

# THE DETERMINANTS OF FOREIGN DIRECT INVESTMENT ON THE SOUTH AFRICAN ECONOMIC GROWTH

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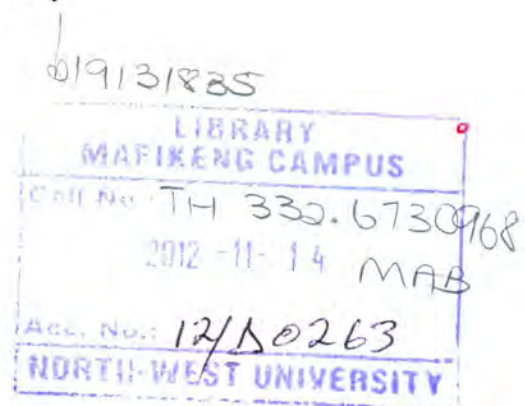
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**SUPERVISOR Dr. M. N. Sikwila**



## DECLARATION

I, the undersigned, hereby declare that this dissertation hereby submitted in fulfillment of the degree of Master of Commerce in Economics at the North West University, Mahikeng campus has not been submitted at this or any other University. I further declare that the materials used in the paper have been duly acknowledged and that this dissertation is my own work in design and execution.

Name **Ben Mabule**

Signature .....

Date : 30<sup>th</sup> April 2012

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## **ABSTRACT**

This study examines the economic sense in policies that promote or aim to attract more Foreign Direct Investment (FDI) by specifically focusing on the determinant of FDI and how they impact the economic growth of South Africa. The study empirically identifies and investigates the determinants of FDI on South African economic growth as well as FDI attraction and its correlation with economic growth over the period 1994 to 2010 through the utilization of Cointegration and Error-Correction Model to identify the variables in explaining FDI in South Africa. This study analysis trends and the determinants of FDI as well as their impact on the South African economy. FDI is seen as the means of providing the needed capital injection to stimulate growth in the host economy. FDI can as well result in increased employment rate, managerial skills and technological increase. Multinational Corporation (MNC) should agglomerate in such a way that is consistent with country specific externalities. There is somewhat weak evidence that FDI generates positive spillover effects to the host country. In instances where FDI generates positive productivity spillovers for domestic market economy, FDI subsidies and incentives should be warranted particularly where they have been proven to have a catalytic role in FDI attraction.

The study also indicates a positive and significant impact of reform on FDI in South Africa. The study considers trade Openness, GDP per capita as well as the Cost of labour variables on explaining FDI inflows. All variables indicate correct signs and are statistically significant except for cost of labour. There is some mild evidence that labour cost impedes FDI inflows. The infrastructure levels as well as other variables are directly related to FDI. In its endeavour to attract FDI, the host country undertakes various policy incentives to attract foreign investors. All these outcomes have important implications for improving the national economy which can be helpful in the allocation of funds and resources much needed for FDI attraction.

This study clearly emphasizes the role of policy in FDI attraction as well determining short-run and long-run growth in South Africa by firstly providing the macroeconomic

background. Secondly, it reviews FDI literature on its determinants and related policies undertaken in South Africa. It further establishes a linear empirical relationship between these determinants, and variables to determine the direction of the causality as well as contribute to the debate on the relationship between FDI and growth through regression analysis. It assesses the growth implications of FDI in South Africa and the regional economic implications by subjecting FDI to Granger causality tests within the cointegration framework. The results suggest that in the host country, there exist a positive correlation between FDI and economic growth. In relation to other developing countries as well as the size of the economy, South Africa still receives low levels of FDI inflows with exception of 1997, 2001 and 2005. The major contributors are financial sector, mining and manufacturing sectors. One can conclude that the South African government should consider encouraging capital-intensive FDI through capacity building and further development of skilled labour force.

The empirical analysis indicates that openness, the rate of exchange as well as the financial development and improved labour costs are important long run determinants of FDI. The study sets up further research that may be helpful in exposing the South African economy with greater FDI potential as well as identify regional specific interventions needed to improve certain conditions to receive more FDI. The effects of trade liberalization imply that African countries require African specific solution. Policies that have been successful in other countries may not suggest that they equally successful in African countries.

**Keywords:** *Foreign Direct Investment, Investment risk, Determinants, Economic Growth, South Africa, Capital flows and Technological diffusion Granger causality.*

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## DEFINITION OF TERMS

- **Gross National Product** (GNP) is the sum of all expenditures on goods and services in SA and services exported minus goods and services imported.
- **Agglomeration** is referred to as the tendency of both horizontal and vertical Foreign Direct Investment clustered in a certain area or location.
- **Trade** refers to a voluntary exchange of goods, services or both also called commerce or transaction.
- **Imports** refer to good or commodity transported in to the country provide by foreign producers.
- **Exports** refer to any good or commodity transported out of the country to another country in a legitimate fashion.
- **Government spending**: expenditure by government includes expenditure on semi durable goods, services, wages and salaries, transfer payments, government investment, interest payments, etc.
- **Investment** refers to the purchase of capital goods in the form of plant and equipment, residential structures and changes in inventory that can be used in the production of other goods and services.
- **Economic growth** refers to the increase in the quantity of goods and services in a country over a period of time increase in GDP.
- **Gross Domestic Product** (GDP) is one measure of economic activity, the total value of final goods and services produced in South Africa in a year.
- **Foreign Direct Investment** refers to a measure of foreign ownership of productive assets, like factories, mines, equipment and land that is viewed as stimulus to economic growth of the host country.
- **Economic Recession** refers to a general slowdown in economic activities over a period of time or it is a contraction experience in a business cycle.
- **Production possibility curve** refers to the graphical representation of the alternative combinations of the quantity of two goods and services produced in

an economy through transferring resources from one good to the other. It is also called Transformational curve

- **Resources** refer to factors of production like Labour, Capital, Entrepreneurship and Land.
- **Research** is the creative work and original investigation undertaken on a systematic basis to gain new knowledge including knowledge of humanity, culture, economy and society.
- **Development** is the application of research findings or the other scientific knowledge for the creation of new or significant, improved product or process.

## ACRONYMS /ABBREVIATIONS

|            |                                               |
|------------|-----------------------------------------------|
| ADF        | Augmented Dickey – Fuller                     |
| FDI        | Foreign Direct Investment                     |
| GDP        | Gross Domestic Product                        |
| MNC        | Multinational Corporation                     |
| BRICS      | Brazil, Russia, India, China and South Africa |
| ECM        | Error Correction Model                        |
| ECOPOLSTAB | Economic and Political Stability              |
| IMF        | International Monetary Fund                   |
| INFRAS     | Infrastructure Development                    |
| LABCOST    | Labour Cost                                   |
| RETONINV   | Return on Investment                          |
| VIF        | Variance Inflation Factor                     |

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

The global economic trends gave rise to new economic powers. This is the result of the world experiencing a shift in the geo-politics and economics, particularly in Brazil, Russia, India and China as well as South Africa known as the (BRICS countries). Most countries are out to scramble for Africa's resources both developing and developed. The global economic fragility was also experienced and there were significantly huge imbalances as well as systemic weaknesses which remained prevalent. The economic meltdown swept economies of the world as well as leaving developing and developed economies at unsettled growth conditions without any exception. The impact of this economic crisis of 2007 to 2009 was largely characterized by the decline in outputs and shrinking demands as well as the declining economic growth and joblessness across all sectors and industries. Many developing countries are fully engaged in formulating policies that attract Foreign Direct Investment (FDI), this is influenced by growing believe that foreign investment promotes economic growth (Asiedu 2002). The good and vital points regarding the world economy is that the slow signs of economic recovery are now being felt in the global North and South African economy. The economy of the country is showing signs of hope towards gradual recovery. This situation has opened space for interventions through investment policy formulation.

South Africa's cyclical recession led to 3% drop in the Gross Domestic Product (GDP), mostly in the commodity exporting sector and automotive sector, with 6% fall in employment which translates to more than a million jobs lost in South Africa since September 2008, the beginning of the first wave of the economic meltdown. This reflected underlying structural problems as well as South Africa's dependency on exports of commodities, which resulted in

the consumption-led growth; hence the consequential short-term capital inflows inflated the rand making the overall economy less competitive. South Africa has exposed itself to more FDI attraction through policies like GEAR of 1996, Accelerated Shared Growth Initiative of South Africa (ASGISA), the New Growth Path of 2009 and all government's approach towards growing the economy like the National Development Plan of 2010, FDI is identified as key component towards improvement of the South African economy. Thomas & Leape (2005) noted that despite all efforts of attracting significant amount of FDI, South Africa is receiving comparatively low level of foreign capital in the form of direct investment.

In his state of the Nation Address (2011) President Jacob Zuma pointed out that: "The creation of decent work will be at the centre of our economic policies and will influence our investment attraction and job creation initiatives. In line with our undertakings, we have to forge ahead to promote a more inclusive economy." Government is committing itself to bring a mechanism of policy intervention to support employment creation, above all by, establishing macro-economic measures as well as competitiveness through micro-economic measures. This will be realized through growing the economy and creating employment opportunities. Researchers such as Gelb & Black (2004) argue that lower rates of domestic savings are a constraint on growing the economy, they therefore suggest that foreign investment could alleviate the problem while Clark & Borgan (2003) believe that the problem of lower FDI attractions into South African economy is due to negative perceptions on the part of speculators or prospective foreign investors rather than reality.

One of the salient features driving globalization today is a deliberate and conscious approach of encouraging foreign or cross border investments Ayanwale (2007). As part of the global emerging economies, particularly the BRICS countries, with the estimated population of 49 million and being responsible for over 3,5 % of Sub-Saharan Africa's output, South Africa enjoys being one of the richest countries on the continent as well as in the world regarding minerals and other natural resources. South Africa, a member of the United Nations Security Council, has a pioneering role in developing

Africa, the African Union and the other Pan-African initiatives. South Africa is the gateway to Africa and is said to be the next big success story after China and India.

Foreign Direct Investment (FDI) is defined by Mwilima (2003) as a measure of foreign ownership of productive assets, like factories, mines, equipment and land that are viewed as stimulus to economic growth of the host country. According to Bostric & Skuflic (2005: 3), as well as IMF BPM3 (2003), FDI is "the category of international investment that reflects the objective of obtaining a lasting interest by a resident entity in one economy in an enterprise entity in another economy, comprising not only of the initial transactions but also all subsequent transactions affiliated enterprises". The South Africa Reserve Bank defines direct investment in line with recommendations in Balance of Payment Manual (BPM5), as a stake of ownership amounting to 10% or more. Business Map Foundation, however, differ in the conceptualization of FDI in that it measures FDI on the basis of pronouncements made by foreign firms intending to in South Africa. The Central Bank measure FDI inflows on the bases of compiled balance of payment (BOP) statistical concepts of foreign capital flows less outflows while Business Map Foundation focuses broadly on the conceptualization of investment activities in the local economy, be it by existing foreign based firms or new foreign based firms. The Reserve Bank of South Africa though the division of BOP collects and compile data on FDI as part of their financial account presentation of the BOP and International Investment Position (IIP), this the international best practice as prescribed by International Monetary Fund (IMF) BPM5 ( Thomas & Leape 2005).

South Africa today is one of the most sophisticated and promising emerging markets globally, mainly because of the abundant natural resources, political and economic stability with sound macro-economic management as well as favourable cost of doing business not forgetting the competitiveness of the sectors or industries. Unemployment in South Africa is at 25% from the fourth quarter of 2010. The apartheid South Africa was hit by international sanctions which led to big corporations leaving the country. The new dispensation saw most of the remaining firms migrating outside South Africa due to transitional

uncertainties. These huge movements of firms resulted in the declining of the rates of unemployment and the standards of living. What should a developing country, like South Africa do in order to successfully deal with the unemployment and poverty challenges?

FDI is generally viewed as a catalyst for investment and economic development in the economy of South Africa. Sub-Saharan Africa depends to a large extent on FDI (Ayanwale, 2007). Even though FDI remained at relatively low level in comparison to other emerging economies, FDI has played a considerably significant role in the development of the South African economy (Arvanitis 2000). According to Arvanitis (2000), annual FDI flows averaged less than 1,5 % of GDP between 1994 and 2002. If indeed South Africa can be optimistic about the assumption of attracting significant amounts of FDI, it must take into account the determinants of FDI.

## **1.2 Background of the study**

The new democratic South African government has experienced the longest economic inertia resulting from the apartheid past. The consequences of which can generically be represented by exclusivity of racial economic policy outcomes. The domestic economy was severely caught in a low-growth trap. The twin effects of sanctions as well as the over-extended industrialization strategy of import-substitution was subsequently followed by a 1% decline of economic growth in 1994 resulting from the exclusion of South Africa as a globally competitive country. The slow economic growth together with structural challenges and the unfavourable technological shift emanate steadily into structural unemployment South Africa is faced with. In the developing countries, the amount of FDI inflows increased remarkably during the 1990s to 40% of the global FDI. There are different causal variables as motivation for FDI and the formation of Multinational Corporation (MNC) emphasized by both the theoretical and empirical research regarding the successful FDI attraction (Erdal & Tatoglu 2002). In accordance with the United Nation Economic Commission for Africa, which advocated that the problems of Africa can best be solved through FDI attraction, most Sub-

Saharan African countries became very eager to attract FDI, since it is suggested that attracting more FDI inflows would result in economic development. Mwilima (2003), presents an argument that FDI will create employment while on the other hand; international experience shows that not all FDI is followed by substantial creation of employment.

Trade liberalization became the central part of South Africa's post-apartheid development strategy. Since 1994, after the pronouncement of trade liberalization, South Africa emerged from apartheid and re-entered the global economy after years of isolation. FDI also increased export competitiveness, as in the case of the GEAR strategy, where the attraction of investment in a cluster of industries was anticipated to develop local companies. The actual investment flows of the SADC region reveals that a severe decline of FDI from 0, 9% to 0, 3 % during 1995 to 2000 was experienced. The recorded FDI figures reveal that due to a decline of FDI in Angola and South Africa, the region experienced a fall in FDI flows. The ASGISA program is fairly competitive. From a macro perspective this policy envisages a sizable public investment increases. In creating the environment that is conducive for creation of decent work, the overall structure of policy intervention for consultative deliberation on labour, social and economic development inclusive of key social partners was established in the form of National Economic Development and Labour Council (NEDLAC), (ASGISA 2006).

Finally, in accordance with survey conducted by Investec (2003), South Africa only manage to attract net FDI inflows of 0.4 % GDP with average net FDI of 0.6 % GDP between mid-sixties and mid-seventies causing GDP to rise to 1,9%, which made South Africa an open, vibrant economy and attractive destination for foreign capital due to an average exceptionally large annual growth rate of at that time (Investec 2003). As South Africa is struggling to get out of the cyclical economic recession, most economists agree that the South African domestic demands are likely to turn upwards during the second quarter of 2010. They believe that rates cuts that were experienced so far have helped to set a fertile soil and a platform for economic recovery. South Africa is likely to see strong global investment inflows from the developed

world markets. to emerging markets such as South Africa more so that the business confidence figures have risen from the last quarter of 2009 (Campbell, 2009).

Over a period of time, South Africa had attracted relatively very little Foreign Investment due to the political economic environment, i.e. the imposition of trade and financial sanctions in the mid 1980s, the financial crisis that followed thereafter, the capital control tightening as well as the declaration of a moratorium on payments to external creditors all of which led to the effective exclusion of South Africa from international capital markets. After 1993, FDI had risen with two major epoch making period, which include the partial sale of government shares in Telkom during 1997 as well as the takeover of De Beers by Anglo American during 2001, not forgetting the sale of South African Airways in 1999. All in all, FDI stayed at relatively low level during 1994 to 2002. Actual FDI inflows were about 3.5 billion US Dollars (Arvanitis, 2003).

### **1.3 Problem Statement**

The problem South Africa is faced with is that there is a low level of FDI flowing into the economy which is an impediment to economic growth. Why is the South African economy failing to attract more FDI? and What can South Africa do to attract more FDI? The growth of South Africa is lower when compared to the BRIC countries of which South Africa is part. According to Avanitits (2003), South Africa had attracted a relatively low level of FDI from 1994 to 2010 compared to other developing countries. This statement is also supported by data of FDI as percentage of GDP and Real GDP from the South African Reserve bank.

### **1.4 Purpose of the study**

This study examines how the attraction of FDI through various determinants impacts on South African's economic growth. After investigating, identifying

and observing, this study will also measure and analyse empirically the determinants of FDI and how they contribute to the growing economy of South Africa.

### **1.5 Aims and Objectives**

The following are the objective of the study:

- 1.5.1. To provide a historical analysis and the trend of FDI in South Africa in the new dispensation 1994 to 2010.
- 1.5.2. To identify the determinants of FDI and empirically analyze their impact on the economic growth of South Africa to derive an FDI policy directive and stance.
- 1.5.3. To establish a linear empirical relationship between FDI and economic growth, and to determine the direction of the causality among the described variables as well as propose policy recommendations based on findings.

### **1.6 Research Questions**

Considering the possible channels and the mechanism of transmission linking the determinants of FDI, and the potential impact on economic growth, the following research questions are examined in this study.

- 1.6.1 What are the relationship of the FDI determinants and the growth of the South African economy?
- 1.6.2 What should South Africa do for failing to attract more FDI?
- 1.6.3. To what extent does FDI impact on the sustainability of the SA economic growth?
- 1.6.4 To what extent does the promotion of FDI eliminate the second economy isolation and what measures are in place to address the inequalities to bridge the second economy interventions?
- 1.6.5 Does trade liberalization and openness induce investment?

## **1.7 The Significance of the study**

This study is of significance since it provides a clear guideline to policymakers and government executives on the empirical analysis of the determinants of FDI and their share of contribution on the sustainable economic growth and suggests way of attracting FDI. This study on FDI is helpful since South Africa does not save enough. FDI inflows do help economic growth and also brings international expertise, technology and marketing linkages which can be valuable for efficiency and growth.

The importance of this study helps in the formulation of investment policies by government decision makers. In FDI attraction, more investment improves the rate of unemployment and further grows South African economy. The study would also be of beneficial importance to other researchers, policy makers and top government officials. This study further analyzes the Granger-causal relationship between FDI and GDP as well as the theoretical findings with a specific focus on assessing the significance of factors that may attract FDI using the regression analysis. The study clarifies the total share of FDI in Sub-Saharan Africa, and the contribution of South Africa and the best way towards encouragement and attractions more of FDI, since FDI contribute positively towards economic growth. "The Trade-centred reforms have significant effects on economic growth" (Wacziarg & Welch, 2003: 28).

The Importance of FDI to developing countries like South Africa cannot be emphasized. FDI plays a significant role in economic development, employment creation, increasing standards of living and reducing poverty. FDI tends to be attracted to countries where the possibilities of combining the ownership advantages with location specific advantages of the host country exist, through internalization of foreign investment. These host country specific advantages can be policy framework for FDI, business facilities and economic conditions for FDI. Direct investment is dependent on different investment aspects which includes the motive of investment (market-seeking or efficiency-seeking), the type of investment (Greenfield or Brownfield), the

sector of investment (Mining or manufacturing) as well as the size of the MNC or investor. Osabuohien (2007) empirically found in his study that examined the influence of foreign capital on Africa's economic progress, particularly in South Africa, that there exists a long-run relationship between foreign capital and economic progress. It is for these empirical facts that foreign capital should be promoted in South Africa in order to enhance the country's economic progress. As foreign firms procure inputs to home firms, domestic investment is induced and expedited. FDI creates job opportunities for host country citizens and enhance technological diffusion which boosts the economic progress. In fact the significance of FDI in a developing country like South Africa is believed to be supplementing domestic capital (Osabuohien, 2007).

