of currency depreciation. The study used ordinary regression methods. A study by Klein and Rosengren (1994) confirms that in the USA, increased FDI were a result of exchange rate depreciation. These studies were done in the DCs with floating or flexible exchange rates. The characteristics of LDCs are genuinely different from those of DCs making the applicability of such results in the SADC region difficult. However, similarities can be drawn in that SADC currencies are semi- flexible to pegged, meaning that devaluations may have the same effect of increasing FDI inflows as obtained in the above studies.

As already argued in the theoretical and empirical review above, government investment policies, market size and labour costs are among the determinants of FDI. These factors are supported by Tsai (1991). The study used time series data for developing countries and executed demand side factors of FDI using Ordinary Least Squares (OLS). A dummy variable was used to control for country incentive policies of FDI in different time spans. It was confirmed that labours costs, market size are significant pull factors affecting the flow of FDI. Tsai also found that government incentive policies were not significant in attracting FDI. SADC countries have enacted one stop investment centres in an effort to lure FDI. Investment authorities serve to reduce bureaucratic hurdles that occur in registering foreign investors. Despite these positive developments, low FDI inflows are reported in SADC.

3.4 SUMMARY

The theoretical developments on the determinants of FDI are mainly biased towards microeconomic factors, thus alienating country specific factors that can affect the flow of FDI. The eclectic theory provides a wide range of possible factors that explain the flow of

FDI into the SADC region. In addition, discriminatory, market growth, and capital mobility theories provide important insights in supplying factors that determine the flow of FDI into the SADC region. As deduced from the aforementioned theories, natural resources, market growth and size, infrastructure, investment policies and consistent macroeconomic policies are vital in attracting FDI in the SADC bloc. The theories are however inconclusive and generally biased on the FDI decision making process by MNCs disregarding how host factors affect FDI inflows. It remains unknown from the theoretical framework how these factors interact to precisely affect FDI inflows in the SADC countries.

While theoretical framework has specifically outlined micro factors determining FDI, the empirical literature examined broad and inconclusive list of macro-factors. Deducing from a theoretical and empirical perspective, FDI depends on interest rates, exchange rate, labour costs and productivity, taxation policies, output level (GDP) trade openness of the economy, infrastructure, and governance issues. This list is not only vague, imprecise and endless, but also dynamic in nature. Empirically identified variables are difficult to apply in the SADC region due to country differences. Variables identified also vary with methodologies, data sets used and time periods considered. It can further be noted that there is a paucity of studies carried out in the SADC region itself.

CHAPTER FOUR

METHODOLOGY

4.1 INTRODUCTION

This chapter concentrates on outlining the methodology, model specifications, and estimation techniques, justification of variables and data sources.

4.2 MODEL SPECIFICATION AND JUSTIFICATION OF VARIABLES

Based on the theoretical foundations of the study, FDI is determined by macroeconomic, institutional and governance factors. This can be specified as follows:

$$FDI_{it} = f\left(macroeconomic-factors, instititional-factors, governance-factors\right)$$

Macroeconomic factors include interest rate, national debt, current account balance, and gross domestic product- market size. Institutional factors include political stability and control of corruption, while the voice and accountability represents governance factors.

Based on the above theoretical model, an empirical model to be estimated is specified as follows:

$$FDI_{it} = \alpha_0 + \alpha_1 \text{int}_{it} + \alpha_2 xrate_{it} + \alpha_3 natd_{it} + \alpha_4 gdp_{it} + \alpha_5 bop_{it} + \alpha_6 abpol_{it} + \alpha_7 corrco_{it} + \alpha_8 voica_{it} + \varepsilon_{it}$$

Where;

FDI	represents foreign direct investment
int	represents interest rate per annum
$natd$	represents annual national debt balances
$xrate$	represents annual exchange rate movement
bop	represents current account balances on the balance of payment per year
gdp	represents Gross Domestic Product
$abpol$	represents the absence of political risk and violence in the host country
$voica$	represents tolerance of dissent voices, critiques and government accountability
$corrco$	represents corruption and rent-seeking control by the host nation
ε	is the disturbance term.
i	is a country subscript, where $i = 1, 2, \ldots, 11$

t is a time (years) subscript taking the values $t = 2001, 2002, ...2010.$

α represents parameters to be estimated, these are $\alpha_{0,1,2...8}$

4.2.1 DEPENDENT VARIABLE (*FDI*)

Helleiner (1989) defines FDI as direct and indirect capital flows made by affiliates of investors, including reinvested earnings and net borrowings such as equity monies. Our study employed FDI stocks expressed as percentage of GDP from the selected SADC countries over the study period. The FDI is taken as a stock rather than as a flow as was done in similar studies (Chakrabarti, 2001 and Chiguvu, 2009). The FDI figures are extracted from World Bank data annually, and for all SADC countries. FDI stocks are preferred due to the fact that it captures foreign investors' interest in stocks rather than flows of capital. In addition FDI stocks are recorded in local capital markets hence it is a better measure of capital ownership. Finally, FDI stocks are less volatile than capital flows which give them an accommodative ability to capture large takeovers common in many small SADC nations as compared to other capital flows.

4.2.2 EXPLANATORY VARIABLES

Interest rate (int)

The study uses real interest rates expressed as a percentage. The rate of interest is included in order to capture the cost of capital, and has a theoretical inverse relationship to FDI as alluded to in preceding chapters. This means that, countries with stable and low rates of interest are perceived to host FDI. Botswana, Namibia and South Africa's interest rates were below the 10% mark and in the contrary Zimbabwe's 2007 and 2008 interest rates reached 457.46% and 800.50% respectively. Jorgenson (1963) in a study for Tanzania's interest rates between 1960 and 1973 confirmed a negative relationship between investment and cost of capital. However, Shafik (1992) in his study for Egypt concluded that it is difficult to obtain a significant coefficient of FDI and interest rate because of uncertainties associated with investment decisions and short run market trends fluctuations. But, the general consensus (Green and Vilanueva, 1991) is arguably that high interest rates are perceived to scare away meaningful FDI. Agosin and Machado (2005) suggest that the final sign between FDI and interest rate is not predictable. This study therefore expects a negative relationship between FDI and interest rates.

National debt (*natd*)

National external debt is defined as the total (public and private) amount of a country's foreign borrowing which carries a future repayment. Total external debt is the sum of public, publicly guaranteed and private non-guaranteed long-term debt, including servicing of IMF credit and short-term debt. National debt figures for LDCs have been ballooning in the past two decades. SADC external debt figures are very high as compared to other SSA countries. Huge debts deter individual countries from accessing external funds other than the Multinationals' concessional loans. National debt overhang reduces a nation's chances of serving borrowed funds and hence exposes it to fewer lenders. Credit worthiness can impact on a country's ability to attracting FDI. Researches by Borenzstein *et al*., (1998) and Chiguvu (2009) hypothesized that huge country debt can contribute to failure in attracting FDI. The expected sign between FDI and national debt is negative.

Exchange rate (*xrate*)

This refers to real effective exchange rate. Real effective exchange rate can be narrowly defined as foreign currency per unit of domestic currency deflated for inflation. FDI like any other type of cross border investment is subjected to exchange rate fluctuations (Ghura and Godwin, 2000; Goldberg and Kolstad, 1995). Unlike in the Developed Countries (DCs) where most exchange rates are flexible, exchange rates in the SACU bloc for instance, are pegged to South African Rand. Furthermore, exchange rates in the other SADC countries are fixed and prone to devaluations. Theories of FDI alluded to above show that devaluations under imperfect capital markets can attract FDI inflows to host nations. UNCTAD, (2010) reports that the impact of volatility exchange rates to host nations can be detrimental to FDI inflows. The UNCTAD (2010) report acknowledges that volatile in the exchange rates of host nations can shun away MNCs in supplying FDI. The expected sign is positive as currency devaluation in host nations is expected to lure more investment.