## **1.8 Scope of the study**

The scope of the study ranges from 1994 to 2010, a period of sixteen years within the democratic dispensation. The study uses gross Foreign Direct Investment data not gross fixed investment in South Africa. It uses gross data of FDI rather than FDI in the firms or public sector only. Furthermore the Granger-causal relationship between FDI and GDP, as well as determining the direction of causality between the variables and the theoretical findings with a specific focus on assessing the significance of factors that may attract FDI will be analysed using the regression analysis.

## **1.9 Limitations of the study**

It is worth noting that, in as much as the destination of the determinants of FDI may differ according to various industries; the significance of the determining factors may also vary over time. The study examines the determinants of FDI on GDP; and provides an empirical analysis thereof as well as contributions of FDI on the economy for a sixteen year period 1994 to 2010, through time series analysis. The availability of data constraints poses the study to exclude some sectoral analysis, especially where data is unavailable since it is

focused on existing literature and data from SARS, Global Insight, World Bank and Stats SA.

The fact that there exist limited studies conducted in this fashion with this variables in South Africa, limits this study to be the only study on the determinants of FDI on economic growth of South Africa conducted in South Africa with this variables. The dynamics and material conditions of South Africa in comparison to other countries limit this study to be suitable for South Africa. Future studies should highlight what the policy makers should do in the encouragement of domestic- market oriented FDI as well as the capital-intensive FDI. The openness of the markets by government to foreign investors, particularly to market seeking FDI, and their likelihood to recover the economy as well as the enhancement of qualitative labour force through capacity building and skills acquisition are the areas where financial support should be directed. According to Na & Lightfoot (2006), the fact that the bureaucratic red tape as well as the effects of corruption pose as a deterring determinant of FDI, is a limitation which need to be looked at in future. There are still many economists arguing about the impact of FDI on economic growth which may be positive while other argues for a negative impact. According to Dahl (2002) there exist a weak correlation between the performance of the economy and the size of foreign investment in Southern Africa of which South Africa is part. Alfaro (2003) believes that the benefits of FDI yield different results across different sectors whereas Lim (2001) found positive correlation for selected Latin American countries.

## **1.10 Research Methodology**

The study of determinants of FDI on growth is tested on Cointegration and Error Correction Models. The study considers various factors and characteristics influencing FDI inflows. These factors include but are not limited to: **OPENNESS** of the market, real interest rate and exchange rate, labour cost (**LABCOST**), macroeconomic stability, government expenditure on infrastructure, rate of return on investment (**RETONINV**), the size of the market with the prospects of growth. The bigger market size allows for

economies of scale, and countries with higher levels of economic development benefit from lower cost of transactions. There are several other variables to be tested in the formulation of the model and variables (Erdal and Tatoglu, 2002). The flexible accelerator model identifies factors influencing investment across countries, at country level. According to Shih & Dedrick (2006), these include, but are not limited to, **OPENNESS** to external knowledge, complementary assets, and information intensity of the economy. This is grounded in the theories and empirical studies of technological diffusion, which differs between developed and developing countries. The study utilises regression analysis of the determinants of FDI stock in South Africa. It explores time-series analysis to examine the direction of the causality among the variables as well as the Granger causality between variables and statistically significance determinants of FDI in the South African economy. As indicated, the flexible accelerator model of investment is employed in this study. This flexible accelerator investment model utilised at country level suggests that there exists a positive correlation between capital investment and the size of available capital stock as well as the economic output. The flexible accelerator assumes that there is an optimal ratio of capital to output and that there is an ongoing adjustment in capital stock as output changes tend to reduce the gap between the actual and optimal ratio (Shih & Dedrick, 2006).

The study set out to investigate the determinants of FDI on economic growth of South Africa through the extensive review of the existing literature and explores the relationship between FDI determining factors as well as examining their correlation with growth and verifies the existence of positive spillovers. The Cointegration and Error-Correction Model (ECM) was utilized in this study. The anticipated serious multicollinearity problem as influenced by these estimation resulting from the inclusion of closely related variables simultaneously in the empirical model may occur. In the same approach of Li & Park (2006), this multicollinearity can be detected through conducting a multiple regression analysis to examine the *Variance Inflation Factors* (VIF). The theoretical approach which links trade openness and growth that account for the determinants of FDI led growth as demonstrated by basic investment

theories and FDI theories incorporating various imperfect competitive investment models and economies of scale within the context of South Africa will be employed. Here, the empirical examination of the causality between determinants of FDI and GDP; as well as the direction of their relationship is closely observed. As alluded, this study takes a microscopic focus on the following variables: **FDI** is the dependent variable and inflows per capita amount of FDI, **OPENNESS** is the degree of trade openness of the economy inclusive of exports and imports and progress in country reforms, **GDP** is the nominal log form of discrepancies in economic size; **LABCOST** is the quality and the cost of labour; **INFRAS** is the referred to the infrastructure development, **ECOPOLSTAB** is a given environment conducive for economic and political stability of the country; **RETONINV** is the variable for the return on investment in the host country.

For purposes of this study which concur with Na & Lightfoot (2006), we confine ourselves to only six variables inclusive of **FDI**, in that in the case where a microscopic look is taken at provincial level, that is, reflecting on **LABCOST** the quality and the cost of labour; **RETONINV** is the variable for the return on investment in the host country; Infrastructure development (**INFRAS**); the economic demands and size of the economy is (**GDP**); progress of reform resulting from the degree of openness (**OPENNESS**) at provincial level, the general pooled regression model of the variables can be utilized to yield the national results.

The study utilises regression analysis of the determinants of FDI stock in South Africa. We explore time-series analysis to examine the direction of the causality among the variables as well as the Ganger causality between variables and statistically significance determinants of FDI in the South African economy. The flexible accelerator model of investment is employed in this study. The flexible accelerator investment model utilised at country level suggests that there exists a positive correlation between capital investment and the size of available capital stock as well as the economic output. The flexible accelerator has an assumption that there is an optimal ratio capital to output and that there is an ongoing adjustment in capital stock as output

changes tends to reduce the gap between the actual and optimal ratio (Shih & Dedrick, 2006).

In this study we relate current FDI inflows to the past FDI including variables as well as formulate the role of previous FDI as the process of partial FDI stock adjustment given that it takes time for FDI to adjust to equilibrium level or desired level. Data is sourced from The Reserve Bank of South Africa, were analysed with econometric techniques

### **1.11 Outline of the study**

**Chapter 1** presents the introduction and the background of the study followed by the statement of problem within the present context. It also explains the aims and objectives of the study as well as the rationale of the study. The scopes, the limitation of the study inclusive of the research methodology employed in this study are also provided. Lastly, the terms are defined, the conclusion is provided as well as the reference. **Chapter 2** explores and review the literature. **Chapter 3** explores and investigates the South African Economic overview and FDI trends. **Chapter 4** outlines the research methodology. **Chapter 5** presents a critical discussion about the economic models. **Chapter 6** gives the conclusion and recommendations for possible future studies.

### **1.12 Conclusion**

This chapter discussed the area which this study falls into. According to Jia Ren (2006), traders are unable to eliminate large exchange rate variability as well as the uncertainty of the exchange rate, for this reason exports exchange variability rate negative. Once FDI has occurred linkages within the economy should exist. Markets act as a channel for the linkage between determinants and the effects realized create positive spillover, hence the vertical externalities rather than horizontal externalities preferred (Jia Ren, 2006). This chapter gave an introduction to the study to be conducted on the

determinants of FDI and to empirically analyse their contribution on sustainable economic growth of South Africa. Given the South African situation regarding FDI, it is critical for both public and private sectors to comprehend the macroeconomic determinants of FDI on economic growth. However, there is some gap for future development, since limited studies have been conducted covering all but four determinants of FDI on growth of the country.

South Africa should promote investment in a macroeconomic stable environment through embarking on the comprehensive industrial strategy, focusing on addressing the skills gap and implement existing free trade agreement in order to experience a positive FDI inflow (Arvanitis, 2003). This study is about the determinants of FDI on the South African economic growth.

The next Chapter present literature review and extensively presents a theoretical background on the determinants of FDI on Economic Growth as well as on relevant previous studies conducted, where theories of Investment and FDI and some models are discussed. Shortcomings of these models will be highlighted and aspects concerning FDI attraction will also be discussed. The Research questions as well as the global issues regarding FDI are also discussed. The catalytic roles of FDI as well as the Significance of FDI in developing countries are also discussed.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Introduction

This chapter presents the literature review on aspects of the theoretical basis for the empirical study of the determinants of FDI on the economic growth globally. In this chapter, various types of FDI are reviewed. The determinants of FDI which includes among others the business confidence or the investment climate; infrastructure development; return on investment; the openness of the host country; economic distance and size of the market; the agglomerate economies as well as political and economic stability are discussed. These discussions are based on theories of Investment and FDI models which highlight aspects concerning FDI attraction. The catalytic roles of FDI as well as the significance of FDI in South Africa are also discussed.

##### 2.1.1 Types of Foreign Direct Investment

"FDI is any form of investment that gives a resident in one economy a lasting interest in an enterprise resident in another economy" (Opolot, Mutenyo & kalio,1999). This means a long-term relationship between the direct investor and the direct investment company as well as the significant degree of influence on the management of the company by the investor. There are various types of FDIs with different motives. One is the ***Efficiency-seeking FDI*** or *vertical FDI* or *Export-oriented FDI* which focuses on the needs of a market largely if not entirely outside the host country mainly to secure more diversified resources through obtaining lower-cost products for sale elsewhere. Even though Efficiency-seeking is a significant motive, its primary existence in a developing country varies tremendously. Here efficiency refers to synergy of activities acquired through integration of international products and services. It can either be *producer-driven* or *buyer-driven production*,

where *buyer-driven* is control and coordination in industries value chain largely resting on buyers. Such efficiency-seeking arrangement, according to Kalinsky (2003), is prevalent in agro, footwear and furniture as well as toy industries. *Producer-driven* is in contrast ownership of technological advancement and other firm specific advantages rest on industries and suppliers. This producer-driven production according to Humphrey & Memedovic, (2003), mostly automotive industries and electronics industries. This is relative less significant in China and South Africa due to their relatively low home economic market costs.

The **Market-seeking FDI**, or *horizontal FDI*, is referred to Arvanitis (2003) as domestic *market flows* whose main objective is to produce and sell the final output in the host country market. This investor takes into consideration the long-run feasibility of reduction in the cost of production and the potential growth in the size of the host country market. Asiedu (2007) suggests that FDI in countries that are small and poor are less likely to be market seeking. For non-market seeking FDI, goods are produced in the host country but sold abroad. According to the World Investment Report (2006), Market-seeking FDIs are most commonly strategic in developing countries particularly in their internationalization processes, the likes of chemical industries; food and beverage industries; finance, transport and communication industries from South Africa. The South-South investment is encouraging horizontal FDI since it is uncommon other types where the motive is market seeking (World Investment Report 2006).

**Resource-seeking FDI** is viewed globally as the most significant and common motive of investing overseas. These natural resource-seeking FDI can be experienced in South Africa and China. Resource-seeking FDI is significant in that to access natural resources. It is important for developing countries since the security of raw material supply is considered essential for rapid economic growth. It is for this reason that some MNCs are state owned. For example, the Turkish Petroleum Corporation and some Chinese firms. In this instance investment is motivated and determined by availability of assets and not regional economic distance or proximity.

The **Government-Initiated FDI** is investment initiated by the host country by way of lobbying and providing substantial investment incentives to potential investors. The incentives cover the compensation of unfavourable costs and market conditions that might impede or deter investor from investing in the host country.

The **Greenfield Investments** or **Mergers and Acquisitions** (M & As) are investment in new assets. M & As are the generally perceived as mainly a shift in ownership in control from domestic to foreign firms, by way of increasing the risk of foreign domination of the economy. The *Greenfield Investments*, however, increases the number of firms and has nothing to do with market concentration upon entry (Opolot, Mutenyo & Kalio, 1999).

The **Created asset-seeking FDI** is regarded by South African firms and Indian firms as less important as compared to highly significant market-seeking FDI. Only the Chinese market regards created asset-seeking FDI as second most important in their economy to market-seeking FDI. What makes this type of FDI rare is that, if firms in developing countries seeking creative asset are not mastering the capabilities to absorb these created assets, they must first excel and be capable to absorb these assets.

In Africa, FDI is very essential in promoting economic growth and development. FDI inevitably promotes and improve growth as well as regional integration into the global economy. The common economic logic of capital accumulation is acquired through savings and investment, if one needs to improve one's living condition and avoid living on handouts. The same can be said about the attraction of FDI and the capital formation thereby stimulating the economy of the country to have a competitive urge. Private Fixed Investment is said to be a measure of capital stock ratio, a ccordance to (Ndikumana, 2005) whereas Ahmad & Quyyum (2008) refer to Private fixed investment as a measure of real fixed investment. On the other hand, public fixed investment, particularly in infrastructure is widely believed not only to be

exerting a positive impact on private investment but also on the stimulation of economic growth.

## **2.2 Theories of Investment**

FDI literature is very rich in theories development. The microeconomic theories side focuses on firm specific characteristics that influence the processes of decision making by firms, like the market imperfections theories. On the other hand, the macroeconomic theories seek to present an analysis of country characteristics which explain FDI inflows within and across countries, meaning, the internalization and the product cycle theories. The explanation of these theories seeks to exhibit how each and every factor impacts on FDI after identifying various determinants of FDI.

### **2.2.1 Product Cycle Theory**

Hymer (1976) developed the market the market imperfections theories aimed at explaining the behaviour of firms in non-perfect competitive environment or monopolistic environment. This simply means that for firm to undertake FDI, a unique form of advantage is required like the technology to compete in the host cost country with domestic firms who already have the location-specific advantages. In accordance with Hymer's market imperfection and monopolistic advantages theory, Vernon (1996) argued that technological innovations in consumer and industrial goods could explain international investments of firms under the assumptions that products undergo predictable changes in their production and marketing. Secondly, Vernon argues that all information is available regarding technology including restricted information. Thirdly, that the process of production changes overtime under the prevailing economies of scale Vernon (1996). Fourthly, Vernon (1996), is supported by Buckley (1985), that the tastes differs in accordance to income and that product standards also vary Buckley (1985). Vernon established and distinguished between stages in the life of a product; the new product, the initial stage occur in huge market with high income per capita and in industries

with high labour costs. Thereafter, the market and product is customized accordingly and the new product emerges. A certain degree of standardization is evident because of increases in demand as well as the commitment to the realization of the economies of scale. Vernon's product life cycle hypothesis postulates that at a particular stage in the life-cycle of products initially produced as innovations, firms engage in FDI (Moosa 2002). These innovations and economies of scale are then utilized to explain the product life cycle.

### **2.2.2 The Accelerator model of Investment and General Investment**

According to Riley (2006), the accelerator model of investment suggest a positive relationship between investment and the rate of growth of output demand. This means that when output rises or declines in interest may prompt for an increase in the level of investment as firms adjust their stock to reach the new optimal level. In accordance with Flourie (2000), if the purchase of production or capital goods of which the return of real assets is expected, the production sale is as well expected. Investment is the change in capital during a period of time (Haavelmo ,1960). Jorgensen (1963) defines investment as the straintaneous change in the optimal stock of capital meaning that, there is no investment unless there is a reasonable change to the optimal stock. Flourie (2000) emphasizes that the decline of interest rate, decreases the opportunity cost of investment. Therefore, investment is encouraged since investment projects become more profitable and viable. Investment is a function of interest rate, Gross Domestic Product (GDP) as well as Tobin q. This function shows how positively or negatively variables influence investment. Investment is related to the interstate since interest rate is a measure of opportunity cost of resources. A higher Tobin's q is when the market puts a high value of the capital installed and buys stocks in one industry for a higher price.

According to Shih & Dedrick (2006), the flexible accelerator investment model utilised at country level suggests that there exists a positive correlation

between capital investment and the size of available capital stock as well as the economic output. The flexible accelerator has an assumption that there is an optimal ratio capital to output and that there is an ongoing adjustment in capital stock as output changes tend to reduce the gap between the actual and optimal ratio. In any given situation, the replacement investment is needed to offset the depreciation of capital stock coupled with the net investment made in response to different level of economy, as the economic adjustment occurs towards the capital output ratio. Jorgensen's (1963) model adds the third variable, interest rates. Jorgensen (1963) finds investment to be positively correlated with existing capital stock, economic output while it is inversely correlated to interest rates (Shih & Dedrick, 2006). The flexible accelerator model identifies factors influencing investment across countries, at country level. According to Shih & Dedrick (2006), these include, but not limited to, openness to external knowledge, complementary assets, and information intensity of the economy, grounded in the theories and empirical studies of technological diffusion, which differ between developed and developing countries. For instance, the availability of complementary assets is likely to determine the value of investment as well as influencing the level of investment to be made. Adequate telecommunication infrastructure is essential to network, beyond organizational boundaries, computers and the value of computers is enhanced by being networked. Investment in human resources with appropriate skills deployed to utilize technology is another complementary asset needed to support investment (Shih & Dedrick, 2006). Shih & Dedrick (2006) are supported by Robin & Crenshaw (2002) in the assertion that employees who are more educated are more likely to readily adjust and become more flexible in the implementation of new technology therefore they are not likely to rebel in opposition to the implementation of new technology.

Most of the effective utilization technology requires a broader range of both technological and managerial know how, much of which is found outside the borders of any country. The developing country should strive for openness to external knowledge expertise which can expose the national economy to international competition. All these technological expertise and technological

diffusion and their likelihood to positively impact developing countries become greater when the developing countries trade with developed countries since the custodian of such knowledge and expertise rest with developing countries. The flexible accelerator model of investment utilized in this study is in line with the Shih & Dedrick (2006) where investment in technological, managerial and other expertise is expressed as

$$I_t = \mu\lambda Y_t + (\delta - \lambda)K_{t-1} \quad 2.1$$

where  $I$  is gross capital investment,  $\mu$  is the capital output ratio,  $\lambda$  is speed of adjustment to optimal technological capital stock,  $K$  is the technological capital stock and  $\delta$  is the rate of replacement of technological investment. The flexible accelerator model estimator was augmented with an independent variable to determine the direction of causality.

$$I_t = \mu\lambda Y_t + (\delta - \lambda)K_{t-1} + \sum \beta X_{t-1} \quad 2.2$$

As a result of the tendency capital stock to absorb the majority of variance, the model of technological investment is without capital stock, the determinants of technological investment were identified, by Shih & Dedrick (2006) as supported by Caselli & Coleman (2001). The differential effects of the independent variable as well as the interaction of variables with GDP per capita income of re-parametization variables which allows for interpretation of coefficient. This procedure differentiates between richer and poorer countries.

$$I_t = \mu\lambda Y_t + (\delta - \lambda)K_{t-1} + \sum \beta X_{t-1} + \sum \lambda(Y_t - \bar{Y})X_{t-1}, \quad \frac{\Delta I}{\Delta X_i} \\ = \beta_i + \lambda_i(Y - \bar{Y}). \quad 2.3$$

To determine the growth in FDI as well as formulating various types of selective government policies and other variables to attract FDI in South Africa we apply an econometric model by Aqueel & Nishat (2005) as supported by Na & Lightfoot (2006), which present the functional equation (2.4) as;

$$FDI = f(OPENNESS, GDP, INFRAS, LABCOST)$$

2.4

where FDI is a function of openness, Gross domestic Product and Labour costs. Foreign investors are interested mainly in huge economic markets for their products hence the GDP coefficient is expected to be positive and that all these variables constitute a favourable investment climate.

## **2.3 Theories of Foreign Direct Investment**

### **2.3.1 Hymer- Kindleberger Theory**

In a way of explaining the widespread of FDI, Hymer (1960) followed the approach which many scholars like Horagichi & Tyne (1990); Kindlerberger (1984) as well as McClain (1983) confirms as the basis of the MNCs. His approach answers three fundamental questions. Firstly, why do firms go and invest abroad? Secondly what makes them survive foreign markets which are at times very costly? And thirdly, why do firms want to retain control and ownership? According to Hymer, there are two kinds of incentives; monopolistic advantages and oligopolistic advantages that the donor country firms enjoys over the host country firms as well as the removal of competition between the firms in different countries. Hymer (1979) observed that international firms do not operate under perfect competition conditions. Hymer stresses that there are as many kinds of advantages as there are in selling a product (Yamin, 1991). Hymer views the tendency towards choices namely choices between licensing or contractual agreement as well as FDI to be dependent on the degree of imperfection, danger of losing advantage and comparative rate of return. Another major incentive that Hymer introduces is for firms to go and invest abroad, which is the economies of scale as well as the efficient functionality of firms in coordinating activities at firm level compared to industry level (Horagichi & Tyne, 1990).

Seemingly, a number of studies have tried to locate advantages in singling out the significant advantage of FDI. Kindleberger, in his supervision of the thesis of Hymer (1964: 14) argues that in a world of perfect competition in goods and markets, FDI cannot exist. He categorises the market imperfections as that imperfections in goods and markets; the imperfection in factor markets, the

unavailability of technology, discrimination in access to capital markets; the economies of scale to market both internal and external as well as a limitation of government on the output entry.

According to Cowling & Rogers (1987), the removal of competition through collusive agreements as proposed by Hymer, did not receive attention as the first. Johnson (1970) considered the special knowledge and skills as the significant public good to the firm. He also points out that the knowledge and skill can be exploited at little or no extra cost. This may have prompted the MNCs according to Hirsh (1977), to confine himself to the knowledge gained from innovations through Research and Development (R&D). Lastly, Magee's (1977) refinement of market imperfections and monopolistic or oligopolistic advantages, states that MNCs are a device appropriate to rentals, by specializing in production of information as well as sophistication of technology and transmitting them intra-firm across national boundaries (McClain, 1983). Recently, agreements are beginning to be the factor inducing firms to go abroad and appropriate rents (Cowling & Rogers, 1987). The theory of MNCs was developed under different names and Hymer's contribution remains controversial and incomplete.

### **2.3.2 The Eclectic Paradigm**

The Eclectic theory seeks to answer questions frequently asked, why a firm would want to produce in a foreign location instead of exporting or enter into a licensing agreement with a local firm (Lim 2001). According to Dunning (1979), the eclectic paradigm came as a result of the dissatisfaction with the theory of international production, the Hymer-Kindleberger approach, the product cycle theory and the internationalisation theory. Dunning provides three reasons why firms engage in FDI. Firstly, for possession of the net **Ownership O** - advantages vis-à-vis firms from other countries; Secondly, it is quite beneficial to **Internalize I** - advantages those advantages rather than utilize the market to pass them to foreign firms, and Thirdly, for some **Location**

advantages L-advantages, that is, utilizing the firm's ownership advantages in a foreign location than domestically. Dunning necessarily consider a systematic distinction between donor and host country as well as industry and firm determinants of the O L I advantages. Most recently, Dunning (1993) added a fourth firm-specific condition. In configuration the O L I advantages confronting a firm, the extent to which the firm believes foreign production is produced tend to be consistent with its long-term management strategy. According to the argument presented by Dunning (1993p. 85), "the eclectic paradigm is less an alternative theory of international production than that which points the significance characteristics of mainstream explanation". Initially, the internalization theory has been applicable to firms that chose to cross national borders, which is a theory of MNCs. By contrast, the eclectic paradigm is a theory of FDI. Dunning sees the internationalization theory not only as an alternative but as a very significant contribution to his own approach, as influencing the evolution of FDI.

On the other hand, the Internalization I-advantages has to do with the mode of entry of the foreign investor. Internalization advantages explains the reasons for the firm to opt for serving a foreign market through FDI as opposed to other modes of operation, without ownership control of foreign activities. The three conditions that a firm would engage in, to be involved in FDI should summarily be satisfied through the eclectic theory. Firstly, the firm has some O advantage, particularly for operating in those foreign markets that allow competition in some indigenous firms or other markets. Secondly, these O advantages should be exploited internally instead of being transacted directly, some spot market or through other firms by means of non-equity arrangement, which arrangement can be management contracts or licensing agreements. Thirdly, there are L attractions of foreign investors in comparison to domestic production in manufacturing of parts of the product of the firm. All this ensures the utilization of these available advantages in conjunction with some factor inputs (Dunning, 1993).

## **2.4 Foreign versus Domestic Investment**

According to Kinoshita & Campos (2002), policy makers are faced with a very important question to ask themselves "What can we do as a country to attract FDI? (Kinoshita & Campos, 2002). They also provide evidence that there is a positive correlation between the inflows of FDI and economic growth through the spillover effects of technological advancement. Borenztein, De Gregorio & Lee (1998) concurred and added that even though FDIs are more productive than domestic investment and enjoy higher productive effects, they argue that domestic investment have better access and knowledge of domestic markets. So FDI would actually be a combination of advanced management skills and technology transferred to developing countries. On the other hand, Osabuohien (2007) presents the empirical facts from his study that foreign capital inflows in the form of investment supplement domestic capital. In his study Osabuohien (2007), found a lasting relationship between foreign investment capital and domestic economic progress in the South African economy.

## **2.5 Business Confidence or Investment climate**

The friendlier the investment climate of the host or foreign country, the less costly it becomes for both the host and the investor, which build up business confidence beneficial for horizontal and vertical FDI in that foreign country. By the costs of doing business, we mean such economic factors as the macroeconomic stability and political stability, bureaucratic and judicial hurdles, labour regulations as well as performance requirements such as joint partnerships and domestic requirements for doing business (Lim 2001). This also means foreign investment could be encouraged by providing incentives. Lim (2001), states it very clear in that generally restrictive performance requirements and the bureaucratic red tape as well as economic instability and unstable political environment would contribute to the less attractiveness of various types of FDI. Empirically speaking, according to Thomas & Leape (2005) the number of studies on the determinants of FDI frequently utilize the cross country data to identify FDI driving factors. These are includes but not

limited to, the size of the domestic market; the macroeconomic stability; quality of institutional environment; the quality of infrastructure and labour market as well as the degree of openness of the host economy. Thomas & Leape (2005), compared the South African economic indicators with ten or more competitor countries as well as the average middle income countries. According to Thomas & Leape (2005), the improving FDI environment will therefore be determined if the South Africa indicators is approaching closer to, if not exceeding, the average performance of its competitors. Examining this investment climate as well as exploring factors defining investment climate contribute to the greater understanding of the current investment environment in South Africa (Thomas & Leape, 2005).

## **2.6 Determinants of Foreign Direct Investment**

### **2.6.1 Return on Investment**

Among the most important factors to attract FDI, is the competitive advantages of the production factors such as land, labour force and natural resources. The most important determinant of FDI flows is the degree of development of the host country since it is positively related to domestic entrepreneurship, local infrastructure and the level of education. FDI tend to be attracted to countries that pay a higher return on capital invested which is quite problematic particularly in developing countries. Asiedu (2002) points out that the realization of the return on investment in the host country is very difficult. According to Asiedu (2002), the difficulty emanates from the fact that most developing countries have weak capital market or they do not function well. She suggests that a way to get this particular problem is through the assumption that the marginal product of capital equals the return on capital and utilizes the inverse of real GDP per capita to measure this return on capital. By implication capital-scarce countries yield higher return. This further means by implication, that *ceteris paribus*, investment in countries with higher per capita income is expected to yield lower return implied by inverse relationship between FDI and real GDP. This idea of inverse relationship between FDI and GDP is supported by Jaspersen & Aylward (2000) as well as Edwards (1990). While Schneider & Frey 1985) contrarily found that FDI

and GDP are positively related. This contrary view also is supported by Tsai (1994). This argument holds for market-seeking FDI consistent with Edwards as well as (Jaspersen & Aylward 2000).

### **2.6.2 Openness of the host country**

In South Africa the value of trade increased from 1990 and at the moment It is compared to the average performance of middle income economies. Research evidence suggests that current policies of trade play a minimal role in the climate for foreign investment (Thomas & Leape, 2005). Trade Openness of the economy is a measure of trade ratio to GDP. Trade is equal to the sum of imports and exports. Depending on the type of investment to be undertaken, it might further open the market to FDI or even restrict the market to FDI. In the market-seeking type investment, the market is less opened, meaning that trade is restricted and this positively impact on FDI due to tariff-hopping assumption. The tariff-hopping assumption argues that if it is hard to import, foreign firms seeking to operate in foreign markets may decide to have subsidiaries in the host country. Contrary to this view, firms can resort to engage in the export-oriented investment, preferably located in a more open economy because the higher the imperfections in company trade protection imply higher transaction costs which are associated with exporting. By so saying, it therefore means that trade openness is positively related to FDI. Similarly, the capital account openness also affects FDI, in that laws related to foreign exchange are possible impediments to FDI. In market-seeking FDI, foreign firms find it difficult to repatriate their profits, due to unavailability for variables which makes it somewhat difficult to analyse linkages between current account openness and FDI (Asiedu, 2002).

The trade barriers relative to horizontal FDI tend to decrease with increased trade openness. Not all FDI are inversely related to trade openness, some FDI will be stimulated in this instance. According to Lim (2001), when trade openness increases as result of liberal and predictable trade environment, vertical FDI benefits with substantial flows of intermediate inputs production in and out of the host country increases. In the same token, uncertain as it might be, widespread trade liberalization is stimulated by non-tariff-hopping

horizontal FDI stimulate economic activities favourable to better climate of business and long term economic growth also increases.

### **2.6.3 Infrastructure Development**

Infrastructure is useless if it is unreliable Asiedu (2002) whereas good infrastructure positively affects productivity of investment and stimulates FDI inflows. Both the availability of infrastructure and the reliability of infrastructure are good measures of infrastructure development. By infrastructure reliability, for example, It is referred to how often is electric power supply down (Load shedding), or how reliable is the road infrastructure in the country, province or city? Is the road infrastructure in the country, province or city available and reliable or are there potholes? How often are the phone lines down? Whereas by infrastructure availability on the other hand refers to existing infrastructure, that is, the number of power stations built in the country or the number of telephone lines in the country or road where infrastructure is in good condition. Infrastructure should not only be available but it should be reliable since the combinations of both aspects stimulate FDI inflows. Infrastructure is useless if it is unreliable whereas good infrastructure positively affects productivity of investment and stimulates FDI inflows (Asiedu, 2002).

Unlike Private Fixed Investment which is said to be a measure of capital stock ratio in accordance to Ndikumana (2005), Ahma & Quyyum 2008) refers to Private fixed investment as a measure of real fixed investment Public Fixed Investment particularly in infrastructure widely believed not only to be exerting a positive impact on private investment but also on the stimulation of economic growth. Seemingly, according to Thomas & Leape (2005), the infrastructure in terms of transportation and telecommunications is broadly in line with that of the middle income competitors considering costs and reliability. Thomas & Leape (2005) also concur with Asiedu (2002) that the quality and the technological infrastructure availability and reliability is of paramount importance. Many developing countries are competing with firms from developed countries due to early adoption of new technology the likes of MTN mobile telecommunications in South Africa which plays a significant role regionally and globally (World Investment Report, 2006).

#### **2.6.4 Political Instability**

In measuring political instability every country would utilize the measures of probability of a change of government as well as the sum total of the frequency of political assassination and revolutions, violent unrests or riots and politically motivated strikes (Asiedu, 2002, Barro & Lee, 1993). Regarding the empirical relationship between FDI and political instability, Jaspersen & Aylward (2000) as well as Hausmann & Fernandez-Arias (2000) found that there exists no relationship between FDI and political instability while Schneider & Frey (1985) found an inverse or negative relationship between the two variables. A stable political environment attracts more FDI than an unstable one.

#### **2.6.5 Economic Instability**

"The measure of economic instability includes among others, the ratio of liquid liabilities to GDP as a measure of financial depth, the measure of government consumption to GDP. Inflation rate is the measure of the overall economic instability of the country and the growth rate of GDP as a measure of the attractiveness of the host country market" Asiedu (2002, p. 112). Hypothetically, in order to foster FDI attraction, the country needs financial depth, lower inflation rate, smaller government as well as higher growth rates (Asiedu, 2002). Contrary to latter view, bigger government with huge government spending deter FDI.

#### **2.6.6 The Economic Distance and size of the market**

The FDI whose undertaking is mainly to exploit new markets, or to set up enterprises in supplying commodities to domestic markets is referred to market-oriented FDI or horizontal FDI. Over and above the custom of circumventing tariffs barriers, the market size as well as the prospects for market growth, the degree of host countries development is a significant location factor for market-oriented FDI. The extent to which horizontal FDI replaces export if export is highly costly in terms of accessibility of the market, increases the FDI horizontally and further widen the proximity between

domestic and host market provided it was large. This situation leads to the costs of transportation being higher. On the other hand, export-oriented FDI known as vertical FDI operating on the domestic markets of Multinational Corporation tends to be discouraged by high costs of transportation because a lot of shipping is involved in the process of import and export of commodities and final products; hence there is exorbitantly high amount of uncertainty of costs which adversely affect FDI. Lim (2001) states that large host market economies encourage the horizontal FDI, the extent to which larger host markets economies reduce their cost of supply depend entirely on the economies of scale as well as on lower fixed costs per output. According to Lim (2001), however, vertical FDI is indifferent to the size of the host market; hence the likelihood of market size impact on FDI will be positive. Export-oriented FDIs are very important for the market of the host country particularly when the economies expand because larger economies provide larger economies of scale and spillover effects.

#### **2.6.7. Agglomeration Economies**

Agglomeration is the tendency of both horizontal and vertical Foreign Direct Investment to be clustered in a certain area or location. Agglomeration economies come about when there exist some positive externalities by locating in the close proximity to other economic units as a result of the presence of and the possibilities that, knowledge, specialized labour markets as well as supplier network will spillover to that economic unit. Krugman's model of transportation costs and production fixed costs brings about the linkages in industry demand thereby increases the incentives to agglomerate. These sources of externalities are addressed in different manner by the Lucas model which argues in favour of the positive spillover which is generated by the human capital accumulation. Kinoshita and Campos (2002), found FDI to agglomerate more often compared to an ordinary financial investment due to the slightly irreversible nature of the FDI's long-term capital investment, particularly in the short-run. It is the dawn of the second decade since a study regarding the determinants of FDI in Chinese economy by Cheng & Kwang (2000) state that a positive

feedback was reported on the effects of FDI and agglomeration is experienced. Agglomeration economy is realized, meaning that initial FDI inflow with a positive feedback effects, perpetually repeat itself to attract more FDI. The presence of agglomeration economies is indicative of a positively significant coefficient of lagged stock of FDI. Following the model of Cheng and Kwang (2000), where they formulated the role of past FDI value as adjustment cost for purposes of FDI adjusting to the desired equilibrium level.

## **2.7 Factors Influencing Expected Profitability in Host economies**

The key locational factors determining FDI are the host country's Inputs costs, the market size, which are measured by the host country Gross Domestic Product (GDP), have the potential economies of large scale production. The labour and the natural resources, the business investment confidence as well as the stability of the country prevalence in terms political and economic environment, all these are the classical sources of comparative advantage. Bevan & Estrin (2000). Considering these classical sources of comparative advantage, the investors choose an investment location in accordance with the expected profitability associated with each and every location. There are types of investment motives, on the other hand, which according to Kinoshita & Campos (2002) are country specific factors affecting the profitability of investment. For instance, the resource-seeking investors will look to an abundant natural resource in the host country whereas the market-seeking investors will look for a large local fast growing market and the efficiency-seeking investor will look for country closer to minimize the cost of transportation.

Comparatively speaking for most regions with comparable per capita income levels like Latin America or South East Asia, the transition economies, which have labour as the key resource, and have relatively high level of skills and training as well as strong scientific base, expected profitability will be higher in host economies provided inputs costs such as energy, labour and raw

materials costs, are lower than that in the donor economy (Bevan & Estrin, (2000).

FDI studies in emerging economies have put particular emphasis on economic indicators as well as risks associated with political instability. These economic indicators comprises of the macro-economic stability; institutional stability and political stability which various researchers agree they can be juxtaposed in a variety of permutations. The most favourable way and permutation according to Bevan & Estrin (2000) which is also supported by Resmini et al (2000) is the one in which country risk information is known to firms the moment they decide to invest.

In favour of the higher propensity for Multinational Corporations to export Bevan & Estrin (2000) agree with Caves (1996) by widely arguing that there exists a positive relationship between FDI and openness of the economy. The other issue of utmost significance is the involvement in free trade agreement between regions which enhance economic growth and trade from the integration of economies of scale as well as subsequent FDI stimulant demand.

## **2.8 Factors Influencing Expected Profitability in donor and Host economies**

The whole issue examining factors influencing the expected profitability in Donor countries and host economies is entirely based on FDI bilateral flows coupled by the characteristics of the Donor country and differences between donor and host economies. The industries with significant economies of scale according to Bevan & Estrin (2000), may encourage large domestic economies to concentrate in single plant production and export these productions. As trade becomes largely concentrated in the utilization of knowledge- intensive production in industries, FDI will gradually substitute exports according to **O L I** framework which means **O**wnership advantages, **L**ocation-specific advantages and **I**nternalization advantages. These are the three main reasons driving firms to become multinational. Even small developed economies are likely to invest abroad such that an inverse

relationship between FDI and donor GDP. An indicator of the relative opportunity cost of capital in donor and host country is added as a way of controlling capital factors, which is based on the long-run interest rate. According to the World Investment Report (2006), the attraction of FDI by developed countries can be traced back to policy development aimed at attracting more FDI which includes trade liberalization and privatization of state owned enterprises, massive reduction of corporate tax rate and introduction of incentives for investors, like tax exemptions.