Current account balance (*bop*)

This is a record of the country's net trade in goods and services plus net earnings from rent, interests, profits and dividends, and net transfer payments to and from the rest of the world. A study carried by Mlambo and Oshikoya (2001) of eighteen African countries for the period

1970-1996 found out that trade variables are significant determinants of FDI in Africa. An increase in exports and foreign direct inflows has a multiplier effect on the national income. FDI can in addition, act as a substitute for exports for the host nation. Markusen (1984) develops and proves that FDI, in a general equilibrium framework, has a substitution effect with exports. Furthermore a study by Bleaney (2001) proves on how current account balances and exchange fluctuations impacts on investment and growth, and concludes that favourable terms of trade incentivize investment where and when real exchange rates are less overvalued. Bazoumana (2004) in a study for FDI determinants in Senegal found out a significant negative relationship between negative current account balances and investment. This therefore means that current account balance has an expected inverse relationship with FDI.

Gross Domestic Product-Market size (gdp)

This is measured by real growth rate of GDP and is used to proxy the effects of market size in the economy. Artige and Nicolini, (2005) observe that the size of market as measured by GDP seems to be the most robust determinant of FDI in most econometric studies. Chakrabarti (2001) also argued that the larger the market size the more efficient resources are utilized in attaining economies of scale. As the market grows to some critical value, FDI will start to increase. GDP is congruent to the demand in an economy, thus higher GDP is a positive push for FDI in the economy. Rapid GDP growth would be expected to boost expectations and hence FDI (Chiguvu, 2009). A positive relationship between GDP and FDI is therefore expected in this dissertation.

Political stability ($abpol$ **)**

This is an index measuring the perception of the likelihood that the government will be destabilized or overthrown by unconstitutional means (Kaufmann *et al*., 2008). An index closer to zero means low political stability, while that closer to 1 means high political stability. Several researchers (Mlambo and Oshikoya, 2001; Harms and Ursprung, 2002; and Bayai and Nyangara, 2009) examined the influence of political risk on FDI inflows. Countries that are politically unstable and have violence are likely to attract low levels of FDI inflows. Harms and Ursprung, (2002) proved that economic failures in LDCs can be jointly explained by policies in both economic and political sphere. Alesina and Perotti (1996) found that political instability destroys both physical and human capital, thus reducing job

opportunities and disrupting savings and lowers investment. The index of political stability is expected to positively influence FDI inflows.

Voice and accountability (*voica*)

This variable is measured as an index on the extent to which country citizens are able to participate in selecting their governments as well as existence of freedom of expression, freedom of association and a free media space (Kaufmann *et al*., 2008). An index closer to zero means a country has poor voice and accountability, while that closer to 1 means better voice and accountability. This variable is included in this study as an innovation as previous studies on the determinants of FDI fairly excluded it. High levels of voice and accountability are hypothesised to attract more FDI. The study expected a positive relationship between FDI and voice and accountability.

Control of corruption (*corrco* **)**

This is an index on the extent to which public power is exercised for private gain, including petty and grand forms of corruption as well as 'capture' of state by elites and private interests (Kaufmann *et al*., 2008). The index is closer to zero (0) for countries with poor control of corruption and closer to 1 otherwise. Wei's papers (2000a; 2000b) show that a variety of corruption indices are strongly and negatively related with FDI. Hines (1995) used a natural experiment approach by examining how the 1977 USA Foreign Corrupt Practices Act which stipulated penalties for USA MNCs found bribing foreign officials and found a negative impact of bribe control on USA FDI outflows. Chiguvu, (2009) found a negative significant relationship between FDI and corruption in the SADC region. Chiguvu's study implies that the control of corruption may boost FDI inflows. Control of corruption is expected to be positively related to FDI in this study.

4.3 ESTIMATION TECHNIQUE

Panel data was collected from data sources identified in Table 4.1 towards the end of this chapter. The data was cleaned to ensure that variables considered are comparable across time and countries, thereby suitable to use in the econometric panel data model. The study used panel data modeling approach. All the variables were subjected to descriptive statistics to check for statistical outliers and inconsistencies within our data. Outliers and inconsistencies may induce bias in econometric procedures. All the explanatory variables were subjected to collinearity tests with a cut-off limit of 0.88 in panel data analysis. Nevertheless, other

econometric model accepts correlation cut-off of 0.85. However, in this model we proceeded to use robust standard error method that utilizes panel corrected standard errors, even after identifying high correlated variables, which may be above 0.85.

Studies of panel data give more information and variability compared to pure cross section and time series studies. The use of panel data reduces collinearity among variables, while it increases degrees of freedom in the study. Panel data estimation allows the control of individual country heterogeneity, as compared to pure time series or cross sectional data. The panel data approach is able to capture micro-effects which cannot be captured by cross section and time series estimations. In this study, using panel data enabled countering the problem of a short time span (T) since some World Governance Indicators (WGI) were constructed beginning the year 1996. This means that, there are only 18 years from the first construction to date. In order to circumvent this short time span we have therefore employed panel data. De Mello (1999) used panel data analysis in his study for exchange in the U.SA.

Panel data estimation involved estimating three models; pooled regression model, fixed effects model and the random effects model. Estimation was done using *Gretl* versionW32. We carried a 'poolability' test in order to determine whether to use the simple pooled OLS method or fixed effects model. Failure to reject the null hypothesis that says cross-country units all have a common intercept; means the simple pooled OLS model is preferred.

We proceeded to estimate the random effects model such that a Hausman test is probed, in order to choose between the fixed effects model and the random effects model. The difference between the fixed effects and the random effects lies on whether time invariant effects are correlated with the explanatory variables or not. The Hausman null hypothesis is that Generalized Least Squares (GLS) are consistency, and when we fail to reject the null hypothesis, (Hausman test), it then means that the random effects model is preferred. Finally, we proceeded to interpret the Breusch-Pagan results, with a null hypothesis that the variance of country- specific error is equal to zero. Our failure to reject the null hypothesis means that the simple pooled OLS model is adequate.

After we have identified the preferred model, in this case the simple OLS model, we subjected that simple OLS model to further tests. We carried out normality test to determine whether the data is drawn from a normally distributed population. Accepting that error terms are normally distributed means that the model fits. We checked the preferred OLS model for heteroskedasticity test. The heteroskedasticity test has a null hypothesis that countries have a

common error variance. Failure to accept the null hypothesis means that there is heteroskedasticity in the simple OLS model. We then proceeded to use the robust weighted least squares (WLS) that controls for heteroskedasticity, multicollinearity and, or autocorrelation. The WLS results are tabled in the next chapter.

All the tests, correlation, normality, fixed effects, random effects, Haussman, Breush-Pagan, heteroskedasticity and model specification were carried out to determine the best model upon which policy conclusions were drawn.

4.4 DATA SOURCES

The study used secondary data as shown in Appendix A, and the respective data sources are shown on Table 4.1 below. The data captured both cross sectional and time series dimensions. The cross sectional dimension refers to the selected 11 countries in the SADC region, namely Botswana, Lesotho Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia and Zimbabwe. SADC Countries that had missing or incomplete data were excluded from the study. Variables are studied over a 10 year period from the year 2001 to 2010. Data was compiled on 8 variables which are annual GDP, annual interest rate, annual exchange rate, national external debt, current account balances, and political stability, control of corruption, and voice and accountability. The data set is a balanced panel data where each country has the same number of observations studied over time. It is also a short panel in the sense that number of observation (N=11) is greater than Time (T=10), ruling out possibilities of non-stationary. The major sources of data are the World Bank Institute, IMF and individual country's central banks. Table 4.1 below shows data sources and expected signs of the variables under consideration.

TABLE 4.1: DESCRIPTION OF AND DATA SOURCES OF VARIABLES

DESCRIPTION	VARIABLE Coding	Expected Sign	SOURCE
Foreign direct investment	FDI	-	IMF International Financial Statistics
Interest rate	(int)	Negative	World Bank Data
Exchange rate	$(xrate)$	Positive	World Bank Data
Exports +imports /GDP	(bop)	Negative	IMF International Financial Statistics
Real gross domestic product	(gdp)	Positive	World Bank Indicators (WBI)
External debt to GDP	$natd$	Negative	World Bank Indicators (WBI)
Absence of political risk	$(abpol)$	Positive	World Bank Indicators (WBI)
Control of corruption activities	$(corrco)$	Positive	World Bank Indicators (WBI)
Voice and Accountability	$(voica)$	Negative	World Bank Indicators (WBI)

Source: Author Compilation

4.5 TARGET POPULATION AND SAMPLING DESIGN

There are 15 countries in the SADC region. This study has selected eleven SADC countries, namely Botswana, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Tanzania, Zambia, and Zimbabwe based on data completeness. In this sample, five are land locked countries and six countries are coastal endowed SADC nations. The sample is close to 80% of the total population, and taking cognizance of the selective problem inherent in most panel data estimation we have excluded the following four nations. Land locked country of Swaziland, the small Island of Seychelles, as well as Angola and the Democratic Republic of Congo because of incomplete data.

4.6 CONCLUSION

This chapter has outlined methodology, model specification, and the estimation technique and data sources used for the study. The study methodology that is Panel Data Analysis has also been discussed, including econometric tests that are necessary for such a panel data analysis. The empirical model estimated has proxies of macroeconomic, institutional and governance factors as the major variants of FDI inflows in the SADC region. Chapter four outlined the estimated results, analyzed and discussed them.

CHAPTER FIVE

5.1 INTRODUCTION

The objective of this chapter is to empirically estimate the model specified in chapter four above. Econometric tests identified in chapter four were carried out and interpreted. The chapter begins with descriptive statistics and proceeds to econometric test before concluding with a discussion of the results and a summary.

5.2 DESCRIPTIVE STATISTICS

The summary of descriptive statistics is given on Table 5.1 below. The variations in explanatory variables possibly explain the variability in FDI, which has a standard of 3.35. Volatility in macroeconomic variables such as interest rates, exchange rate, current account balance and national debt may imply that macroeconomic factors plays major role than institutional variables considered in influencing FDI. The data is a balanced panel data with 8 variables on 110 observations.

TABLE 5.1: SUMMARY OF DESCRIPTIVE STATISTICS

Variable	Obs	Mean	Std. Dev	Min	Max
FDI	110	4.27	3.35	-1.16	14.02
intr	110	28.66	91.88	0.06	800.50
natd	110	50.61	41.75	-7.53	187.24
xrate	110	938.79	2316.27	0.06	18771.30
bop	110	-3.29	50.67	-293.60	269.04
gdp	110	3.57	4.75	-14.10	12.27
corrco	110	0.49	22.11	0.01	0.86
abpol	110	0.50	20.58	0.11	0.92
voica	110	0.47	18.35	0.31	0.89

5.3 ECONOMETRIC TESTS AND DISCUSSION OF RESULTS

Multicollinearity Test

The Table 5.1 below shows high correlation between corruption control and voice accountability. This follows a Pearson correlation coefficient of 0.85 between the two variables. This is expected and consequently a weighted least squares (WLS) method of estimating the data was finally adopted as it controls for multicollinearity. In the presence of multicolliarity results may be biased and unreliable.

TABLE 5.2: MULTICOLLINEARITY ANALYSIS

	intr	**natd**	**Xrate**	**Bop**	**gdp**	**corrco**	**abpol**	**voica**
intr	1.00							
natd	0.29	1.00						
xrate	0.77	0.36	1.00					
bop	0.01	- 0.05	- 0.01	1.00				
gdp	- 0.52	- 0.23	- 0.27	0.01	1.00			
corrco	- 0.43	- 0.66	- 0.41	0.02	0.31	1.00		
abpol	-0.34	-0.49	-0.24	0.03	0.41	0.70	1.00	
voica	-0.44	-0.55	-0.35	-0.003	0.44	0.85	0.75	1.00

5.3.1 DISCUSSION OF RESULTS

This section discussed the results as outlined in Table 5.3 below. Several tests as already mentioned in the last chapter under estimation techniques were carried out and the results of the tests are interpreted based on Table 5.3 below.

Table of results from the WLS model are shown in Table 5.3 below.

Table 5.3: WEIGHTED LEAST SQUARE (WLS) METHOD, RESULTS; USING 110 OBSERVATIONS

Included 11 cross-sectional units
Dependent variable: FDI
Weights based on per-unit error variances

	Coefficient	***Std. Error***	***t-ratio***	***p-value***
const	4.8569	1.2011	4.0438	0.00010
intr	- 0.0189***	0.0051	-3.7295	0.00032
natd	- 0.0095	0.0080	-1.1867	0.23812
xrate	0.0008***	0.0002	4.7155	0.00001
bop	- 0.0065	0.0057	-1.1365	0.25844
gdp	0.1820***	0.0635	2.8663	0.00505
corrco	0.0759***	0.0251	3.0271	0.00313
abpol	0.0538***	0.0194	2.7731	0.00661
voica	- 0.1602***	0.0300	- 5.3420	0.00001

Statistics based on the weighted data:

Sum squared resid	109.6610	S.E. of regression	1.041994
R-squared	0.416167	Adjusted R-squared	0.369922
F(8, 101)	8.999320	P-value(F)	0.0003
Log-likelihood	-155.9135	Akaike criterion	329.8269
Schwarz criterion	354.1313	Hannan-Quinn	339.6849

Statistics based on the original data:

Mean dependent var	4.265273	S.D. dependent var	3.349308
Sum squared resid	759.6956	S.E. of regression	2.742579

An F- test for the whole model reports that data used in the model significantly fits. An F-test for the significance of the model reports an F- statistic (8, 101) of 8.99 and a p-value of 0.0003. This means that we failed to accept the null hypothesis that all parameters of the model are equal to zero. The study further reports that the data used is drawn from a normally distributed population meaning that the results from this study are consistent and reliable. The normality test reported a Chi-square value of 5,471 and a p-value of 0.0648. The p-value implies that the null hypothesis that the error terms are normally distributed is failed to be rejected at 5% level of significance.

The study estimated the fixed effects model and the results reported were as follows:
F-test for the null hypothesis that the SADC countries all have a common intercept reports a critical F-statistic of 5.47 and p-value of 0.064. We therefore failed to reject the null hypothesis and concluded that the pooled OLS method is supported. We proceeded to estimate the random effects model and the Hausman test reports a Chi-square statistic of 13.18 and a p-value of 0.1057. The null hypothesis that GLS estimates are consistent failed to be rejected at 5% level of significance. This means random effects model is preferred to fixed effects model.