## **2.9 Fiscal Incentives in attracting FDI**

In relation to the incentive of the competitor, the host country incentives increase the locational advantage of both the horizontal and vertical FDI. Due to the sensitivity to costs and the likelihood of production cost-minimizing FDI to be “footloose”, the production cost minimization is more likely to respond to fiscal incentives. The horizontal FDI happen to favour policies when coming to the viability of the host market than fiscal incentives. Assuming that all remain equal, the net impact of fiscal incentives regarding FDI should be positive (Lim, 2001). For instance the recent endeavours by the South Africa government in the creation of Special Economic Zones (SEZ), as well as the then Industrial Development Zone (IDZ) which is still effective in encouraging export oriented manufacturing FDI and tax incentives (Steak 1998).

## **2.10 Empirical arguments for accepting the catalytic role of FDI**

In accepting the empirical catalytic role of FDI, the FDI theoretical model framework is based on the investment- growth model. Regarding the hypothesis concerning Saving gap that limit the long-term growth rate, Harrod-Dommar model underlines the differences between the natural growth rate based on labour rise and the guaranteed growth rate based on saving and investment increase (Serbu, 2008). The standard neoclassical model developed by Heckscher and Ohlin, favours the absence of technical difference at international level as well as the immobility of production factors.

The Solow's neoclassical model allows capital accumulation and its mobility. The accumulation of capital accounts only for the short-run economic growth since physical capital decreases turnovers in the long-run. The factors which are productivity susceptible for economic growth promotion increase is as a result of both technology and knowledge among production inputs. These exogenous technological changes imply the existence of technological transfers between countries resulting in the average long-run economic growth. Solow's short-run economic growth says the final good ( $Y$ ) is produced with two production factors, capital ( $K$ ) and labour ( $L$ ). The equation is  $Y = f(K, L)$ . The increase in capital stock is as a result of part of the revenue saved and invested  $K = sY$ . Consequently,  $K = sf(K, L)$ . An increase in the exogenous population is expected to raise labour force with a constant rate of  $n$ : this lead us to the fourth equation which is  $L(t) = L_0 e^{nt}$ . Fundamentally, the equation obtained is  $K = s f(K, L_0 e^{nt})$ . This equation under the hypothesis of total available labour force involved, allows for the identification of capital accumulation.  $s$  is the propensity to save which indicates how much net revenue is saved and invested. In this way the FDI is fulfilling its role of contributing to the capital accumulation (Serbu, 2008).

Endogenous growth theories, according to Serbu (2008), are based on firstly, the optimal consumption of the final output as obtained from capital goods and the condition thereof. Secondly, they are based on the profitability rate of the equation underpinning the profit constraint. Thirdly, the endogenous growth theories are on the equilibrium between the consumption growth rate and production growth rate. Serbu (2008) states that the empirical analysis identifying FDI-growth positive correlation is realized on macroeconomic level and is concerning developing economies. Romer's endogenous growth model states that the FDI has a role in labour force formation as well as transfer of technological advancement and managerial competencies from industrialized economies. Some theories explain FDI catalytic role through the spirit of Solow theory, others through the spirit of Romer's theory while others the underlying FDI dual catalytic role.

There is a model which explains and account for the economic growth of China through fixed capital accumulation and the FDI proportion in GDP as improved from the Solow model is a Mankin-Romer-Will model, Serbu (2008). The Mankin-Romer-Will model results indicate an important and positive correlation between FDI and the rate of revenue per capita growth in China during the 1990. Regarding trade openness of transitional economies in the face of international trade and foreign investment, research indicate that FDI account for new technological transfer more than trade flows from external countries. Graham & Wada (2001) as well as Serbu (2008) agree that there was correlation established between FDI flows and total factor productivity in China from 1991 to 1997. The resultant correlation is indicative of the fact that FDI enhances economic growth through accumulation of supplementary fixed capital and all total factor productivity increased.

### **2.11 Empirical arguments for rejecting the catalytic role of FDI**

The empirical argument rejecting the catalytic role of FDI, in accordance with Solow's model of economic growth suggests that there exist a diminishing return of physical capital restricting the impact of FDI on the growth rate. This restriction gave rise to the FDI effect only to be verified at production per capita as opposed to growth rate terms (Calvo & Sanchez-Robles, 2003). The diminishing return implies in actual fact that capital labour rapport converge to the value attained since the future increase of revenue per capita will no longer be realized though capital accumulation. In accordance with the law of diminishing returns and the law of increasing returns, the progressive rise in investment occurs, the returns grow bigger and bigger to a point where they attain a maximum production such that production continues to rise but lesser and lesser rise until an increase of capital no longer reflects any increase in production. Increase in revenue signals the improvement of total factor productivity. Differences between countries are maintained over a period of time, countries whose total factor productivity is behind others tend to remain behind indefinitely. The technology of that country is considered exogenous which implies that the model does not hold for the catch ups in the improved

new technological rate of production. This Solow's shortcoming is corrected by the endogenous growth rate counterparts (Graham & Wada, 2001).

Regarding the negative perspective on the catalytic role of FDI, it was not only Solow who paid attention on the incapacity of FDI to sustain the long-run economic growth. Singer, according to Serbu (2008) argued that the FDI effect has on an emerging economies specialization of static comparative advantages as well as on export specialization in elementary industry and raw material, respectively. This facts do not in any way increase or encourage technological progress neither the competencies nor the increases in qualifications, rather the multinational possibilities are invoked to make effective utilization of the transfer price to transfer profits as well as the accesses to the already rare local saving in the host country.

The dependency theory also argues that the negative effect of foreign investments from developed economies to developing economies leads to long-run economic growth. The dependency theory cites possibilities of local labour exploitation to the advantage of developed economies through such things as inadequate price paid for natural resources and increasing effects of revenue inequality. The recent Aitken & Harrison model of 1999 accentuates that there is a negative effect of the presence of foreign firms on the productivity of domestic firms. Generally, the FDI in microeconomic empirical research do not lead to local firm economic growth. In fact, there exists not strong linkages between FDI and economic growth. Recently, studies of Lyrroudi, Papanastasiou & Vamvakidis (2004) as well as Carkovic & Levine (2002) examined the FDI-economic growth relationship in transitional economies; they confirm that there is no significant relationship in rich economies or poor economies, irrespective of the developmental level of the country.

## **2.12 Global Studies and Trends in FDI**

The flow of foreign investment in the world economy increased from US \$ 13 billion in (1970) to US \$ 209 billion in (1980). These positive FDI trends kept

on rising in the 1990s reaching US \$ 1,393 billion in the year 2000. In 2003 the world FDI declined by 18% to be US \$ 560 billion. A further 41% decline was experienced in 2001. FDI Increases averaged 17,5 % each year from 1980 to 1990 while from 1990 to 2000 it averaged 21.5% each year. From 2001 to 2003 FDI were declining on 25.2% averaged each year, meaning FDI trends to developed countries decreased by 25% from US \$ 490 billion in 2002 to US \$ 367 billion in 2003. On the other hand, developing countries FDI inflows increased by 9% to be US \$ 158 billion In 2002 reaching US \$ 172 Billion in 2003. The same trends were recorded in FDI outflows which rose on average by 3% in 2003 (Bostric & Skuflic, 2005).

Mina (2007) studied the location determinants of FDI flows to the Gulf Cooperation Council (GCC) countries, along Dunning's Ownership-Location-Internalization paradigm (**O L I**) paradigm. Mina used the panel data for the period 1980 to 2002, which estimates show that oil potential measured by oil reserves and oil utilization measured by oil production, have a surprisingly negative influence on FDI inflows, and contrary to the expectations about positive association between GCC oil reserves and FDI flows. The relative degree of oil utilization, however, measured by oil production, in relation to oil has a negative influence. Oil has been the driving sources of economic activities in the GCC countries; namely Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and United Arab Emirates (UAE). These GCC countries, deemed it fit to diversify their income source in the long run through the non-oil industries and increasing their share in the economy, proactively preparing for the time when oil resources get depleted or world oil decline in the long run. The GCC concern was that, despite the benefit of FDI and the role it could play in the diversification of the economic activities, FDI flows to the GCC have decreased over time in absolute and relative terms. Attracting FDI can be beneficial in increasing the non-oil industries capital stock as well as enhancing access to technology, adoption of innovation in the production process thereby increase productivity. FDI can also bring new expertise in management and production expansion, marketing, transport as well as the communication networks. Examining the determinants of FDI flows to the GCC countries becomes an interesting study, in the light of diversifying

economic activities and other potential FDI benefits as well as FDI performance. The study found that while the institutional quality, trade openness and infrastructure development increase FDI inflows, human capital significantly discourage FDI. The only positive influence of oil resources on FDI is realized when oil production is expressed in terms of oil reserves.

Marasco (2007) studied and contributed to the debate on the relationship between FDI and economic growth. He is of the idea that the alleged link between FDI and growth is rather a consequence of both FDI and growth responding endogenously to economic integration which is empirically tested. Antonio Marasco's findings are a clear and precise confirmation of the point that his study gave an inspiring new twist from previous researchers that disappear once integration is added to the equation. The study suggests that it is not FDI as such but an integration in any form or shape that determines growth. The study also suggests that current frenzy of all countries from all income brackets to attract FDI as a way to improve their growth prospects is misplaced. According to Antonio Marasco, what countries should do in order to grow faster is to become ever more integrated with the world economy, and he points out that the actual mode of integration seem not to matter whether it is through trade, FDI or anything else.

Na & Lightfoot (2006) set out to analyze the determinants of FDI on both the country and regional level through the extensive review of existing studies as well through the development of multiple regression model for the identification of key determinants of FDI at regional level in China during crucial period of 2002. The multiple regressions were to be utilized to identify statistically significant determinants of FDI at regional level in China. The year 2002 is interesting since it is the particular year of China's first year after its accession to the World Trade Organization and during which FDI was more in China than in the USA hence this study was interesting. It had direct relevance to the development of FDI effort by individual regions. This study provides evidence that GDP that proxies for the market, potentially appeared to be a big attraction for FDI. The degree of openness, progress of reform and quality of labour are important determinants of the distribution of FDI. They

found some mild evidence that high labour costs impede the inflow of FDI and that the level of infrastructure has positive relations to FDI. This has implications for the both central and regional government since they can be of assistance to authorities to locate funds and resources helpful for FDI attraction. They found out that FDI in China is unevenly spread to 30 regions which include municipalities' autonomous or semi-autonomous regions. The key finding is that government should consider encouraging capital-intensive FDI through further development of skilled labour force. This means increasing funding higher for education and infrastructure, while encouraging openness in state owned enterprises as well as recommending that future studies should help expose regions to greater potential for FDI and identify regions which need to improve certain conditions to receive more FDI.

Aqeel & Nishat (2005), empirically identified the determinant of growth in FDI in Pakistan over the period 1961 to 2003. They used the Cointegration and error-correction techniques to identify variables and explaining the FDI in Pakistan. Their main interest was to study how different variables attract FDI in Pakistan. The Government of Pakistan has initiated market-based economic reforms policies during the early 1980s. These reforms actually took hold in 1988, and now that the government had gradually liberalized its trade and investment regime by providing generous trade and fiscal incentives to foreign investors through a number of tax concessions, credit facilities and tariff reduction as well as easing foreign exchange controls. The government further liberalized the policies and opened the sectors of agriculture, telecommunications, energy and insurance to FDI. As a result of rapid political changes and inconsistencies in policies, the level of FDI remained relatively low compared to other developing countries. However, time series data on stocks of FDI inflows has shown a remarkable progress particularly over reform period in the 90s. the study considered the tariff rate, exchange rate, tax rate credit to private sector and index of general share price variables to explain the flow of FDI. This included wages and per capita GDP in testing for relative demand for labour. Their study clearly emphasized the role of these policy variables in FDI attraction and determining growth both in the short and

long run in Pakistan. Their study also indicates that there exists a positive and significant impact on FDI in Pakistan.

Botric, & Skuflic, (2005). Analysed the geographical and sector's distribution of FDI in South Eastern European (SEE) countries and compares its amount with CEE countries. In accordance with the economic theory, FDI towards developing countries flows to labour-intensive and low technological production while FDI towards developed states flows in high technological production. The growth of FDI in the world had significantly increased, particularly between the years 1990 to 2000, the increase was more than five times. After the year 2000 the world's FDI inflows had declined. Despite the fact that FDI was increasingly significant to developing countries, the share of developing countries in world's FDI inflows had declined. At the time of FDI expansion, growth had been very strong since 1997; however, most FDI transactions were between developed countries resulting in unequal distribution of FDI hence developing countries faced difficulties in attracting FDI. They realized that the identification of factors determining FDI was a complex problem, which depended on several specific characteristics unique for each country. These factors can be broadly categorized into: The economic policy of the host country, the economic performance and the attractiveness of the national economy. Desegregated level of FDI depended on the size and growth potential of the national economy, openness to international trade and access to international markets, the natural resources endowments as well as quality of the workforce, the quality of the physical, financial and technological infrastructure. The panel data technique as well as the sample of SEE countries was utilised to investigate the determinants of FDI. The privatization process and some level of private sector was included since FDI inflows for SEE countries depended on the complexity thereof. The result suggested that certain variables like privatization and trade regime coupled with the density of infrastructure appeared to be robust under different specifications. The agglomeration factor was also observed indicating positive significance and confirming the relevant theoretical propositions. Due to the statistical homogeneity of the sample, certain variables like privatization could not be fully captured.

Addison & Heshmati (2003) investigated the determinants of FDI inflows to developing countries, with particular emphasis on the impact of the 'third wave of democratization' that started in the early 1980s and the spread of Information and Communication Technology (ICT) that began in the late 1980s. These are two global developments that must now be taken into account regarding any explanation of determinants of FDI inflows. This study took place following the dramatically increased FDI, however, the distribution of FDI was highly unequal and very poor countries faced major difficulties in attracting foreign investors. They explored the determinants of FDI using a large sample of countries, together with panel data techniques in investigating the causal relationship between FDI, GDP growth, trade openness and ICT. This latest wave in ICT facilitated the global shift in the service industries, which developed to select developing countries, as a result of the earlier shift in manufacturing. These global political changes also affected FDI inflows. A third wave of democratization had pushed aside many authoritarian regime resulting in the opening up of the political system which was a catalyst for economic reforms that favours investors. These two waves, one technological and the other one political interacted in such a way that trade, capital inflows as well as FDI were reshaped. The findings were that democratization and ICT increased FDI inflows to developing countries. They also concluded that more assistance should be given to poorer countries in order to help them to adopt ICT as well as to break them out of their current low ICT equilibrium trap. Their finding supported the previous research conducted in this area in that there is a positive relationship between the FDI flow and economic growth. Secondly, openness to trade had positively impacted FDI inflows and lastly, that the level of risk negatively affects FDI.

Asiedu (2002), explores whether factors that affect FDI in developing countries affect countries in the Sub-Saharan Africa (SSA) differently. The findings of this study indicated firstly, that a higher return on investment and better infrastructure had a positive impact on FDI to non-SSA countries but have no significant impact on FDI to SSA. This study was conducted at the time when most of the developing countries in the world, according to a World

Bank report in 2001, had witnessed a dramatic increase in FDI, amounting to 24% of total foreign investment in 1990 to 61% of total foreign investment in 2000. The sad story is that the poorest region, African as a whole continent did not benefit from the increased investment flows or FDI boom to developing countries, even though countries in Africa under took numerous efforts to attract investment. Secondly, that the trade openness promotes FDI to SSA and non-SSA countries, however, the marginal benefit from increased openness was less for SSA. Africa's inability to attract FDI is troubling since FDI is crucial in that it provides the needed capital for investment. FDI comes with employment, managerial skills and technological development required for acceleration of growth and development. These findings by implication suggest that FDI policies that have been successful in other countries or regions may not necessarily be equally successful in Africa. External capital is needed to supplement domestic savings to spur investment and growth. The policy implications are that to enhance FDI inflow, African countries needs to liberalize their trade regime. Perception of investors towards reform should be credible and not subject to reversal. Secondly successful policies in other regions should be blindly replicable in Africa since they may not have a differential impact on Africa. Lastly, the perception of Africa as overly risky disadvantages African countries, by virtue of the geographical location countries in Africa will receive less FDI.

Lim (2001) prepared the working paper as a Senior Economist of the Middle Eastern Department of the International Monetary Fund (IMF). In his paper, Ewe-Ghee Lim presented the recent recapitulation of empirical arguments and findings on two aspects of FDI. The first aspect focused on the FDI correlation with economic growth based on recent literature positive spillovers from FDI while the second aspect deals with the FDI correlation with its determinants. This efficiency spillover or knowledge diffusion can lead to improvements in productivity and efficiency in local firms in that the simplest form spillover can occur whenever a domestic firm improves its productivity through occupying some technologically utilized multinational affiliates located in the local market. Again, the spillover effect occurs when domestic firms are forced to search and utilize more efficient technologies as a result of an

MNC's entry which has increased competitive pressure in the domestic market. Spillover can also occur when an affiliated firm demonstrates its new technological advancement and techniques through which training local labour force or workers, who are later absorbed or accept employment in local firms or become entrepreneurs. The spillover magnitudes tend to be dependent of the absorptive capabilities of the host country to absorb the foreign technology even though there were consensus on the causality. On the determinants, the findings were that the size of the market, infrastructure quality, political and economic stability, as well as free trade zones as significant for FDI which provided a mixed result regarding fiscal incentive, labour costs openness and investment climate for FDI.

Loizides & Vamouvokas (2001) examined the relative size of government measured as the share of total expenditure in GNP can be determined to Granger cause the rate of economic growth, or if the rate of economic growth can be determined to Granger because of the relative size of government. They empirically evaluated the causal link between the size of public sector and real per capita income within the bivariate and trivariate employing cointegration analysis, error correction modeling and multivariate causality test. They conducted three different specifications in the first they tested for a causal link between the size of public sector, as measured by the rate of government expenditure relative to GNP at the bivariate level, in the second they included  $G_t$ ,  $Y_t$  and unemployment rate; in third they substituted the unemployment rate by the inflation rates. The last two specifications were intended to investigate whether, by switching to a trivariate system from the bivariate one, the causality results would remain unchanged the causality link between  $G_t$  and  $Y_t$ , in every case examined. They found that the essential results in Greece are that economic growth Granger causes public spending expansion but not the other way round. Therefore, there is a high degree of support for this Wagner type phenomenon in the data for Greece; where public spending tends to be income elastic in the long run. This contrasted for Ireland and UK, their estimates showed one way causality running from  $G$  to  $Y$ . This results were consistent with the Keynesian notation suggesting that the causal linkage flows from  $DG$  to  $DY$  both in the long run and short run.

The fact that public spending in these two countries is income inelastic in the long run simply indicated some long run proportionality between the size of Public sector growth and GNP. Comparing the ECM results of unemployment within the tri-variate system for Greece, UK and Ireland noted some remarkable similarities and differences among the three countries. Firstly, all three experienced a growth slowdown because of unemployment. Secondly, the result for UK and Ireland shows, like the bivariate ones, that public sector size Granger causes output growth in the long run and short run. Thirdly, the sign of the unemployed coefficient in the public sector regression for UK was the opposite of that indicated by stability policy. Expenditure was expected to increase, not cut, when unemployment is high. They concluded that, Firstly, in all countries public expenditure Granger causes growth in national income either in the short or the long run. This is borne out by the bivariate as well as the trivariate analysis. The analysis generally rejected the hypothesis that public expansion had hampered economic growth. Secondly, Greece was supportive of the Wagner hypothesis that increased output caused growth in public expenditure. This was apparent in a bivariate test and trivariate system. Thirdly, while causality from national income to public spending was the distinctive feature of the Greece case, UK data also indicated a similar pattern when a trivariate model was adopted. However, they found out that the result of Ireland did not indicate any Wagnerian-type causality effect. They finally believed that while other potential variables, like real interest rate or public debt over GNP remain unexplored, the present study would indicate the likelihood of dimensionality of macro model that would explain the behavioral relationship between real per capita income and the size of the public sector.