This Breusch-Pagan test was carried out to determine the model with the most adequate parameters between the simple pooled OLS and the random effects model. The null hypothesis that the variance of country-specific error is equal to zero failed to be rejected at 5% level of significance. This follows a reported Chi-square statistic of 0.1184 and a p-value of 0.7307. It therefore followed from this test that the simple pooled OLS model is adequate for this study.

Wald test were carried out in order to check for the possibility of heteroskedasticity. The test reports a Chi-square statistic of 23.49 and a p-value of 0.015. This means the null hypothesis that countries have a common error variance failed to be accepted at 5 % level of significance. The study therefore concludes that there is heteroskedasticity. In the presence of heteroskedasticity, the Weighted Least Squares Method was used as it is more efficient and consistent than simple pooled OLS method. This study therefore proceeded to interpret results based on the Weighted Least Squares (WLS) Method as shown in the in table 5.3 above.

The results are based on a weighted least square panel data estimation of the model specified in chapter four. Variables are grouped into macroeconomic and institutional factors, and only statistically significant variables are discussed.

MACROECONOMIC FACTORS

Interest rate (int)

Interest rate is statistically significant at the 1% level with a negative coefficient of 0.02. This is confirming the theoretical inverse relation that exists between FDI and interests rates. The results confirm the Ohlin (1933) market growth theory and indisputable empirical results by other researchers (Wilhems, 1998 and Stevens, 1998). It therefore implies that SADC

countries have to undertake macro-economic policies that reduce interest rate in order to lower the cost of capital and attract FDI.

Exchange rate (*xrate***)**

This variable is statistically significant at the 1% level but with a positive figure of 0.00084. This implies that a devaluation of 100 % is likely to increase FDI by 0.08 %. Several studies, Grubert and Mutti (1991), Swenson (1991), Campa (1996) found consistent evidence that short term movements in exchange rates lead to increased FDI inflows. SADC exchange rates are fixed and in particular those under SACU are pegged to the South African Rand and devaluations which are not uncommon in LDCs may give reasons to the positive relationship obtained in this study. This means that exchange rates fluctuations, especially devaluations obtaining in SADC yields a positive effect on FDI inflows.

Gross Domestic Product – Market Size (gdp **)**

The coefficient of GDP was found to be 0.18 and statistically significant at the 1% level. This means that a percentage increase in GDP is likely to increase FDI by 0.18 percent. Thus, when market grows in the SADC countries, the individual countries are most likely to attract FDI inflows. Larger markets are perceived to attract FDI since higher GDP are synonymous with higher population figures hence higher demand for goods and services. This may also imply that FDI inflows are consumption driven. This result is supported by previous studies (Ngowi, 2001; Asiedu, 2002; Artige and Nicolini, 2005; Chiguvu 2009) reported similar results. This study therefore advocate for macroeconomic policies that promote market growth by growing GDP and increasing incomes of their residents.

INSTITUTIONAL AND GOVERNANCE FACTORS

Political stability ($abpol$ **)**

This variable is statistically significant at the 1% all level as it reports a coefficient value of 0.054. This confirmed results obtained by Gastanaga *et al.*, (1998), who conducted an investigation of institutional variables that impact on FDI using panel data from twenty-two developing countries covering 1970-1975. In addition, Gwenhamo (2009) cites the following papers, Knack and Keefer (1995b), Stein and Daude (2001), and Fedderke and Romm (2006), who all concluded that institutional factors especially property rights, rule of law and political risky impact FDI. In addition, Blonigen (2005) further records that poor quality of institutions necessary for well-functioning markets (corruption and/or rent-seeking activities) increases

the cost of doing business, and consequently reduces FDI inflows. The research found a positive and significant relationship between FDI and gross domestic product ratio and in particularly property rights as it was a proxy of Business Environmental Risk Intelligent (BERI). This concludes that politically stable countries in SADC attract more FDI.

Control of corruption (*corrco*)

Unlike other studies (Gwenhamo, 2009 and Chiguvu, 2009) which approached this variable from the negative hypothesis, this study captures positive measures that recognize countries in the SADC bloc that are doing good in controlling corruption and rent-seeking activities. The variable is significant at all levels and a coefficient figure of 0.0759379. This means that countries with corrective measures in controlling corruption managed significantly to attracting FDI inflows in the region. Efforts to control corruption in the SADC bloc are most welcome. Countries that are pursuing tangible efforts to control corruption have higher chances of hosting increased FDI inflows. Removal of bureaucratic procedures in "one stop" investment centers reduces corruption activities inherent in most SADC nations.

Voice and accountability (*voica*)

This variable is quite new in terms of LDCs. Although the voice and accountability variable is statistically significant at the 1% level it has a negative sign. The coefficient figure is negative 0.16, meaning that improved voice and accountability negatively impact on FDI inflows. The study therefore failed to support the theoretical arguments that countries that enforces and acknowledges dissent voices are ready to attract FDI. The result shows otherwise, in that voice and accountability concerns can deter FDI flows.

5.4 CONCLUSION

The regression analysis showed that six out of eight explanatory variables were statistically significant at 1% level. The results presented in our regression analysis indicated that political stability and the absence of violence is positively related to FDI inflows. This means that we fail to reject the hypothesis that political stability positively affects FDI flows in the SADC. The reason being that, investors do not want to 'sink' their invested earnings in politically unstable countries. The region can do well in terms of attracting FDI by improving political stability in all sectors of the economy. Political stability and absence of violence provides foreign investors with the appropriate environment to increase their FDI cross border ventures. This shows that other noneconomic factors are indeed determinants of FDI in SADC countries. The control of corruption and voice and accountability issues weighed in

with strong influence to SADC FDI inflows. Noneconomic factors in particular control of corruption, political instability and presence of violence, as well as poor voice and poor government accountability are determinants of FDI flows in SADC countries.

CHAPTER SIX

CONCLUSION AND POLICY RECOMMENDATIONS

6.1 SUMMARY OF STUDY

The main objective of this research was to carry out a robust investigation of major determinants of FDI in the SADC countries. The study was undertaken in order to investigate the poor flow of FDI to the SADC region. This is so despite the rigorous efforts to lure foreign investors to the region by creating enabling and less bureaucratic procedures. In order to execute this objective the study performed an econometric methodology known as panel data analysis for the 11 SADC member states for the years 2001 to 2010. The weighted least squares (WLS) panel model proved adequate after being subjected to several econometric tests.

All variables included in the study picked correct and expected signs, in actual fact; six were statistically significant at the 1% level. The six variables are interest rate, exchange rate, gross domestic product, political stability and the absence of violence, control of corruption, and voice and accountability issues. Two variables, national external debt and current account balances although carried right expected signs were not statistically significant.

Noneconomic variable such as political stability and the absence of violence, control of corruption, and voice and accountability issues were proved to be important factors in attracting FDI to the SADC region. Positive measures that align institutional factors in the SADC nations produce positive results in terms of FDI inflows. In like manner, policies that deter corruption are positive steps for the SADC region to lure as much FDI as possible. Another proven element is that the bigger the market size the more SADC nations play host to FDI. An expanded integration of include, for example, SADC and COMESA to form the integrated economic bloc such as the expanded PTA are welcome developments that might produce a larger market that could attract FDI inwards. Exchange rates are theoretically married to FDI, inversely though, the SADC bloc must seriously think of adopting a single currency strategy. Steady currency would be viewed by foreign investors as a positive towards a large and a common market. The adoption of a single currency coupled with low cost of capital means that FDI might increase the gravitational flow to the SADC countries.