Le & Suruga (2005) examined some of the potential relationship that exists between Foreign Direct Investment and public expenditure. The main aim was to contribute empirical evidence which can be used as guidance for building up a growth model that structure the linkages between FDI and public expenditure in determining the long-term economic growth. However, they found out the contrasting claim that there exist negative linkages between economic growth and government expenditure. They suggested that

excessive spending in public capital expenditure can reduce the positive impact of FDI on economic growth. Their study used 105 developed and developing countries from 1970 to 2001. Their approach of utilizing five-year lag structure where explanatory variables in period  $t$  had an effect on growth from period  $t+1$  through  $t+5$  was adopted. In their empirical analysis, the relationship between the long-term growth rate, FDI and public expenditure was investigated under a linear model. Key to explanatory variables were the share in GDP of FDI, public capital and public non-capital expenditure. They estimated a regression analysis of a fixed effect model where growth is the independent variable whilst the dependent variables were public capital expenditure, public current expenditure, and private capital flow and foreign direct investment. The result to the regression analysis showed that coefficient of Foreign Direct Investment was positive and significant in all cases. They examined the interrelationship between FDI and public expenditure in various ways which suggested a negative interaction that FDI and public expenditure do not support each other in promoting economic growth of countries with emerging economies. Another finding was that the effects of FDI on economic growth declined as the capital expenditure exceeded 8 to 9 %.

Gregoriou & Ghosh (2006) investigated the impact of government expenditure on growth for 15 countries with emerging economy. Government expenditure was segregated into current expenditure and capital expenditure. They used General Methods of Moment (GMM) to a fixed effects model. This econometric methodology made use of the lagged instruments of the explanatory variable to avoid endogeneity of the explanatory variables. The model supplied passed all diagnostic tests, in particular the test for first order residual serial correlation was significant across all selected countries. The capital expenditure parameter showed a negative effect with respect to economic growth for all countries while the current expenditure parameter showed a positive effect with respect to economic growth for all the countries.

Cheng & Lai (1997) examined the causality between government expenditure and economic growth in South Korea. They applied the technique of Sims,

Johansen's cointegration and Hsiao's version of the Granger causality method to post Korea war data. In examining this causality between government expenditure and economic growth along with money supply, they applied Vector Autoregression (VAR) techniques. All these three related macroeconomic endogenous variables can be expressed as a linear function of its own lagged values including the lagged values of other variables in a VAR. to avoid biased causality inferences as a result of omission or exclusion of relevant variable, they adopted a multivariate model. While conventional macroeconomic theory assumed that increased government expenditure tends to lead to high aggregate demand and rapid economic growth in turn, Wagnerian theory, however, opposed the view. They were aware that the trivariate setup might not be adequate to evaluate fully the Granger-causal relations among these variables, based on the number of available sample periods.

The main weakness in the several earlier studies in which regression analysis method was employed, is that they attempted to equate correlation with causality. It was conceivable that variables may be highly correlated, but not necessarily causally related. As expected, money supply was found to have Granger-caused RGDP, consistent with Nam conclusion that real economic growth activities were hardly affected by an increased money supply in Korea as theoretically supported by Wagnerian theory. The result from money supply equation also showed that both economic growth and government expenditure Granger-cause money supply. In conclusion, their findings firstly furnished supportive evidence that the government have played a significant role in the economic development of Korea. Secondly, that the findings support both the conventional Keynesian framework that causality runs from government expenditure to national income and the Wagnerian theory that national income causes government expenditure.

Bhandari, Pradhan, Dhakal & Upadhyaya (2007) examined in their paper, the effectiveness of foreign aid and Foreign Direct Investment in the Czech Republic, Estonia, Hungary, Latvia, Lithuania and Poland. They employed

labour force, capital stock, foreign aid and Foreign Direct Investment model and estimated the model using the pooled annual time series data from 1993 to 2002. Their findings indicated that an increase in the stock of domestic capital and inflow of foreign direct investment are significant factors affecting the economic growth positively in these countries. They diagnosed the time series properties of their data and the error – correlation model (ECM) was developed and estimated by using a fixed-effect estimator before conducting the estimation. Their findings, like most of the empirical studies, found and supported the argument that FDI is growth enhancing to host countries. They found that the data series were not stationary, and then they performed the same test with the different level of data in order to establish the stationarity of the data series. Thereafter, a cointegration test was conducted to test the existence of unit root in the estimated error term form the equation. The results reported that the coefficient of labour carries a negative and significant coefficient which contradicts their prior expectation. As expected, the coefficient of capital was positive and statistically significant at a very high level. The coefficient of foreign aid, though positive, was not statistically significant. The coefficient of foreign direct investment is positive and statistically significant indicating that the inflows of FDI have been a significant contributor to economic growth in these countries. The coefficient of the lag of the dependent variable carries a positive and significant sign as expected, and the error correction term (ECM) carries a negative and statistically significant coefficient confirming that the variables are indeed cointegrated.

## **2.13 Conclusion**

This study observed the theories that attempt to explain forms of international investment across national boundaries. This chapter presents the literature review and theoretical background on investment and FDI theories. However, it showed that the **O L I** paradigm provides a better framework for a general theory of FDI. It also motivates national firms to go and invest abroad and presents a reasonable form of investment in and out the borders of South Africa. Despite praises of sound macroeconomic fundamentals and stability,

both economically and politically as well as ongoing improvements in South Africa's rating for portfolio investment, Trade and Investment South Africa (TISA) feels South Africa has not attracted more FDI as its economic fundamentals justify. Even though there is undeniably socio-economic disparities such as high unemployment and prevalent HIV/AIDS level, South Africa does not adequately account for the levels of both foreign and domestic investments experienced so far. In this chapter, theories were discussed in relation to variables presented as a measure of economic phenomena.

The next Chapter presents the overview of the South African economy and FDI trends, the determinants of FDI on Economic Growth as well as the competitiveness of South African economy. These discussions are based on theories of Investment and FDI models will be highlighted and aspects concerning FDI attraction. The catalytic role of FDI as well as the Significance of FDI in South Africa will also be discussed.

# **CHAPTER 3**

## **SOUTH AFRICAN ECONOMIC OVERVIEW AND FDI TRENDS**

### **3.1 Introduction**

The previous chapter presented literature review on aspects that form part of the theoretical basis for the empirical study of the determinants of FDI on the economic growth worldwide. In this chapter, various types of FDI; the models of investment and those of FDI; the determinants of FDI which includes among others the business confidence or the investment climate; infrastructure development; return on investment; the openness of the host country; economic distance and size of the market; the agglomerate economies as well as political and economic stability are discussed. Included in these discussions are the South African trends of FDI and the significance of FDI in developing countries and then conclusion.

This chapter present the discussion of the overview of the South African economy and the state of the economy in South Africa, FDI trends, the economic growth as well as the FDI in relation to the competitiveness of South African economy. This study identifies and empirically analyse the determinants of FDI and how they contribute to economic growth of South Africa. This section closely examines the FDI trends in South Africa and reflects on the economic overview of the country for the first sixteen years of the new dispensation, 1994 to 2010. The study informs economic policy research and policymakers on how best to address FDI attraction to South Africa. Most African countries, South Africa in particular, are registering a relatively low level of FDI. In fact, the quests of South Africa to attract FDI were all in vain due to lack of hope of economic development and growth. FDI inflows have been sluggish in Sub- Saharan Africa compared to other developing countries in the world. It is believed that FDI promotes growth and improves the regional integration into the global economy. South Africa is part of the global economy but what can the country do to attract FDI? South African's growth standard is lower compared to competitors like China and

India, probably this is the reason why that FDI is low in this country, and hence this research is expected to provide a clearer understanding of the determinants of FDI on the country and its implications to regional economies (Kinoshita & Campos, (2002)

The recent recession led to 3% drop in GDP, mostly in commodity exporting sectors and automotive sectors, leaving the South Africa economy with 6% fall in employment, which translate to more than a million jobs lost since September 2008 to date. This is the reflection of the underlying structural problem faced by South Africa in its attempt to recover the economy from the economic meltdown. The short-term capital inflows inflated the rand and rendering the overall economy less competitive which is characterised by consumption –led growth and dependency on export commodities. The South African economy experienced low and volatile private savings and investments. According to Thomas and Leape (2005), the long-term growth in South Africa has been below the average for middle income countries while South Africa competitors like China, India, Malaysia and Chile enjoyed a substantial amount of higher growth rates. The economy of South Africa was initially expected to grow from the year 2005 to 2010, more so that the anticipated economic capital injections from around the world via hosting the 2010 FIFA World Cup.

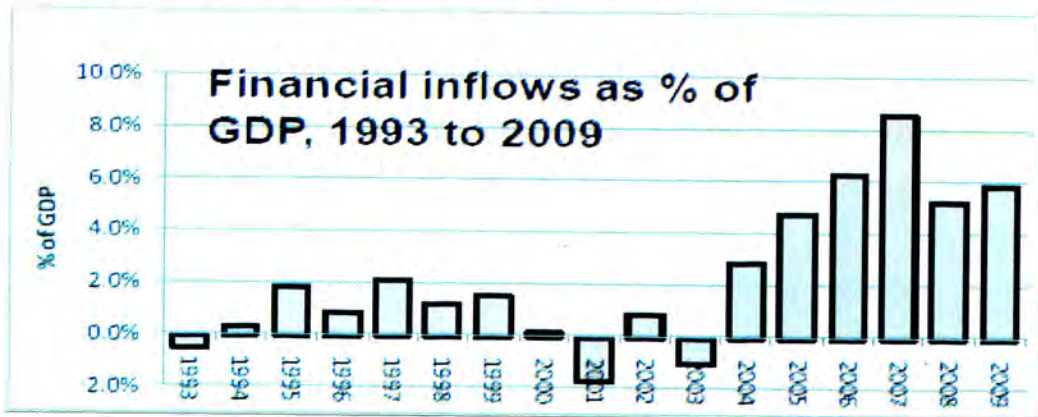
The annual growth rate is said to be increasing and a further increase in growth rate is envisaged since economic growth is now a government key priority. These expected increases are also crucial for overall competitiveness of the country and overcoming spatial legacy of apartheid. Government is now vigorously engaged in the campaign to fight poverty and create decent work for South Africans

### **3.2 State of the economy in South Africa**

The global market for commodities as well as the saving and investment in any economic system is subject to complexities of exogenous real shocks and reaction to their mixture (Barr & Kantor, 2002). The developing countries need to understand the dynamics of the global economy and draw lessons from those developing countries that have achieved significant economic growth. The character of the South African economy, an open economy which is relatively small with the vulnerable systems politically and economically have resulted into high level of volatility in key economic indicators as well as the business cycle. Although the economy of South Africa is increasingly service oriented, it has a historical sector of agriculture, manufacturing and mining which plays a pivotal role in the economy. Export and employment development as well as construction and property development have been the strong driver of economic growth, growing well 10% for the past four to five year.

Our Global world is more interdependent and connected than it used to be previously. Of late, South Africa is a member of the United Nations Security Council which has a pioneering role in developing Africa, the African Union and other Pan-African initiatives. South Africa is among the largest world's exporters of gold and diamonds including a wide range of other industrial minerals. It would be impossible to divorce social, economic and political change in South Africa to the global developments (Global Insight 2<sup>nd</sup> Quarter, 2005). On the demand side the South African economy remained buoyant with real Gross Domestic Expenditure (GDE) also was accelerating from quarter-to-quarter annual rate of 2.6 % and in the third quarter to 4.4% in the final quarter of 2004. Real Gross Domestic Expenditure (GDE) accelerating to 6.3 %. Even during annual increase in consumer prices, unforeseen cataclysmic events the likes of September 11 attacks, our inflation targeting remained well within the Reserve Bank's target range (Global Insight 2<sup>nd</sup> Quarter, 2005).

**Figure 3.1 Financial inflows as a percentage of GDP**



Source: Reserve Bank of South Africa

The financial inflows into South Africa as a percentage of GDP in the advent of the new dispensation are reflected on Figure 3.1 above. South Africa the promising upper-middle income economy as ranked by the World Bank, a developing country with slightly more than a quarter of its entire population unemployed, has the most actively traded emerging market currency in the world according to the Bloomberg Currency Scorecard. After the first ever multi-racial election in 1994, South Africa had a newly elected government led by the African National Congress (ANC). The ANC as led by the first democratically elected President Nelson Rolihlahla Mandela had a mammoth task of transforming and restoring the economy crippled by internal conflicts as well as external sanctions and integrating the historically disadvantaged population. Huge economic strides were made in which inflation was brought down; foreign capital was attracted except growth which was still below par (Global Insight 2<sup>nd</sup> Quarter, 2005).

The second democratically elected President Thabo Mbeki demonstrated commitment from South African government in 2000 to open market economy, promotion of economic growth and attraction of foreign investment through relaxation of restrictive labour laws and improving the privatization stance and reducing government or public expenditure. Economic growth in South Africa experienced a significant growth resulting in both increased capital formation as well as employment. In 2009 the South African economy

experienced a cyclical recession and economic growth technically declined. (Global Insight 2<sup>nd</sup> Quarter, 2005).

South Africa and the United States signed an investment fund protocol for \$ 120 million of Overseas Private Investment Corporation (OPIC) in 1996 to make equity investments in South Africa and Southern Africa. The South African government made a positive investment growth in 2004 final quarter and kept its infrastructure investment as well as urban renewal program intact. Eskom continued its monopolization of electricity supply and further refurbished its mothballed power stations, the first of which was scheduled to be online in 2005; the communication sector increased to its network equipment. Contrary to the acceleration in growth, investment by public corporation and government in general, real investment growth by private business retarded simultaneously (Global Insight 2<sup>nd</sup> Quarter, 2005). South Africa as part of the global economy began to feel the global financial calamity which was cyclically imposed on us as part of the behaviour of the economies during the third quarter of 2008. The state of foreign investors, in response to transitional political and economic reforms in South Africa has been very disappointing. The annual inflows of FDI since 1994 as a percentage of GDP are shown Appendix J.

The latest comparison with of South Africa to emerging economies is said to be the second most sophisticated financial market and the second-lowest effective business tax rates, this is according to a investec survey conducted in 2008/10. In relation to other emerging markets, the country can easily access capital but performing very bad regarding cost of labour availability and the volatility of the rand which are impediment investors and exports as well as less competitiveness of the country.

**Table 3.1 Annual per capita personal income by race group relative to white levels**

| Year | White | Coloured | Asian | Black |
|------|-------|----------|-------|-------|
| 1993 | 100   | 19.3     | 42.0  | 10.9  |
| 1995 | 100   | 20.0     | 48.4  | 13.5  |
| 2000 | 100   | 23.0     | 41.0  | 15.9  |
| 2008 | 100   | 22.0     | 60.0  | 13.0  |

Source: International Monetary Fund

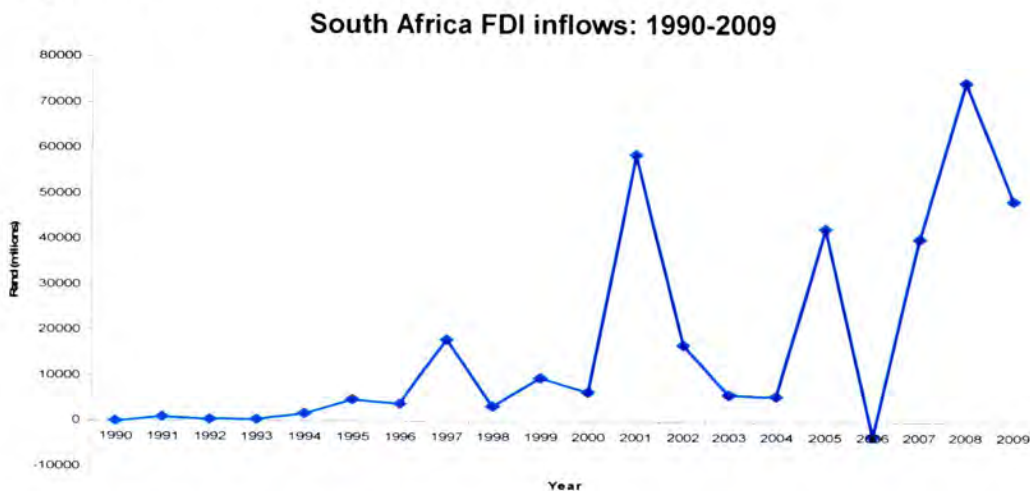
South Africa's high level of overall income inequality exacerbated. The country's intra-race inequality increased by four percentage points, from 0.66 to 0.70, between 1993 and 2008 as reflected in Table 3.1. The *intra-race inequality* is disappointingly increasing whereas the *between-race inequality* is gradually declining. At any poverty line, blacks are very much poorer than coloureds, which are very much poorer than Indians, who are poorer than whites. Many blacks in the country are still living in poverty. Real incomes have been rising for all groups, see Appendix L.

South African economy experienced energy growth with backlogs and bottlenecks in logistics, energy and skills. Investment lies at only 22% of GDP, an improvement up from 14% in 1994, coupled with a sharp drop in private investment in 2008/9. Barr & Kantor (2002) point out that the strong economic growth is likely to encourage foreign direct and portfolio investment needed for both employment and income prospects as well as political and economic stability. On the other hand, slow growth and income rates give rise to higher unemployment, riots and political action which is disappointing because it encourages a flight of capital out of South African. The South Africa economy can no longer rely only on gold price alone, since the revenue from high platinum exports prices far outweigh that of gold.

### 3.3 FDI Trends in South Africa

Despite numerous positive achievement economically, South Africa is still struggling to attract significant FDI even in the new dispensation. South Africa is a part of the leading group of emerging economies, South Africa with an estimated population of 50 million is responsible for approximately 3.5 % of Sub-Saharan Africa's output. In the global world, South Africa enjoys being one of the richest countries in the continent and in the world regarding minerals and other natural resources (Global Insight 2<sup>nd</sup> Quarter, 2005). Most economists believe that FDI is a suitable vehicle that can ensure sustainable investment growth over a medium term so as to achieve the 2014 target of an investment ratio that is fixed above 25% of GDP( Bruggemans, 2009).