The credit crunch that is obtaining elsewhere and external debts shows that SADC financial markets are not yet sophisticated, hence the insignificance produced in this study.

6.2 POLICY RECOMMENDATIONS

MNCs' FDI location is indeed influenced by global competition and hence the share of FDI inflows to the SADC bloc is decreasing. The SADC bloc seemed un-awakened by the falling figures. This part of literature shall offer some policy recommendations and strategic interventions that could be used to rescue the FDI falling figures in the SADC region in particular, and SSA at large. The following recommendations are not cast in iron, or exhaustive in nature but rather some guidelines which must be dynamic and uniquely applied.

The results show that exchange rates policies are sensitive to FDI inflows, and as such policies that incorporate single currency in the SADC region may play significant role in the individual economies, and the SADC bloc in general. The current international credit crisis and South African Rand exchange rate volatility are synonymous with poor FDI inflows for the region. This means that a single currency approach might be perceived by foreign investors as a positive development towards stable currency unit and a bigger market.

Interest rates in some SADC countries such as Tanzania, Malawi, Zambia and Zimbabwe are relatively high therefore impending FDI inflows in the region. It is recommended that policy makers revise downwards all their prime lending rates in order to harness much needed FDI. The interest rates confirm a theoretical inverse relationship to FDI. Lower rates of interest are perceived attractive to FDI, and policies that reduce cost of capital can do well to increase funds for investment in the region.

The general increase of GDPs across the bloc is a positive development and the wholesome effect is that of an increased market and size which attracts inward FDI. Policies that increase the current SADC membership bloc are quite appropriate. The inclusion of COMESA, SADC, and PTA countries to integrate as one trading bloc may inevitably raise the GDP and market size and attract large FDI inflows.

All institutional factors were significant. Non-economic factors such as a political stability and absence of violence, voice and accountability, and measures that are aimed in controlling corruption need to be enforced together with other proven institutional determinants such as the enforcement of secured property rights and uphold of the rule of law in order for the SADC bloc to attract much increased FDI. SADC governments should pursue good

governance issues and show zero tolerance on corruption. The SADC nations should nip any envisaged politically instability in the bud. Following positive institutional determinants of FDI is imperative for the region to shell off itself from perennial low flows of FDI.

6.3 STUDY LIMITATIONS AND FURTHER RESEARCH

Data limitations are inherent in African studies, and this study failed to capture important variables such as taxation policies, resource endowments, education and labour participation ratio among others determinants. Future studies must capitalize on advanced technology and include as much data as possible, and capture the dynamic institutional and infrastructural set up missing in this particular study.

REFERENCES

2010 Ibrahim Index of African Governance, (2010), available on http://www.moibrahimfoundation.org/en/media/ge/2010004.pdf.

Agosin, M. and Machado, R. (2005). Foreign Investment in developing Countries: Does it crowd in domestic investment? *Oxford Development Studies* 33(2):149-162.

Ahmed, F., Arezki, R. and Funke, N., (2005), "The Composition of Capital Flows: Is South Africa Different?" IMF Working Paper. 5(40).

Alesina, A., and Perotti, R., (1996), "Income Distribution, Political Instability and Investment." European Economie Review: Working Paper 120 (4):1205-1228.

Arrighi, G. (2002), "The African Crisis." *New Left Review*, Vol. 15: 5-36

Artige, L. and Nicolini, R., (2005), "Market Potential, Productivity and Foreign Direct Investment: Some Evidence from Three Studies." *European Planning Studies*, Vol. 18: 147-168.

Asiedu, E. (2002), "On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?" *World Development*, 30, 107-119.

Asiedu, E. (2005), "The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability," *World Institute for Development Economics Research* Working Paper Number 2005/24 United Nations University.

Asiedu, E. (2006), "Foreign Direct Investment in Africa: The Role of Natural Resources, Market Size, Government Policy, Institutions and Political Instability" *United Nations University* 2006.

Ayittey, G.B.N, (2005), "Africa Unchained" London: Palgrave MacMillan

Balasubramanyan,V., Mohammed N., Salisu A., Sapsford D. (1996) "Foreign Direct Investment and Growth in EP and IS Countries," *Economic Journal*, 106: 92-105

Bayai, I. and D. Nyangara, "An Analysis of Determinants of Private Investment in Zimbabwe for the Period 2009-2011" *International Journal of Economics and Management Sciences*, Vol. No. 6 2013: 11-42

Bleaney, M., (2001), "Political Uncertainty and Private Investment in South Africa." *CREDIT Research Paper* No. 93/15, University of Nottingham

Blonigen, B. A., (2005) "A Review of the Empirical Literature on FDI Determinants" NBER Working Paper 11299

Biggs Tyler (2012) Mozambique's Coming Natural Resources Boom

Borensztein, E., de Gregorio, J. and J.W. Lee. (1998), "How Does Foreign Investment Affect Economic Growth?" *Journal of International Economics*, 45(1):115-135

Bozoumana, O. (2004), "Modelling the Long Run Determinants of Private Investment in Senegal" *Centre for Research in Economic Development (CREDIT),* University of Nottingham, 04/2005.

Campa, Jose M (1993) "Entry by Foreign Firms in the U.S under Exchange Rate Uncertanity," *Review of Economics and Statistics*, 75(4): 614-622

Caves, R.E., (1971), "International Corporations: The Industrial Economics of Foreign Direct Investment." *Economica*, 18:1-27

Chakrabarti, A., (2001), "The Determinants of Foreign Direct Investment: Sensativity Analysis of Cross-Country Regressions*" Kyklos,* 54(1): 89-113

Chiguvu, T. (2009) "Empirical Investigation of Trade Openness and other Macroeconomic Determinants of Foreign Direct Investment in the SADC Region." *Msc Dissertation University of Zimbabwe*.

De Mello L.R.J (1999) "Foreign Direct Investment- Led Growth: Evidence from time series and Panel Data", *Oxford Economic Papers, Vol 51 pages 133-151.*

Duarlauf, S.N and Quah, D (1998), "The New Empirics of Economic Growth." *National Bureau of Economic Research (NBER)*: Working Papers 6422

Dunning J. H., (1977), "Trade, Location of Economic Activity and the MNE: A Search for an Eclectic Approach. In B. Ohlin, P.O Hesseborn, and P.M. Wijkman (eds)" *The International Allocation of Economic Activity*, London: Macmillan 395-418.

Dunning J. H., (1980) "Towards an Eclectic Theory of International Production: Empirical Tests," *Journal of International Business Studies*. 11(0): 9-31

Dunning J. H., (1988) “Explaining International Production.” *London* George Allen and Unwin

Dunning J. H., (1993) “Multinational Enterprises and the Global Economy” *Reading, Mass*: Addison-Wesley

Dunning, J. H. (2001) “The Eclectic (OLI) Paradigm of International Production: Past, Present and Future,” *International Journal of Economics and Business,* 8(2): 173-190

Easterly, W and Levine, R. (1997), “Africa’s Growth Tragedy: Policies and Ehinic Divisions.” *The Quarterly Journal of Economics,* 112/4:1203-1250.

Fedderke, J.W., and Romm, A.T., (2004), “Growth Impact and Determinants of Foreign Direct Investment into South Africa.” *University of Cape Town*., Working Paper 12.

Fedderke, J.W., and Romm, A.T., (2006), “Growth Impact and Determinants of Foreign Direct Investment into South Africa: 1953-2003”. *Economic Modelling*, 23: 738-760

Gastanaga, V.J., Nugent, J.B., and Pashamova, B., (1998), “Host Country Reforms and FDI Inflows. How much Difference do they make?” *World Development*, 26: 1299-1314.