**Figure 3.2**



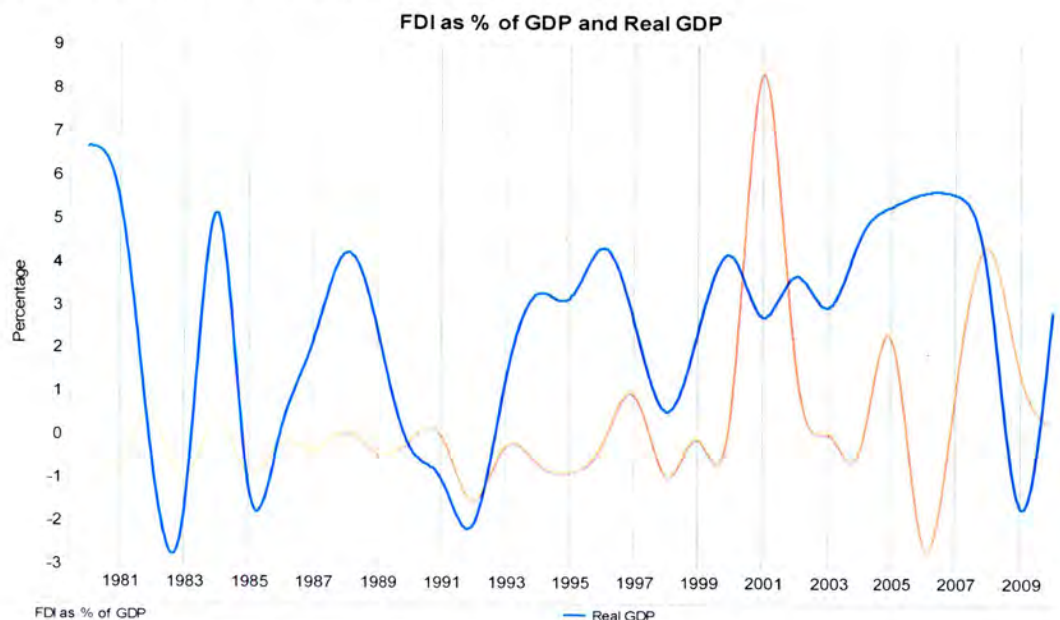
Source: South African Reserve Bank

As the largest economy in Africa, an illustration of the Macro determinants of FDI, South Africa's Foreign Direct Investment has been a mere trickle, even though the country accepted the standard prescription of countries to receive more FDI (see Figures 3.7; 3.8.and 3.9). Ever since the end of apartheid in 1994, South Africa's economy has been liberalized, which is what made

Foreign Capital to easily flow in and out of the country. The African National Congress brought some significant level of political stability and spectacularly managed the country's economy by bringing inflation under control and balancing the country's budget within a reasonable ability to service the inherited budget deficit from the apartheid regime. They had done everything the World Bank and the International Monetary Fund (IMF) would have advised countries to receive more Foreign Direct Investment, but most surprisingly FDI slowly trickled into the country due to the strength of the corporate climate in South Africa (Professor E. Werker, 2006).

In a way of creating a surplus in the capital account of the balance of payments or to make up for a deficit on the current account, FDI is viewed as a significant source of capital formation in situations when the capital base is low. Mwilima (2003) presents an argument that FDI will create employment while on the other hand; international experience shows that not all FDI is followed by substantial creation of employment. FDI also increases export competitiveness, as in the case of the GEAR strategy, where the attraction of investment in cluster of industries was anticipated to develop local companies. The actual investment flows of the SADC region reveals that severe decline of FDI from 0,9% to 0,3% of foreign investors during 1995 to 2000 was experienced. The recorded FDI figures reveal that due to a decline of FDI in Angola and South Africa the region experienced a fall in FDI flows. In South Africa, FDI as percentage of GDP has dropped from 8.4% in 2001 to 1.4% in 2009. See Figure 3.3. and Annexure J.

**Figure 3.3 FDI as percentage of GDP and Real GDP**



Source: Reserve Bank of South Africa

**Table3.2 The Global Ranking by Investment (Sum of FDI inflows and outflows divided by GDP)**

| Rank | Country          | FDI 2005 | Rank | Country             | FDI 2005     |
|------|------------------|----------|------|---------------------|--------------|
| 1    | Hong Kong, China | 38.51%   | 51   | Tunisia             | 2.75%        |
| 2    | Netherlands      | 25.89%   | 52   | New Zealand         | 2.68%        |
| 3    | Estonia          | 25.13%   | 53   | <b>South Africa</b> | <b>2.66%</b> |
| 4    | Denmark          | 24.08%   | 54   | Portugal            | 2.29%        |
| 5    | Singapore        | 21.94%   | 55   | Thailand            | 2.23%        |
| 6    | Ireland          | 17.79%   | 56   | Taiwan              | 2.21%        |
| 7    | Panama           | 14.06%   | 57   | Pakistan            | 2.01%        |
| 8    | Switzerland      | 13.27%   | 58   | Brazil              | 1.99%        |
| 9    | Belgium          | 12.51%   | 59   | Saudi Arabia        | 1.87%        |
| 10   | Jordan           | 12.05%   | 60   | Ghana               | 1.46%        |
| 11   | Colombia         | 12.04%   | 61   | Korea, Rep.         | 1.45%        |
| 12   | United Kingdom   | 11.91%   | 62   | Sri Lanka           | 1.32%        |
| 13   | Sweden           | 10.97%   | 63   | Philippines         | 1.32%        |
| 14   | Australia        | 10.60%   | 64   | Bangladesh          | 1.14%        |
| 15   | Czech Republic   | 9.56%    | 65   | Algeria             | 1.08%        |
| 16   | Bulgaria         | 9.50%    | 66   | Japan               | 1.07%        |
| 17   | Ukraine          | 9.39%    | 67   | India               | 1.02%        |
| 18   | France           | 8.43%    | 68   | Senegal             | 0.97%        |
| 19   | Chile            | 7.41%    | 69   | United States       | 0.90%        |
| 20   | Hungary          | 7.21%    | 70   | Greece              | 0.72%        |

Source: World Bank

South Africa is receiving substantial fraction of FDI inflows in the SADC region and is hosting the greatest number of foreign subsidiaries across a broad range of economic sectors. The global Investment ranking as done by The World Bank places South Africa at position 53 with an amount of 2.66% of FDI divided by GDP attraction in 2005 (See Table 3.2 above). South Africa has a capacity to act as a magnet or catalyst for FDI in the region, particularly in the context of regional economic integration and growth. The worrying factor is that even though South Africa has a great prospect for growth into a large emerging economy, the country does not receive a significant amount of FDI in comparison to other emerging economies like China and Chile. It is worth noting that the United Nations (UN) contradictions regarding FDI as well as its effects on growth has enhanced the standard of living on developing countries. These contradictions as guided by the UN Millennium Development Goals (MDGs) stipulate that by financing development goals, a country like South Africa would first and foremost rely on the mobilisation of domestic resources, as well as external financing like FDI and Official Development Assistance (ODA). However, existing studies fail to identify the direct effects of FDI on economic growth. Viewed as an independent variable FDI seem to have no significant effects on economic growth (Thomas & Leape, 2005).

The empirical analysis confirms South Africa to be receiving a comparatively low level FDI. There are MNCs actively investing in South Africa in various sectors of the economy but FDI is relatively low. The contributory factor may well be the presence of developed local corporate sector and huge liquid domestic capital market. Generally, industrials sector accounts for a small share of total foreign investment, this is primarily from electronics, machinery industries and engineering. The overall value of investment on record in South Africa has been dwindling since 2000 in relation to GDP. This clearly suggests the country's weak performance regarding inwards FDI attraction (Thomas & Leape, 2005). The FDI trends are impacted and highly influenced by the huge transactions as well as the extent to which FDI affects various sectors. Top on the list of South Africa's investment is from the automotive industry as well as

resource industries. The resource industry attracted a significantly huge share of foreign investment from 1994. The investments in mining were stronger since 2000 (Thomas & Leape, 2005).

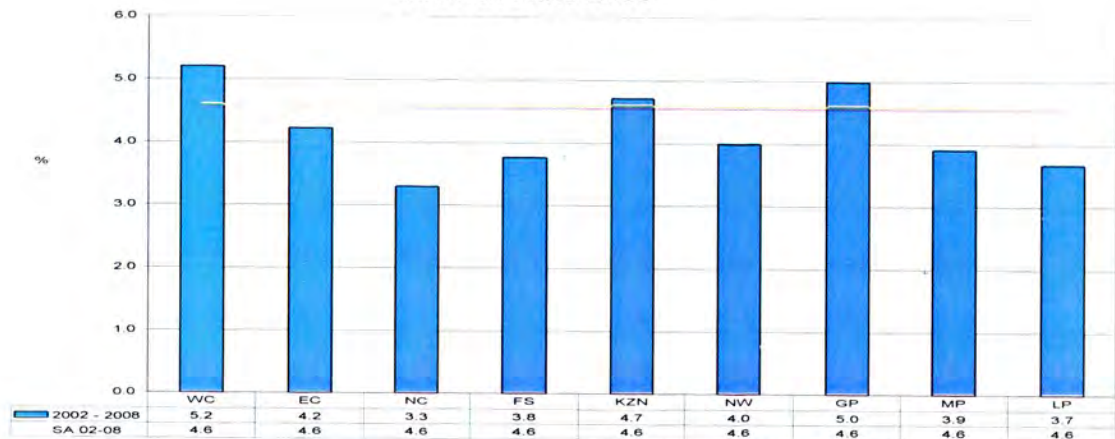
### **3.4 Economic Growth (GDP)**

Foreign investors tend to invest in an economy where more return on investment is maximized and growth rates can be sustained. Higher growth rates are key to attraction of horizontal FDI. The higher the rate of growth the more the domestic economy expands the more the economy becomes stable. The socio-economic stability is highly significant for all forms of FDI, vertical or horizontal. In 1995 the government unveiled its Growth, Employment and Redistribution Strategy (GEAR) after a broad Reconstruction and Development Programme (RDP). The GEAR policy had the objective of establishing a fast-growing economy that creates employment and encourages a redistribution of income in favour of the poor. This policy brought transformation towards a competitive and outward oriented economy (USAID SA 2006). South African economic growth averaged 3% during the first decade of freedom, from 1994 – 2004, a considerable improvement on the decade before 1994 when growth averaged 1% per annum. Government was mandated to halve poverty and unemployment by 2014. Since 2004 growth has exceeded 4% per year, reaching about 5% in 2005, with a very high business confidence, and 86% of firms expecting continuation of business condition, which has not been experienced in the 30 year history of the index (ASGISA, 2006).

**Figure 3.4**

### Real Annual Economic Growth

#### Growth Rate 2008

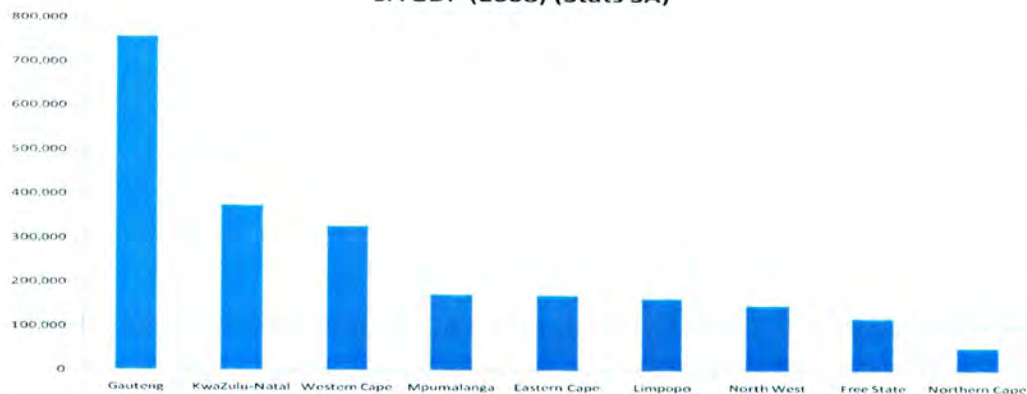


Source: Statistics South Africa

The recent information produced by Global Africa Network (Pty) Ltd, on North West Business (2010/11), on growth reflected that South Africa's real GDP at market price on a quarterly adjusted annualized basis stand at 3.2% growth in the fourth quarter of 2009 from 0.9% in the third quarter. The fourth quarter of 2008 registered -0.7% growth whereas the first quarter registered -7.4% growth while the second quarter stuck -2.8% growth. This figures of the second quarter (-2.8%) ushered in the first recession in 17years, the worst figure registered since third quarter of 1984, when GDP was -65%.

**Figure 3.5**

#### SA GDP (2008) (Stats SA)



Source : Statistics South Africa

### **3.5 Trade, Imports and Exports**

According to the South Africa Reserve Bank (SARB) as well as the Department Trade and Industry (The DTI)s audited figures of Annual values of South African imports and exports, South Africa's International trade has sharply risen over the past decade. The South Africa is top 10 in both exports and imports sectors of 2009 released by The DTI, the value of imports has risen above that of the exports. South Africans experienced declines across the board in the level of trade, mineral, fuels and oils made up to 21.3% of the total imports in 2009, becoming the largest category in 2009 ahead of machinery, which had largely been import area in 2008 (North West Business, 2010/11). Relative to 2008, the largest growth for 2009, apart from the unclassified goods, was for fruits and nuts recorded 2.9% whereas the number one sector was precious or semi precious stones, at 2.4% of the cumulative total. The largest import growth among major goods took place in pharmaceutical products which registered 3.4%. Most of South Africa's trade took place with the Far East, Germany and the United State of America (USA). Japan, USA and Germany were in descending order, South Africa's top 10 list of export markets, whereas some of the top 10 list in the imports markets were Germany, China and the USA (North West Business 2010/11).

In the beginning of 2009, South Africa recorded a new record deficit of R17.38-billion for trading with non-Southern African Customs Union trading partners. A dramatic tail-off in exports is reflected by exiting data. The worst ever deficit was previously recorded in October 2007 reaching R14.7 billion. However, exports bounced back again in February 2009 increasing to 21.5% month-on-month to R44.062 billion. South Africa recorded a surprise trade surplus of R3, 221 billion for trading with non-Southern African Customs Union trading partner in June 2009 after the surplus of R2.02 billion surplus in May 2009 (North West Business, 2010/11).

North West Business (2010/11) recorded another trade surplus of R446.758 million in July 2009. But the performance remained volatile hence a R3.331 billion deficit was recorded in January 2010 from a surprise R3.669 billion surplus in December 2009. Despite the global recession, South Africa's trade with Asia remained robust and confirms the strength in trends noticeable in the first quarter of 2008. Between 2008 and 2009 growth in South African exports tailed off due to global recession. In South Africa 36,4 % of growth occurred with China as the major trading partner, 44,1% with Switzerland as the major trading partner, while 53% occurred with Hong Kong as well as 24.9% with Kenya as trading partners. The number one import country is China which moved up from second position with -14.1% followed by Germany from first with -23.5% imports (North West Business, 2010/11). South Africa ranked 61 out of 121 countries in 2009 from 59<sup>th</sup> out of the 118 countries in 2008 in as far as trade in concern. This is also reported in the World Economic Forum's Global Enabling Trade Report, that South Africa is ahead of other emerging economies like China (76), Brazil (87) and Russia (109) (North West Business, 2010/11).

### **3.6 South African Competitiveness and FDI**

The degree of openness in the South African economic markets may result in the reduce tariffs which are likely to harm traditional market-seeking FDI by way of opening the economy to more imports competition. The restructuring of Trade and Industry as well as all other economic reforms made South Africa internationally more competitive and created a secure environment characterised by certainty in the world of work. On the other hand, openness of the economy contributes to improved competitiveness of South African as a destination for FDI by way of import inputs cost reduction (Thomas & Leape, (2005).

In the Sub-Saharan African countries (SSA), the most globally competitive country is South Africa. This is according to the recent information produced by Global Africa Network (Pty) Ltd as captured in the latest North West

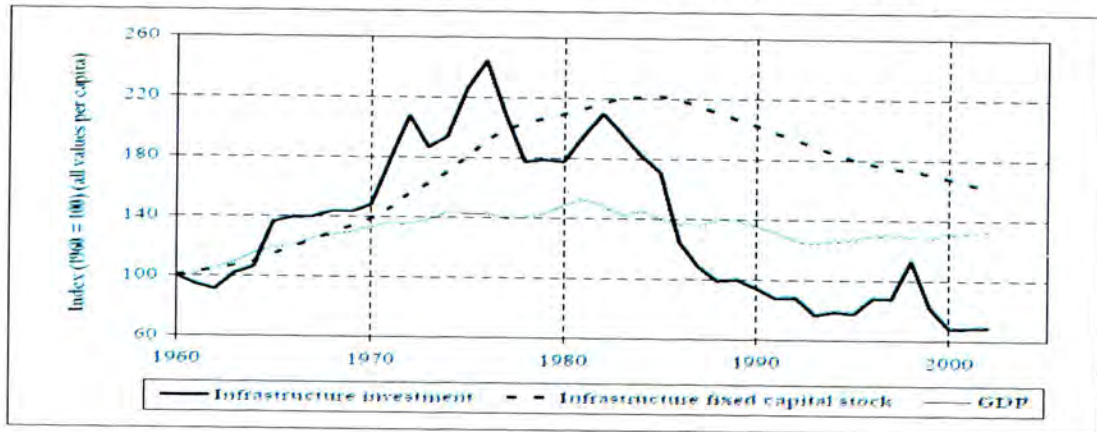
Business (2010/11). South Africa was and still continues to be the 45<sup>th</sup> most competitive country according to the World Economic Forum's Global Competitiveness Index in 2009 – 2010. The ratings are in par with innovative countries like India, and Brazil. These ratings, in accordance with the Africa Competitiveness Report, which reviews the degree of Competitiveness of Africa's economies, made South African to be one of the continent's top innovative country. Investment figures are expected to be further strengthened by public sector infrastructure investment for 2009/10. The Fixed capital investment ratio to GDP has consistently risen over the past five years and stood at 22.5% in 2009. For purposes of global investments, South Africa has been identified by Economist Intelligence Unit for United Kingdom (UK) Trade and Investment, the International Business Development Agency of the British government, as a key emerging market. The Africa Competitiveness Report credited South Africa as having high-quality scientific research and development institutions, strong investment in research and development as well as the significant level of collaboration between business and universities in research (North West Business, 2010/11).

According to the South African Reserve bank (SARB), public sector infrastructure component of the of fixed capital formation and fixed capital stock and the investment per capita deteriorated from R1 268 in 1976 to R 356 in 2002. This is 72% total collapse. This situation saw investment as a percentage of GDP falling below the international benchmark, from 81% to 2.4% of the GDP. The economy recovered after the recovery of infrastructure investment resulting from Telkom and Eskom expansion programmes to extend telephone lines and electricity to under serviced areas in the 1990s. Even up to now, investment in infrastructure has been paid little attention to in South Africa. Policymakers should focus on choosing or encouraging the right type of infrastructure at the right time since investment in economic infrastructure stays forever (Perkins, Fedderke & Luiz, 2005). According to the study of Perkins, Fedderke & Luiz (2005), investment in the South African economic infrastructure grew by 15% increase in real terms in 2003 and a further R165 billion was invested in the state owned enterprises, Transnet and Eskom during 2005 to 2009.