Ghura D., and Godwin B. (2000) “Determinants of Private Investment: A Cross-Regional Empirical Investigation,” *Applied Economics, Vol*.32: 1819-1829

Globerman, S., and Shapiro, D. (2002), “Global Foreign Direct Investment Flows: The role of Governance Infrastructure,” *World Development Bank*, 30/11: 1899-1919.

Goldberg, Linda S. and Charles D. Kolstad. (1995) “Foreign Direct Investment, Exchange Rate Variability and Demand Uncertainty,” *International Economic Review*, 36(4):855-873

Green J., and Villanueva D (1991) “Private Investment in Developing Countries: An Empirical Analysis,” *IMF Papers*, Vol. 38: 33-58

Grubert, Harry, and John Mutti., (1991), “Taxes, Tariffs and Transfer Pricing IN Multinational Corporate Decision Making,” *Review of Economics and Statistics*, 73(2):285-293

Gwenhamo F. (2009), “Foreign Direct Investment in Zimbabwe: The Role of Institutional Factors”. *School of Economics, University of Cape Town*: Working Paper 144

Hakro and Ghumro (2007), “Foreign Direct Investment and Policy Analysis: Case Study for Pakistan” www.gla.ac.uk/media/media_210142_en.pdf

Harms, P. and Ursprung, H., (2002), “Do Civil and Political Repression Really Boost Foreign Direct Investment?” *Economic Enquiry*, 40: 651-663.

Helleiner, G (1989) “Transitional Corporations and Foreign Direct Investment.” In H. Chenery and T. Srinivasan editions, *Handbook of Development Economics* II

Hines, James R., Jr. (1996) “Forbidden Payment: Foreign Bribery and American Business after 1977,” NBER Working Paper No. 5266

Hymer, S (1976), “The International Operations of National Firms: A Study of Foreign Direct Investment.” MIT Press.

IMF (2012), World Economic Outlook

International Monetary Fund: International Financial Statistics (various series)

Jorgenson,D.W., (1963), “Capital Theory and Investment Behavior.” *University of California, Berkely*.

Kaufmann, D., Kraay, A., and Zoido-lobatan, P., (2008), Governance Indicators for 1996-2013. World Bank, USA.

Khawar, M. (2005), “Foreign Direct Investment and Economic Growth: A Cross-Counrty Analysis,” Global Economic Journal: 5(1) 8:2005

Klein, M.W, and Rosengren, E.S., (1994), “The Real Exchange Rate and Foreign Direct Investment in the United States: Relative Wealth vs Relative Wage Effects,” Journal OF International Economics, 106(1): 33-60.

Kravis, I.B., and Lipsey, R.E (1982) “The Location of Overseas Production and Export by U.S Multinational Firms.” *Journal of International Economics*, 12: 201-223

Lall, S. and Kraermer-Mbula, E. (2005), “Is African Industry Competing?” *University of Oxford, QEH* Working Paper Series, Working Paper No. 121

Li, Q., and Resnick, A., (2003), "Reversal of Fortunes: Democratic Institutions and Foreign Direct Investment Inflows to Developing Countries*." International Organization*, Vol. 57: 175-211.

Lipsey, R.E., (1999), "The Location and Characteristics of U.S Affiliates in Asia*." National Bureau of Economic Research (NBER)*: Working Paper 6876

Lipsey, R.E., (2000), "Inward Foreign Direct Investment and Economic Growth in Developing Countries." Transitional Corporations, Vol. 9(1), 66-95.

Markusen, J. R., (1984), "Multinational, Multi-Plant Economics, and the Gains from Trade," Journal of International Economics, 16(3-4)): 205-226

Mauro, P. (1995), "Essays on Country Risk, Asset Market, and Growth." *Harvard University*

Mauro, P. (1995), "Corruption and Growth." *Quarterly Journal of Economics* 110: 681-712.

Morisset, J., (2000) "Foreign Direct Investment in Africa: Policies also Matter." *Transitional Corporations*: 9 (2):107-126

Mughandira, W.T (2012) Determinants of Foreign Direct Investment in Malawi http://hdl.handle.net/123456789/885

Mundell, R.A., (1957) "International Trade and Factor Mobility," *American Economic Review,* Vol. 47; 321-335

Mlambo K., and Oshikoya W., (2001), "Macroeconomic Factors and Investment in Africa", *Journal of African Economics,* Vol 1*:* 12-47.

Nakunyada, W. (2001). The Impact of External debt on economic Growth: The Zimbabwean Case, 1980-1999, *University of Zimbabwe*, Msc Degree in Economics

Ngowi P. H., (2001), "Attracting New Foreign Direct Investments in Tanzania". *Tanzanet Journal*.

Nsiku, N (2012) "Assessing Investment Incentives in Malawi Trade" *Knowledge Investment (TKN)*

Nyamwange M. (2009), "Foreign Direct Investment in Kenya." *MPRA* Paper No. 34155

Ohlin, B. (1933), Interregional and International Trade in the Hecksher- Ohlin Model.

Organization of Economic Community Development (OECD), (2006), "Benchmark Definition of Foreign Direct Investment." Retrieved Aug 31, 2006, from http://www.oecd.org/dataoecd/1016/2090148.pdf.

Pattillo, C. Gupta, S and Carey, K. (2005), "Sustaining Growth Accelerations and Pro-Poor Growth in Africa." *IMF Africa Department*: Working Paper No. 05/ 195

Prasad, E., Rogoff, K., Wei, S., and Kose, A., (2003), "Effects of Financial Globalisation on Developing Countries: Some Empirical Evidence." *IMF Occasional Paper* 220

Rodrik D., (1989), "Policy Uncertanity, and Investment*." Journal of Economic Literature,* Vol.39 (3): 1110-1148.

Rodrik, D & Subramanian, A. (2003) "The Primacy of Institutions," *Finance and Development*: 40/2:31-34.

The Primacy of Institutions over Geography and Integration in Economic Development." *National Bureau of Economic Research (NBER)*: Working Paper No. 9303

Roy, A.G. and Van den Berg, H.F. (2006) "Foreign Direct Investment and Economic Growth: A Time Series Approach" *Global Economy Journal*, 6(1) Article 7, 2006

Romer, P. (1986), "Increasing Returns and Long run Growth." *Journal of Political Economy,* 94:1002-1038

Rwelamira, P.G., and Kaino, D.K., (2008), "SADC Integration Efforts and Cross-Border Investments." *FOPRISA Research for Regional Integration and Development.*

SADC Trade, Industry and Investment Review (2006), "The Comparative Advantages of SADC Region as an Investment Destination." *SADC Secretariat*.

Savoiu, Gheorghe, and Popa Suzana (2012), "'Foreign Direct Investment (FDI) in Romania." *Romania Statistical Review, nr:* 1/2012University of Pitesti.

Schneider, F., and Frey, B. (1985) "Economic and Political Determinants of Foreign direct Investment." *World Development,* Vol.13 (2):161-175

Shafik N. (1992), "Modelling Private Investment in Egypt." *Journal of Development Economics*, Vol. 39:263-327.

Stein, E., and Daude, c., (2001), "Institutions, Integration, and the Location of Foreign Direct Investment." In New Horizons of Foreign Direct Investment. *OECD Forum on International Investment*

Stevens, G.V.G., (1998), "Exchange Rates and Foreign Direct Investment: A Note," *Journal of Policy Modelling*, 23(3): 393-401

Swenson, D. L., (2004), "Foreign Direct Investment and Mediation of Trade Flows." Review of International Economics, 12(4):609-629.

Tsai, P.L., (1994) "Determinants of Foreign Direct Investment and its Impact on Economic Growth," *Journal of Economic Development*. Vol.19:137-163

United Nations Conference on Trade and Development. (2001-2010), Foreign Direct Investment Database. UNCTAD, Geneva. Available on http:www.unctad.org.

UNCTAD (2007a), "Asia Foreign Direct Investment in Africa: Towards a New Era of Cooperation among Developing Nations." *Economic and Social Council*, Addis Ababa

UNCTAD (1998; 2010; 2011; 2012) various editions

UNCTAD) and International Chamber of Commerce (ICC) *Investment Guides*

Lesotho UNCTAD (2003)

UNIDO (2008), United Nations Industrial Development (2008), "Foreign Direct Investment in Sub-Saharan Africa: Determinants and Location Decisions." www.unido.org

World Bank. (2001-2010), World Development and Governance Indicators. World Bank, Washington D.C.on http://www.world-bank/WEBSITE/EXTERNAL STATISTICS.

World Bank (2006; 2010; 2011; 2012; 2013) *World Investment Report*. Geneva. UNCTAD

Veugelers R. 1991), "Locational Determinants and Rankings of Host Countries: An Empirical Assessment," *Kyklos*, Vol 44: 363-38+2

Wei, Shang-Jin. (2000a) "How taxing is Corruption on International Investors?" *Review of Economics and Statistics*, 33(1-2):57-76.

Wei, Shang-Jin. (2000b "Local Corruption and Global Capital Flows," *Brookings Papers on Economic Activity*, 0(2):303-346.

Wheeler, D., and Mody. A., (1992) “International Investment Location Decisions: The Case of U.S Firms,” *Journal of International Economics*, 60(2): 293-314

Wilhelms, S.K.S., (1998) “Foreign Direct Investment and its Determinants in Emerging Economies.” *African Economic Policy Paper* No. 9. *United States Agency for International Development Bureau for Africa*

World Bank (2010). Africa Database *CD-ROM*: Washington D.C: World Bank, Online

World Investment and Political Risk, (2010), *World Bank Group Guarantee Agency (MIGA)* www.worldbank.org

World Bank Governance Indicators (various issues), *World Bank*, Washington D.C

Zhang K. H and Ram R (2002) “foreign Direct Investment and Economic Growth: evidence from cross country data for the 1990s” *Economic Development and Cultural Change*, Vol. 51, August: 203-215.

APPENDICES

Table 6: Appendix A: DATA USED IN THE STUDY

country	year	FDI	int	natd	xrate	bop	gdp	corr	abpol	voica
Botswana	01	-1.16	5.66	6.41	5.84	0.60	3.50	0.76	0.76	0.68
Botswana	02	12.01	5.75	-7.53	6.33	0.20	8.95	0.75	0.73	0.68
Botswana	03	9.53	6.45	17.92	4.95	0.46	6.31	0.85	0.87	0.69
Botswana	04	7.44	5.90	19.06	4.69	0.35	5.95	0.80	0.79	0.71
Botswana	05	4.80	6.48	17.63	5.11	1.58	1.64	0.83	0.84	0.67
Botswana	06	6.67	7.59	10.45	5.84	1.95	5.12	0.79	0.76	0.61
Botswana	07	5.23	7.60	6.25	6.14	1.86	4.81	0.80	0.81	0.60
Botswana	08	6.71	7.87	8.40	6.83	0.93	2.97	0.81	0.80	0.61
Botswana	09	7.14	6.29	-2.79	7.16	-0.67	-4.93	0.80	0.82	0.59
Botswana	10	1.78	5.86	7.66	6.79	-0.77	7.20	0.81	0.81	0.61
Lesotho	01	4.20	11.72	69.66	8.62	0.03	2.60	0.55	0.42	0.40
Lesotho	02	4.32	11.92	82.18	10.54	0.05	4.00	0.52	0.41	0.37
Lesotho	03	4.53	10.85	58.94	7.56	0.05	4.00	0.58	0.47	0.44
Lesotho	04	4.51	8.13	50.03	6.46	0.10	3.30	0.59	0.60	0.38
Lesotho	05	5.14	7.78	35.69	6.36	0.02	1.20	0.57	0.47	0.37
Lesotho	06	4.19	7.62	35.01	6.77	0.17	3.00	0.60	0.41	0.36
Lesotho	07	6.67	7.67	33.76	7.05	0.13	4.80	0.63	0.31	0.34
Lesotho	08	6.88	8.55	32.21	8.26	0.16	6.80	0.62	0.37	0.34
Lesotho	09	5.84	8.15	33.48	8.47	0.00	1.60	0.63	0.55	0.33
Lesotho	10	5.22	7.54	28.65	7.32	-0.26	2.40	0.64	0.61	0.32
Madagascar	01	2.05	21.21	93.46	1317.70	-0.06	5.00	0.59	0.42	0.45
Madagascar	02	0.33	22.46	104.89	1366.39	-0.26	-11.90	0.60	0.37	0.44
Madagascar	03	0.24	23.79	92.19	1238.33	-0.33	6.00	0.58	0.64	0.49
Madagascar	04	1.21	23.10	89.12	1868.86	-0.46	5.50	0.54	0.53	0.50
Madagascar	05	1.70	22.17	70.99	2003.03	-0.59	5.10	0.49	0.45	0.47
Madagascar	06	5.34	21.25	27.98	2142.30	-0.55	4.70	0.55	0.50	0.44
Madagascar	07	10.53	21.74	31.33	1873.88	-0.93	6.30	0.56	0.44	0.45
Madagascar	08	12.45	21.78	26.54	1708.37	-1.94	7.00	0.55	0.30	0.35
Madagascar	09	12.56	21.75	33.20	1956.21	-1.81	-1.00	0.53	0.21	0.26
Madagascar	10	9.74	21.02	31.29	2089.95	-0.85	-2.00	0.50	0.15	0.28
Malawi	01	1.12	21.21	154.30	72.20	-0.12	1.70	0.40	0.39	0.40
Malawi	02	0.22	22.46	110.70	76.69	-0.23	1.20	0.14	0.44	0.30
Malawi	03	3.43	23.79	130.60	97.43	-0.28	1.70	0.25	0.42	0.37
Malawi	04	4.94	23.10	133.40	108.90	-0.29	4.00	0.24	0.50	0.34