Observing government commitment to trade liberalization in this new dispensation and increased competitiveness of South African economy, this is an optimistic approach towards improvement of both foreign and domestic investor confidence. The increased South African competitiveness is determined by the extent to which tariff liberalization have impacted the country. Another aspect influencing South Africa's competitiveness is that tariff reduction creates new prospect for export-oriented FDI (Thomas & Leape, 2005). According to the World investment Report 2006), Production process advantages happen to be more significant than ownership advantages for technologically based industries. This sector is followed by metal production and chemicals regarding the degree of significance while advantages associated with organisational structure are less significant aspects of competitiveness. South Africa's competitive advantages arise from the ownership advantage and production process capabilities since the country relates very well to the host regions in which they have invested, both developed and developing countries (World investment Report, 2006).

The types of competitive advantage of the country range widely according to origins, and the level of maturity in that country. The quest for expansion and internationalization is the driving force behind the country's improved competitiveness advantages. The World Investment Report (2006) refers to these factors influencing internationalizations as *Push factors* or *home country factors* as well as *Pull factors* or *host country factors* of competitiveness. *Push factors* or *Market Push factors* are those conditional factors compelling companies to become multinational and move abroad which is influenced by trade and market conditions, the cost production relative to inputs of factors production, home government policies as well as the local business conditions where global and local competition is encouraged. *Pull factors* or *Host country factors* or *Market Pull factors* are more likely the determinants of FDI in host economies. These factors includes but are not limited to the large and accessible economic markets Infrastructure developments as well as lower labour costs and proximity countries where suitable productions factors are available pull inwards FDI.

**Figure 3.6 Infrastructure Investment and Fixed Capital Stock**



**Source : Reserve Bank of South Africa**

The share of Tourism sector and all its activities as well as their contributions to the economy of South Africa has been felt by the economy. Top on the list with 58% contribution is Accommodation followed by Conferencing with 15% share of contribution to the economy.

According to third report of Statistics South Africa (2009) the total economy of South Africa is placed in relation to that of various provinces, the average real economic growth of the country seem to have recorded 4,6% growth as reflected by Appendix C and Figure 3.6.

### **3.7 Conclusion**

This chapter reflected an overview of the South African economy as well as the discussion of the FDI trends experienced by South Africa. The following aspects were discussed in reflecting the state of the economy in South Africa, the economic growth and global investment ranking of South Africa as part of the global economy. The trade aspect with imports and exports was unpacked. The degree of competitiveness of Africa's economy was also discussed with specific focus on the competitiveness of South Africa.

It comes out very clear that determined policy reforms could make quite a significant difference, even though the previous discussions demonstrated

that not only investment policy on its own can bring about meaningful changes. It is rather the entire environment as a whole. In the entire investment environment some policies would assist to attract more FDI and in the same way some would raise a huge amount of investments by foreign investors. Most FDI in South Africa has been in the form of merger and acquisitions, suggesting that Greenfield investment, joint ventures and other state of the art investment policy are very important. A well resourced and development strategy targeting investors that South Africa have should be vigorously intensified including the Public-Private-Partnerships (PPPs). Government will have to do more to convince other pessimists in our society opposed to economic reforms. South Africa has, like all other developed and developing countries, much to again from increased foreign investment which is well regulated. The country should optimistically embark on the vigorous campaign of attracting FDI.

The next Chapter discusses the research methodology used in this research. Details about the methodologies used to the data description, the model specification, the analytical techniques, the econometrics approach, the cointegration analysis and the error correction model, will given, as well as the methods used to analyze available data of the study. The research questions are also restated in the next chapter.

## **CHAPTER 4**

### **RESEARCH METHODOLOGY**

#### **4.1 Introduction**

The previous chapter presented literature review on aspects that form the theoretical basis for the empirical study of the determinants of FDI on the economic growth of South Africa. This chapter discusses the research methodology, which is an aspect of the research undertaken. In order to answer the research questions that were developed in the previous chapters, it is essential to design a research method. This is applied in order to practically find solutions to these questions. Essentially, this research is to elucidate the current implementation of South African policies and their relevance in growing the economy through FDI attraction. This chapter discusses the manner in which the investigation of the problem takes place, which is called the research methodology.

This chapter gives a detailed description of the methodology used in attaining the aims and objectives of the study. These aims and objectives are, to identify the determinants of FDI attraction or promotion and empirically analyze their impact on the economic growth of South Africa, to explore and examine the extent to which these FDI determinants impact on the regional economies as well as determining the appropriate technique of examining or investigation these determinants in order to fast track FDI attraction and establish a linear empirical relationship between the determinants of FDI on the South African economic growth as well as to determining the direction of the causality among the described variables.

This type of research seeks to contribute to a deeper understanding of how the determinants of FDI affect South African economic growth. As a result of the FDI policy implications of this study, this research falls within the parameters of the key government departments and policy makers responsible for the development of the economy through creating the

conducive environment for investment promotion and formulate policies for FDI attraction.

## **4.2 Methodology**

The research methodology defines the procedural activities, the analysis of the principles of methods and structure, rules, and postulates employed by a particular discipline. All this is done step by step in a particular chronological order. This study followed the quantitative research methodology. The objective of the quantitative research is mainly to develop and utilize mathematical model in theories and hypothesis centred on the fundamental connection between the empirical observation econometrics expressions of quantitative relationships. The broader research questions were: What is the relationship of the determinants of FDI and growth of the South African economy? Why is the South African economy failing to attract more FDI? What can South Africa do to attract more FDI?

The study set out to investigate the determinants of FDI on economic growth of South Africa through the extensive review of the existing literature and exploring the relationship between FDI determining factors as well as examining their correlation with growth and verifies the existence of positive spillovers. The Cointegration and Error-Correction Model (ECM) was utilized in this study. The theoretical approach which links trade openness and growth that account for the determinants of FDI led growth as demonstrated by basic investment theories and FDI theories incorporating various imperfect competitive investment models and economies of scale within the context of South Africa were employed. Here, the empirical examination of the causality between determinants of FDI and GDP; as well as the direction of their relationship is closely observed. The study utilises regression analysis of the determinants of FDI stock in South Africa. We explore time-series analysis to examine the direction of the causality among the variables as well as the Granger causality between variables and statistically significance determinants of FDI in the South African economy.

The study of determinants of FDI on growth is tested on Cointegration and Error Correction Model. The study considers various factors and characteristics influencing FDI inflows. These factors include: openness of the market, real interest rate and exchange rate, labour cost, macroeconomic stability, government expenditure infrastructure, rate of return on investment, the size of the market with the prospects of growth. The bigger market size allows for economies of scale, and countries with higher levels of economic development benefit from lower cost of transactions. There are several other variables to be tested in the formulation of the model and variables (Erdal and Tatoglu, 2002). As we have noticed, there are commonly more determinants of FDI which have a correlation with FDI particularly in South Africa. These includes the special treatment offered to foreign investors, the degree of industrialization, return on investment, the number of tourists attracted, tax structure, infrastructure development, promotion expenditure, labour quality and costs, agglomeration of FDI and the level of scientific research that might as well have impacts. Data is sourced from The Reserve Bank of South Africa, and is analysed with econometric techniques.

This study focused on the five determinants already discussed namely FDI, gross domestic product, labour cost, and openness on which data is more accessible, and left out those on which data is more difficult to obtain at national level in South Africa. In this instance the regression method was utilized on the dependent variables to estimate the effects of possible determinants of FDI and the amount of FDI as well as the set of independent variables affecting the profitability of investment. The economic potential in the market, transportation and the cost of production and distribution as well as the overall economic and environmental conditions the MNC are facing are reflected. Based on the present analysis of the FDI situation in South Africa as well as building on the Dunning's (1981) location advantage hypothesis, this study concur with Na & Lightfoot (2006) and Mina (2007) in postulating the amount of FDI nationally through the empirical log-log model:

$$FDI = f (OPENNESS, GDP, LABCOST) \quad (4.1)$$

where *FDI* is the dependent variable and inflows per capita amount of FDI, *OPENNESS* is the degree of trade openness of the economy inclusive of exports and imports and progress in country reforms, *GDP* is the nominal log form of discrepancies in economic size; *LABCOST* is the labour cost and the quality

In this study which concur with Na & Lightfoot (2006), in that in the case where equation (4.1) is employed at provincial level, that is, reflecting the quality and the cost of labour (*LABCOST*), the economic demands and size of the economy (*GDP*), Progress of reform resulting from the degree of openness (*OPENNESS*) at national level *i*, for instance *i*, the general pooled regression model of the variables can be utilized as

$$\ln(FDI_i) = \alpha_i + \beta_1 \ln(GDP_i) + \beta_2 \ln(LABCOST_i) + \beta_3 + \ln + \beta_4 \ln(OPENNESS_i) + \varepsilon_i \quad (i = 1, 2, 3, \dots, 30) \quad (4.2)$$

where subscript *i* refers to individual provinces;  $\alpha_i$  is the intercept;  $\varepsilon$  is an error term; and  $\beta_i = (i = 1, 2, 3, 4, 5)$  are vectors of unknown coefficient estimated.

When involving this kind of empirical model of estimation, there are two significant issues to be considered. Firstly, the multicollinearity. Secondly, the possible of data omission of individual country effect (Mina, 2006). According to Mina (2007), the expectation is that the mineral resource production, the trade thereof and their reserves of a country, is expected to correlate with the size of the economy and trade openness in that economy. The serious multicollinearity problem influenced by these estimation may occur a result of the introduction or inclusion of closely related variables simultaneously in the empirical model. In the same approach as Li & Park (2006) state, this multicollinearity can be detected through conducting a multiple regression analysis to examine the *Variance Inflation Factors* (VIF). VIF is the measure of inflation in the variances of parameter estimates resulting from collinearities that exist among independent variables (Mina, 2006). Multicollonearity is

firstly, considered a severe when largest VIF is greater than ten (10), meaning  $R^2_j$  is greater than 0.9. Secondly, mean VIF is greater than 1. In order to account for unobservable country effects, Baltagi (2005) and Mina (2006) suggests an Error Correction Model (ECM) which is utilized in this study

$$y_{i,t} = \beta' X_{i,t} + \mu_i + v_{i,t} \quad i = 1, \dots, N, \quad t = 1, \dots, T \quad (4.3)$$

where  $y_{i,t}$  denotes the independent variable,  $X_{i,t}$  denotes a vector of explanatory variable, while subscript  $i$  and  $t$  denotes the country and period of time respectively. Based on Hausman specification test, the random effects model and the effects of omitted country specific variable are regarded and treated as random variables. In the sections which follow, there will be a discussion on the description of data utilized in this research, the model specification, the analytical techniques, the econometrics approach, the cointegration analysis and the error correction model. Finally the chapter conclusion is presented.

### 4.3 Data Description

The section below presents the data profile of South Africa from 1994 to 2010 represented in Column 1, the economic demands and size of the economy (**GDP**) is in Column 2; **FDI** is the dependent variable and inflows per capita amount of FDI invested in the country is in Column 3; the quality and the cost of labour compensation of employees (**LABCOST**) is in Column 4; **OPENNESS** is the degree of trade openness of the economy inclusive of exports and imports and progress in country reforms are column 5.

### 4.4 Model Specification

In a developing countries most of the effective utilization technology requires a broader range of both technological and managerial know how, much of which is found outside the borders of any country. It is for this reason that the developing country should strive for openness to external knowledge expertise which can expose the national economy to international competition. All these technological expertise and technological diffusion and their

likelihood to positively impact developing countries become greater when the developing countries trade with developed countries since the custodian of such knowledge and expertise rest with developing countries. The flexible accelerator model of investment utilized in this study is inline with the Shih & Dedrick (2007) where investment in technological, managerial and other expertise is expressed as.

$$I_t = \mu\lambda Y_t + (\delta - \lambda)K_{t-1} \quad 4.4$$

where  $I$  is gross capital investment,  $\mu$  is capital output ratio,  $\lambda$  is speed of adjustment to optimal technological capital stock,  $K$  is the technological capital stock and  $\delta$  is the rate of replacement of technological investment. The flexible accelerator model estimator was augmented with the independent variable to determine the direction of causality.

$$I_t = \mu\lambda Y_t + (\delta - \lambda)K_{t-1} + \sum \beta X_{t-1} \quad 4.5$$

As a result of tendency capital stock to absorb majority of variance, the model of technological investment without capital stock, the determinants of technological investment were identified by Shih & Dedrick (2007) as supported by (Caselli & Coleman, 2001). The differential effects of the independent variable as well as the interaction of variables with GDP per capita by the re-parametization variables which allow for the interpretation of coefficient. This procedure differentiates between richer and poorer countries.

$$I_t = \mu\lambda Y_t + (\delta - \lambda)K_{t-1} + \sum \beta X_{t-1} + \sum \beta X_{t-1} + \sum \lambda(Y_t - \bar{Y})X_{t-1}, \quad \frac{\Delta I}{\Delta X_i}$$

$$= \beta_i + \lambda_i(Y - \bar{Y}). \quad 4.6$$

To determine the growth in FDI as well as formulating various types of selective government policies and other variables to attract FDI in South Africa, we follow an econometric model of Aqueel & Nishat (2005) as supported by Na & Lightfoot (2006).

The economic potential in the market, transportation and the cost of production and distribution as well as the overall economic and environmental conditions the MNC is facing is reflected. Based on the present analysis of the FDI situation in South Africa as well as building on the Dunning's (1981) location advantage hypothesis, this study concurs with Na & Lightfoot (2006) and Mina (2007) in postulating the amount of FDI nationally and or provincially through the empirical log-log model as indicated in the methodological approach:

#### **4.5 Analytical Techniques and Econometrics Approach**

As indicated, the sourced data from The Reserve Bank of South Africa were analysed through econometric techniques. Econometrics is the application of metrics or statistics or measurements or data utilized in economics by researchers, economists and policy makers to carry out research (Cameron, (2005), Halcoussis (2005) as well as Stewards (2005). In economics, economists measure the same variable at different particular point in time, this is referred to time series model where the past experiences are utilised to consider the future behaviour. **Time series** data is the sequential chronological order of data point or trends at similar time intervals. A time series is said to be stationary when it does not exhibit upward or downward trend over a particular time period. For the time series variable to be stationary, the pattern of autocorrelation and its variance should be similar over a period of time.

##### **4.5.1 Unit Root Testing**

In statistical terms, a unit root test is run to test whether or not a time series variable is non-stationary through the Autoregression model. Unit root test contain processes that evolved through time and are likely to cause problems in statistical inference in case they are not adequately addressed. According to Stewart (2005) a unit root test is fundamentally testing for the presence of a stochastic trend. If the root of the characteristic equation of the process is 1

which is usually referred to as a **random walk**, a linear stochastic process is said to have a unit root. Such a process is a non-stationary one. The process will be stationary if the other root of the characteristic equation lies inside the unit circle, meaning that it has modulus or absolute value less than one. This is also referred to as a white noise. The Unit root, Cointegration and ECM were tested respectively. According to Verbeek (2004 p 266); "The stationarity of a stochastic process require that the variances and autocovariances are finite and independent of time". In a unit root, where the characteristic equation of the process is one, the standard **t-rat**ion does not even have a single asymptotical **t** disturbances. In other words the unit root hypothesis also holds that a spike in output will lead to levels of output higher than the past trend (Ramanathan, 1995). Any hypothesis test is testing the restriction of a parameter. The null hypothesis is that the restriction holds while an alternative hypothesis is that it does not holds.

$$Y_t = \varepsilon_t + g(t) \varepsilon_{t-1} \quad (4.7)$$

#### 4.5.2 Augmented Dickey-Fuller Test (ADF)

The Augmented Dickey – Fuller (ADF) test has in it the estimation of the unrestricted model (Ramanathan, 1995). Introducing augmented lags on the dependent variable to treat autocorrelation in the Dickey – Fuller regression (Stewart, 2005). For the Dickey – Fuller distribution to be accurate, the autocorrelation should be treated by adding lags of dependent explanatory variables to estimate Augmented Dickey – Fuller regression. Model choice and augmenting lag length should be estimated at different lags with the same number of observations to avoid incomparability. The advantage of ADF can be implemented in any statistical package. Apart from testing the integration of variables, ADF contention is mainly on the examination of the existence of unit root in variables and the rejection of a null hypothesis of unit root

#### 4.5.3 Phillip-Perron Test (PP)

Another way of treating autocorrelation in the Dickey – Fuller regression is through Phillip – Perron Test. Normally, a variety of tests should be utilised as confirmatory analysis of the unit root test, instead of modifying the formula for the unit roots test statistics taking into account autocorrelation. This test is significant in statistical and econometrics terms and is widely applied (Stewart, 2005). Unlike ADF, the Phillip – Perron test requires the software that is preprogrammed. The procedure to test for Phillip – Perron is limited to that of ADF (Stewart, 2005).

#### 4.5.4 Cointegration Test

Cointegration, according to Ramanathan (1995), is an underlying long-term or long-run relationship between two variables. Cointegration analysis test is run under the assumption that all variables are non-stationary. It is important to test whether the two or more variables are cointegrated because depending on the type of model which might depend on whether or not a dependent variable is cointegrated with an independent variable. Whether or not all these variables are said to be in the same order of integration is immaterial since the Cointegration analysis is possible in all circumstances. If the variables are not in the same order of integration, this situation is called the Multicointegration. In this instance, it is assumed that random variables have finite variance and that the covariance between two variables is either zero or dependent only on stationarity and not on time. Where such a situation exists, and it is found that the correlation between a series and its lagged value is assumed to be dependent only on the length of the lag rather than on the time when the series started, this situation is said to be satisfying properties called *stationarity time series* or a *series integrated of order zero*. Any such series obeying this condition is time invariant. The random walk model or series that has time trend has variances increasing with time, it is therefore nonstationary because it has a linear or exponential time trend. To convert variance to a

stationary series, the differencing process is conducted. The differenced series is *stationary* or the *series is integrated of order 1* (Ramanathan, 1995).

#### **4.5.4.1 Johansen Test**

Jahansen test is done to test cointegration of several time series variables. It is applicable more than the Engle – Granger test which is based on Dickey – Fuller or ADF unit root since it permits more than one cointegration relationship. Jahnsen test can either be tested with trace which is the number of cointegration vectors or with eigenvalue and when inferences differ a little bit. The Johansen test tells about the existence of the long run relationship among variables.

#### **4.5.4.2 Error Correction Model**

The Error Correction Model (ECM) is another one of the preferred modern time class model of distributed lag with partial adjustment mechanism as a way of allowing for adjustment costs or incomplete information (Ramanathan, 1995). The dynamics of variables are integrated with unit roots through the ECM. In principle, there is often a long run equilibrium relationship between two economic variables, like consumption and income; wages and prices. In the short run there may be disequilibrium so the error correction process is therefore a way of reconciling the long run behavioural patterns and short run. The error correction mechanism corrects the proportion of disequilibrium experienced in one period and corrected in the other period. In a situation where variables include Vector Autoregressive Model (VAR) of cointegration, a Vector Error Correction Model (VECM) is utilised to correct disequilibrium capable of shocking the whole system (Hossian, 2008).

#### **4.5.5 Diagnostic and Stability Tests**

The diagnostic test or residual test includes the normality test, serial correlation test and White's heteroscedasticity test on multicollinearity. This involves testing the obtained residuals from the error correction model. It

verifies the statistical significance of the regression and confirms the characteristic cointegration of variables.