Malawi	05	5.07	22.17	117.80	118.42	-0.33	1.90	0.29	0.50	0.33
Malawi	06	1.14	21.25	28.20	136.01	-0.35	8.50	0.37	0.50	0.40
Malawi	07	3.41	21.74	25.30	139.96	-0.04	8.00	0.38	0.45	0.40
Malawi	08	4.57	21.78	24.60	140.52	-0.42	8.60	0.40	0.43	0.40
Malawi	09	0.98	21.75	24.60	141.17	-0.28	7.60	0.41	0.47	0.43
Malawi	10	1.80	21.02	21.10	150.49	-0.07	6.60	0.40	0.49	0.40
Mauritius	01	-0.61	9.78	19.06	29.07	5.89	5.20	0.71	0.78	0.70
Mauritius	02	0.67	9.88	19.48	29.98	5.08	3.80	0.72	0.85	0.72
Mauritius	03	1.12	9.53	17.89	28.01	1.64	4.10	0.70	0.82	0.73
Mauritius	04	0.22	8.15	14.89	25.52	-1.75	4.70	0.68	0.80	0.77
Mauritius	05	0.66	7.25	12.83	29.38	-5.00	2.50	0.69	0.81	0.73
Mauritius	06	1.64	9.55	10.22	31.40	-9.09	4.90	0.70	0.69	0.75
Mauritius	07	4.37	11.77	8.90	31.09	-5.43	5.40	0.72	0.77	0.74
Mauritius	08	3.92	10.11	6.89	28.39	-10.07	4.60	0.74	0.77	0.73
Mauritius	09	2.91	8.45	11.13	31.92	-7.42	3.10	0.73	0.70	0.71
Mauritius	10	4.43	8.35	12.46	30.78	-8.16	4.00	0.73	0.67	0.70
Mozambique	01	6.27	7.32	131.80	20.70	-15.94	9.20	0.40	0.43	0.42
Mozambique	02	8.27	8.72	127.81	23.68	-20.68	8.00	0.40	0.49	0.41
Mozambique	03	7.22	12.54	89.70	23.78	-17.50	7.00	0.37	0.50	0.45
Mozambique	04	4.29	12.17	91.39	22.58	-10.66	8.20	0.41	0.44	0.48
Mozambique	05	1.86	11.67	70.64	23.06	-11.56	7.50	0.49	0.51	0.50
Mozambique	06	2.61	8.19	43.14	25.40	-10.72	7.90	0.33	0.61	0.46
Mozambique	07	5.19	7.67	40.94	25.84	-9.67	7.30	0.39	0.57	0.46
Mozambique	08	5.65	7.33	37.67	24.30	-11.86	6.50	0.40	0.58	0.46
Mozambique	09	9.26	6.15	43.88	27.52	-12.99	6.30	0.41	0.66	0.45
Mozambique	10	14.02	6.58	40.91	33.96	-12.74	7.00	0.42	0.58	0.47
Namibia	01	1.02	2.94	22.22	8.61	0.12	1.17	0.65	0.40	0.55
Namibia	02	1.52	2.81	21.78	10.54	0.30	4.79	0.58	0.48	0.54
Namibia	03	0.67	13.56	24.95	7.56	0.46	4.26	0.60	0.60	0.53
Namibia	04	1.34	9.31	27.49	6.46	0.34	12.27	0.60	0.69	0.59
Namibia	05	5.41	4.82	26.05	6.36	1.11	2.49	0.59	0.67	0.61
Namibia	06	7.64	1.75	23.84	6.77	0.81	7.07	0.60	0.71	0.60
Namibia	07	7.60	3.52	18.99	7.05	0.24	5.38	0.60	0.85	0.61
Namibia	08	8.49	0.06	17.37	8.26	0.17	4.26	0.66	0.92	0.60
Namibia	09	8.21	6.80	15.64	8.47	-0.20	-0.72	0.73	0.70	0.59
Namibia	10	6.19	8.19	18.82	7.32	-0.77	4.78	0.67	0.63	0.59
South Africa	01	6.14	4.40	42.26	8.62	-	2.60	0.71	0.37	0.70

South Africa	02	1.33	4.98	35.95	10.54	293.60 176.28	3.00	0.70	0.37	0.68
South Africa	03	0.47	5.20	36.04	7.56	- 280.98	1.90	0.69	0.35	0.70
South Africa	04	0.32	4.74	35.05	6.46	269.04	3.50	0.71	0.40	0.72
South Africa	05	2.64	4.58	33.69	6.36	28.64	4.90	0.70	0.41	0.70
South Africa	06	-0.07	4.03	31.41	6.77	61.81	5.00	0.70	0.48	0.69
South Africa	07	2.00	4.01	27.42	7.05	43.74	5.10	0.61	0.51	0.66
South Africa	08	3.52	3.51	26.81	8.26	-1.54	3.10	0.62	0.46	0.65
South Africa	09	1.89	3.17	30.87	8.47	-41.36	-1.80	0.62	0.41	0.64
South Africa	10	0.34	3.37	33.83	7.32	-12.08	2.80	0.61	0.47	0.68
Tanzania	01	3.74	15.25	63.39	876.41	-5.20	5.00	0.19	0.29	0.36
Tanzania	02	3.67	13.11	66.38	966.58	-3.20	5.20	0.20	0.34	0.40
Tanzania	03	3.12	11.47	63.13	1038.42	-0.22	5.20	0.27	0.21	0.40
Tanzania	04	1.77	9.84	67.53	1089.33	-2.46	5.80	0.31	0.25	0.35
Tanzania	05	6.62	10.52	60.71	1128.93	-5.13	6.80	0.30	0.29	0.40
Tanzania	06	2.81	8.93	28.94	1251.90	-8.18	5.80	0.50	0.34	0.40
Tanzania	07	3.46	7.39	30.34	1196.31	-10.38	7.30	0.47	0.32	0.47
Tanzania	08	6.68	6.73	29.35	1320.31	-11.85	7.10	0.41	0.38	0.46
Tanzania	09	4.46	7.06	35.99	1409.27	-10.68	6.00	0.40	0.48	0.45
Tanzania	10	4.46	7.98	39.46	1572.12	-9.28	6.50	0.36	0.47	0.45
Zambia	01	3.97	22.83	178.2 8	3610.94	-19.13	3.90	0.20	0.49	0.36
Zambia	02	8.04	21.87	187.2 4	4398.60	-13.57	4.20	0.20	0.40	0.40
Zambia	03	7.15	18.62	162.4 8	4733.27	-14.31	4.00	0.26	0.50	0.39
Zambia	04	4.97	19.22	147.9 0	4778.88	-10.39	4.60	0.27	0.58	0.37
Zambia	05	5.75	17.02	82.91	4463.50	-8.48	5.00	0.22	0.49	0.35
Zambia	06	11.4 7	12.83	24.92	3603.07	-0.43	5.80	0.28	0.59	0.40
Zambia	07	6.41	9.60	28.82	4002.52	-6.54	6.00	0.34	0.58	0.40
Zambia	08	5.43	12.51	23.26	3745.66	-7.17	6.00	0.37	0.61	0.42
Zambia	09	10.6 8	14.97	32.99	5046.11	4.21	6.30	0.40	0.67	0.39
Zambia	10	10.3 2	13.52	30.85	4797.14	7.07	7.60	0.35	0.65	0.40
Zimbabwe	01	0.06	24.07	55.86	0.06	-0.08	-6.50	0.20	0.49	0.36
Zimbabwe	02	0.41	18.10	64.22	0.06	-0.24	- 12.10	0.20	0.40	0.40
Zimbabwe	03	0.07	61.38	81.21	0.70	-0.37	- 13.60	0.26	0.50	0.39
Zimbabwe	04	0.15	175.7 1	86.54	5.07	-0.49	-8.20	0.27	0.58	0.37
Zimbabwe	05	1.79	144.6 0	77.10	22.39	-0.63	-7.70	0.22	0.49	0.35
Zimbabwe	06	0.73	293.0 8	90.22	164.55	-0.47	-4.40	0.28	0.59	0.40

Zimbabwe	07	1.30	457.46	108.67	9686.77	-0.38	-5.50	0.34	0.58	0.40
Zimbabwe	08	1.17	800.50	125.41	18771.30	-1.03	-14.10	0.37	0.61	0.42
Zimbabwe	09	1.17	25.60	96.05	1.00	-1.43	-1.30	0.40	0.67	0.39
Zimbabwe	010	2.23	17.90	80.60	1.00	-1.72	9.00	0.35	0.65	0.40