#### **4.5.5.1 Heteroscedasticity Test**

According to Ramanathan (1995), who also concur with Halcoussis (2005), Heteroscedasticity commonly known as unequal scatter is a problem that occurs when the error term does not have a constant variance, particularly in deriving maximum likelihood estimates the error term observation must be heteroscedastic. However, this does not necessarily mean that the error term observation must be of the same size. For example, suppose that a random sampling of households was surveyed and obtained information regarding each household's annual total consumption expenditure and income. Low income households' spending pattern is considered to be not that flexible compared to the great deal of flexibility in spending of richer households since some might be large savers and investors in real estate and stock market, or some large consumers you name them. Meaning the actual consumption might differ from the average consumption hence higher income households have larger dispersion around the mean relative to lower income households. In this instance, the scatter diagram between consumption and income would be indicative of the sample point closer to the regression line of lower income households but widely scattered dispersion for higher income households. Where such situation occurs it is known as Heteroscedasticity (Halcoussis, 2005). The opposite assumption in which there are equal variances is known as homoscedasticity (Ramanathan, 1995).

Ignoring the heteroscedasticity might render the estimation inefficient (Ramanathan, 1995). When heteroscedasticity is present but ignored, the estimated variances and covariances may be biased, inconsistent and render hypothesis tests invalid. The reliability of forecasted variances will be inferior to more efficient alternative estimation, due to the fact that heteroscedasticity invalidate test results (Ramanathan, 1995).

#### 4.5.5.2 Granger-Causality Test

The Granger causality test is a statistical hypothesis test run to determine whether one time series is useful in forecasting another. This is reflected in a  $t$  - test and  $F$  - test on the lagged value of a variable that provides statistical significance regarding the future value of another variable. The regressions are done in terms of changes variable  $Y$ , provided variable  $Y$  is not stationary but the changes in variable  $Y$  are stationary. It may be found that neither variable Granger-causes the other or the two variables are said to be Granger-causing the other. However, Granger causality test may produce misleading results if three or more variables are involved, so it is designed to deal with pair of variables.

#### 4.5.5.3 Multicollinearity

There are serious consequences of adding too many variables to a model. In such a case where several variables exist in a model, the likelihood that some of these explanatory variable would appropriately be linearly related is very high, this is called multicollinearity. The multicollinearity can alter results dramatically from one model to another making the interpretation of results more difficult (Ramanathan, 1995). The perfect multicollinearity occurs when two or more variables relates linearly between or among themselves. This is when independent variables have interrelationships. The likelihood of any regression consisting of more than one independent variable to have at least some multicollinearity can not be overruled. It is important that multicollinearity paranoia should be avoided (Halcoussis, 2005). In economics terms, many different markets as well as different parts of the economy are interrelated, hence they are to some extent affecting each other. So economists should measure the amount of multicollinearity present in this interrelationship. The idea around perfect or near perfect multicollinearity is to respecify the regression model to avoid redundancy.

## **4.6 Conclusion**

In this section the description of data in this research was discussed, the model specification, the analytical techniques, the econometrics approach, the cointegration analysis and the error correction model as well as the unit root tests were run, the multicollinearity and heteroscedasticity was also discussed. Finally the chapter was concluded.

The next chapter deals with data analysis and interpretation. It presents and discusses as well as elucidates the demographic profile of each question; the results of the questions aimed specifically at answering the research questions are discussed. Where necessary, the required statistical or econometrics analysis are undertaken to investigate possible relationships between variables.

## **CHAPTER 5**

### **DATA ANALYSIS AND INTERPRETATION**

#### **5.1 Introduction**

The aim of this chapter is to conduct the econometric analysis and the interpretation of determinants of FDI on the economic growth of South Africa in order to establish how FDI impact the economy of South Africa. This chapter presents and discusses the data analysis of each question as well as the interpretation thereof. The econometrics approach; the regression analysis; the cointegration analysis as well as the error correction model are discussed. The results of the questions or findings aimed specifically at answering the research questions are discussed. The summary of the empirical analysis of this study followed by the conclusion of the chapter are then discussed.

#### **5.2 Econometrics Approach, Data Analysis and Interpretation**

The study explains empirically, the effects of FDI on the economy of South Africa by the employment of three econometric procedural steps. The first econometric analysis test involves performing a unit root test to test the time series variables are stationary in an Autoregression model. The most famous Augmented Dickey – Fuller test and Phillip – Perron test are conducted. Secondly, the cointegration analysis and ECM tests are done to check the linear combination and stationarity in cointegration followed by a diagnostic and stability test like multicollinearity and heteroscedasticity test granger causality.

##### **5.2.1 Unit Roots Test Estimates**

We start by performing a Unit root test for cointegration to test the stationarity of all variables hence the ADF  $t$  – statistics is conducted. We employed the test for the ADF to check the existence of a unit root in the level and first

differencing of each variable and capture the result found in first differencing level of the variables. An order of integration for each variable should be established.

### 5.2.1.1 Augmented Dickey – Fuller Testing

Table 5.1 Augmented Dickey-Fuller test for Unit Roots

| Variables Level | Model             | ADF Test Statistics      | Lag length | Variables First difference | ADF Test Statistics       | Lag length | Results |
|-----------------|-------------------|--------------------------|------------|----------------------------|---------------------------|------------|---------|
| LFDI            | Trend & Intercept | -0.263298<br>(-3.478305) | 4          | $\Delta$ LFDI              | -6.392260*<br>(-3.479367) | 3          | I(1)    |
| LGDP            | Trend & Intercept | -2.386989<br>(-3.482763) | 1          | $\Delta$ LGDP              | -8.443004*<br>(-3.480463) | 1          | I(1)    |
| LCOST           | Trend & Intercept | -1.325944<br>(-3.479367) | 5          | $\Delta$ LCOST             | -9.297833*<br>(-3.480463) | 0          | I(1)    |
| LOPENES         | Trend & Intercept | -0.794767<br>(-3.479367) | 1          | $\Delta$ LOPENES           | -12.14718*<br>(-3.479367) | 0          | I(1)    |

**Source:** Own ADF < t accept; ADF > t reject

**Note:** I(1) indicates unit root in levels and stationary after first differencing

I(0) indicates unit root in levels and stationary at level

$\Delta$ : Denotes the first difference of the variables

Critical values are in parenthesis at 5%

The results in Table 5.1 reveal that the test statistics of all variables are bigger than the critical values at levels and the null hypothesis of a unit root is rejected for these variables. At first difference the test statistic is more negative than the critical values and the null hypothesis of a unit root is rejected. All variables are therefore nonstationary in their level form and stationarity is found only after first difference. This indicates that the series contains one unit root and is of intergrated order one I(1). Therefore the null hypothesis that says if the null hypothesis is non-stationary is rejected. The results reveal that variables are non-stationary at their level form but stationarity is found in the first differencing level of variables FDI, GDP,

LCOST and OPENNESS. The decision rule<sup>1</sup> of the above test is based on (Griffiths et al., 2008), The hypothesis of  $\Delta$  LFDI nonstationarity is accepted after first difference since the calculated ADF Test Statistic of -6.392260 is less than the 5% critical value of -3.479367. The variable  $\Delta$ LFDI is a stationary series at first difference. This can further be confirmed by a p-value which is very close to zero (0.0001). See Appendix A (ADF Test). Similarly, the same decision rule is applied to all other variables and it is also used in the interpretation of the PP test in Table 5.2 below.

### 5.2.1.2 Phillip – Perron Test

Table 5.2 Phillips-Perron test for Unit Roots

| Variables Level | PP Test Statistics       | Bandwith | Variables First difference | PP Test Statistics        | Bandwith | Order of integration |
|-----------------|--------------------------|----------|----------------------------|---------------------------|----------|----------------------|
| LFDI            | -0.570328<br>(-3.478305) | 3        | $\Delta$ LFDI              | -6.116536*<br>(-2.906210) | 3        | I(1)                 |
| LGDP            | 0.443632<br>(-2.905519)  | 1        | $\Delta$ LGDP              | -16.07146*<br>(-3.479367) | 3        | I(1)                 |
| LCOST           | -1.005411<br>(-3.479367) | 6        | $\Delta$ LCOST             | -4.024508*<br>(-3.478305) | 0        | I(1)                 |
| LOPENES         | -2.024508<br>(-3.47805)  | 0        | $\Delta$ LOPENES           | -12.38838*<br>(-3.479367) | 3        | I(1)                 |

Source: Own

**Note:** I (1) indicates unit root in levels and stationary after first differencing  
 $\Delta$ : Denotes the first difference of the variables  
Critical values are in parenthesis at 5%

Just like ADF and PP tests, the hypothesis that is tested is the null hypothesis of the existence of a unit root (nonstationarity) against the alternative of stationarity (no unit root). This test is considered as a second stationarity test

<sup>1</sup> It is a method of deciding whether to reject a null hypothesis and it involves comparing a sample statistic with critical value, see STUDENMUND, A. H. 2011. *Using econometrics: A practical guide*, Boston, Pearson Education.

to ADF because of its robustness and it is implemented to justify the results of the ADF test. After obtaining a PP of – 6.116536 we can conclude by saying that the PP testing results are stationary at first differencing. This can further be confirmed by a p-value which is very close to zero (0.0000). The PP testing is significant at first difference testing. Therefore the null hypothesis that says the null hypothesis is non-stationary is rejected.

## 5.4 The Cointegration Analysis

### 5.4.2 Johansen's Multiple Cointegration

**Table 5.3 Johansen's Multiple Cointegration Results**

| <i>Hypoth</i> | <i>Trace test</i> | <i>Critical Value 0.05</i> | <i>Hypoth</i> | <i>Maxim Eigenvalue</i> | <i>Critical Value 0.05</i> |
|---------------|-------------------|----------------------------|---------------|-------------------------|----------------------------|
| $R = 0$       | 56.266            | 47.85613                   | $R = 0$       | 25.431                  | 27.58434                   |
| $R \leq 1$    | 30.835            | 29.79707                   | $R = 1$       | 19.758                  | 21.13162                   |
| $R \leq 2$    | 11.076            | 15.49471                   | $R = 2$       | 9.316                   | 14.26460                   |
| $R \leq 3$    | 1.760             | 3.841466                   | $R = 3$       | 1.760                   | 3.841466                   |

Source: Own

To establish a long-run among variables, Johansen Cointegration test was run. The maximum Eigenvalue and trace test value to examine the null hypothesis of no Cointegration against the alternative of Cointegration was done. The trace test indicates 2 cointegrating equations at the 0.05 Critical Values. We accept alternative  $R=1$ .

## 5.5 Error Correction Model ECM Short Run Dynamics

**Table 5.4 Error Correction Model Results**

| <b>Dependent Variable</b>   |                    |                     |
|-----------------------------|--------------------|---------------------|
| <b>Variable</b>             | <b>Coefficient</b> | <b>t-statistics</b> |
| <b>FDI</b>                  | 1.082418           | 0.13246             |
| <b>GDP</b>                  | -0.040897          | 0.03545             |
| <b>Openness</b>             | -0.023617          | 0.02156             |
| <b>Constant</b>             | -4663.725          | 3250.37             |
| $R^2 = 0.986110$            |                    |                     |
| $R^2 - Adjusted = 0.984698$ |                    |                     |
| Durbin-Watson = 2.034       |                    |                     |
| F-stat = 698.1229           |                    |                     |

Source: Own

In Table 5.4 above, the variable that exhibits the significant relationship is GDP. A 1% increase in economic growth is estimated to lead 4% drop in FDI. The implication is that the economic growth increase was not enough to attract sizable amount of FDI

## **5.6 Diagnostic and Stability Tests**

The Diagnostic test for serial correlation, normality, heteroscedasticity and functional form are taken into consideration and tests were conducted. (see Appendix Q). The results indicate that there is evidence of correlation between FDI, GDP, Openness and that the model passes the normality test, and the error term is normally distributed. Functional of the model is well specified and there is no evidence for white heteroscedasticity in the model. The Autoregression conditional heteroscedasticity shows no sign of existence. This has the null hypothesis of constant variables, that is, residuals are homoscedastic (E-views 5 manual: 579). The results fail to reject the null hypothesis as the probabilities in all three regressions are high.

## **5.7 Summary of the Empirical Analysis**

South Africa's economy reform has captured the attention of the world ever since the dawn of the new democratic dispensation. The focus of the South African economy is more on industrial development in the form of export-oriented industries to huge foreign and domestic form of investments which gradually opened up South Africa to the rest of the world. The quality of labour and the progressive step taken to reformation of the South African economy as well as the degree of openness to trade are significant determinants of the distribution of FDI. This study has some mild evidence that higher labour cost deter the much needed FDI inflows while the level of infrastructure development is directly related to FDI. In the world of increased competitiveness and rapid technological innovations the FDI's complementary role as well as the catalytic role is very vital and valuable. The realization of

the developmental state, depends entirely on South Africa's clear vision of locating the notion of FDI attraction into the overall developmental strategy.

There is enough evidence which links FDI to Real GDP as well as openness or trade liberalization, however, the effectiveness of FDI yielding growth in the South African economy is also highly dependent on the level of the repatriated level of return on investment by investors. Key to FDI attraction is the whole issue of the policy directive realignment. For South Africa to fully understand the impact of FDI on the South African economy requires policy dynamics by which much needed investment can be attracted. The study found that Openness, GDP and Labour cost have a significant relationship with FDI. The regional market demands and related market size was positively significant factor in FDI attraction. However, coefficients estimates indicate that FDI is responsive to differences in per capita GDP across the country.

## **5.8 Conclusion**

This Chapter provided an analysis of the data obtained from the empirical study. A description of how the results were calculated and interpreted was given. This was done to investigate, identify and evaluate the determinants of FDI on the South African economic growth.

FDI determinants were empirically explored from various regression techniques as analysed. The study found that factors that drive FDI have different impact on FDI and economic growth. Infrastructure development and return on capital investment impact the attraction of FDI to Sub-Saharan Africa and South Africa in particular. In addition, the research reveals that openness to trade promotes FDI to both Sub Saharan African countries and other African Countries like non Sub-Saharan African countries. However, the marginal benefits emanating from increased openness is less for South Africa and other Sub –Saharan African countries.

Another important finding, with everything else equal, FDI is relatively lower in Sub-Saharan Africa and South Africa in particular which is an indication of an adverse regional effect of South Africa by virtue of its geographical location. It can be concluded that the results have some policy implications to enhance FDI inflows in the form of further liberalization of trade and that investors benefits and reform should be perceived as credible and not subject to reversal. This is a challenge that government should tackle head on in developing credible mechanisms aimed at enhancing the process of reform. Secondly, it is therefore imperative that policies that have succeeded elsewhere, should not be replicated blindly in Africa and South Africa since they may yield different impacts. Finally, the results suggest the overall perception which reflects African countries as overly risky and therefore countries within this region will receive less FDI by virtue of their geographical location. This is greatly attributed to ignorance about countries in the continent. To dispel this myth government should embark on vigorous information dissemination about South Africa to the World Bank IMF and other International organizations which can play a pivotal role in this regards.

There is enough evidence that FDI has raised factor productivity and increased technological transfers in the form of intangible assets through technological diffusion and information, managerial and entrepreneurial skills as well as access to intermediate final product which is sufficient to outweigh the disadvantages of trading abroad. The evidence that technological diffusion and managerial skill have transpired by FDI firm is found in the size, shape and capital intensities of FDI as well as their factor intensity. Generally, FDI has had a higher capital – labour ratio compared to domestic firms in similar industry because of their ownership advantages. By implication, FDI possesses superior ownership advantages as well as the employment of technological advancement in their method of production as opposed to the local firms. Just like China, South Africa needs FDI to boost economic activities and inject much needed funds to grow the economy. As a result of increased competition, the marginal productivity of labour tends to increase faster domestically than in FDI firms. South Africa needs a balanced economy with the commitment of all sectors, not only mining and manufacturing, in order to

attain a balanced growth. Investments both foreign and domestic are required to grow the economy and create decent jobs. According to the Freedom Charter (1955), one of the principles states that: "The people shall share in the wealth of the country". For all to enjoy a cake it means that the cake should be big enough to be share by all.

In Chapter Six, the conclusions drawn from both the literature reviewed and the empirical research findings will be discussed. Some recommendations on what should be done or needs to improve to ensure that the South African economy attracts more FDI and be geared up on the growth path as well as on areas for further research regarding the subject are made.

## **CHAPTER 6**

### **CONCLUSION AND RECOMMENDATION**

#### **6.1 Introduction**

As indicated earlier in previous chapters, this study is contextualized around the elucidation of determinants of FDI and provides a clearer understanding on how they impact on the South African economic growth. FDI is regarded as an impetus for economic growth in South Africa in that by its very nature it is a somewhat stable form of capital formation as compared to portfolio investment flows or foreign aid. FDI refers to a measure of foreign ownership of productive assets, like factories, mines, equipment and land that is viewed as stimulus to economic growth of the host country (Mwilima, 2003). Bostric and Skuflic (2005) refers to FDI as “the category of international investment that reflects the objective of obtaining a lasting interest by a resident entity in one economy in an enterprise entity in another economy, comprising not only of the initial transactions but also all subsequent transactions affiliated enterprises”. Due to the rational and the significance of the study as well as its implications on the emerging fragile economy of South Africa, this study serves as a clear policy guidelines to policymakers and executives of both private and public institutions on the empirical analysis of the determinants of FDI and charts a way forward on how current account deficits can be financed through valuable economic injections; how enough saving and sustainable economic development can be attained as well as how international expertise, technological advancement and market linkages can be valuable for economic efficiency and economic growth through sound macro economically stable policies.

The main aim of the research was to establish the determinants of FDI on the economic growth of South Africa. The problem is that South Africa is failing to attract more FDI. The research questions were, (1) Why is the South African economy failing to attract more FDI? (2) In what meaningful ways can South Africa make interventions to attract more FDI? (3) To what degree or extent

do promotion of more FDI eliminates second economy marginalization? And to what extent do FDI impact on the sustainability of South Africa economy? (4) What is the relationship between the FDI determinants and the growth of South African economy? (5) Does trade liberalization and openness induce investment? What can South Africa do to attract more FDI?

The developmental benefits of FDI are inherently of a potentially strong nature but whether or not this potential comes to be realized is entirely dependent upon the host country to visualize how FDI fits into its comprehensive developmental strategy. Central to attraction, FDI is the realignment of policy directives of the country ranging from the overall economic policies that increase the locational advantages; national FDI policies that can adequately produce the transactional cost of investors as well as international policies that dealing with contractual obligations and agreements on foreign investments. The benefits of FDI tend to be far outweighing its cost to the host country. The overall deduction out of the exposure of South Africa in FDI is that it has been in the form of acquisitions and mergers in the services sector where foreign-based industries or enterprises had been an important source of spillover to the domestic market economy. The somewhat counteracting effect of FDI that South Africa has experienced so far, contributed negatively to weak currency of the country and further exacerbated the creation of unstable economic conditions which is detrimental to FDI.

This chapter presents the summary of the study; answers the research questions, provides managerial and policy guidelines, and provides future research to be undertaken in this field of study. Conclusions of the study are drawn and recommendations are also outlined.

## **6.2 Summary of the Study/ Empirical Findings**

The FDI is without any doubt the impetus for the South Africa economic growth because capital stability formation by its very nature compare to

foreign aid if not portfolio flow. On the other hand, FDI effectiveness is to greater extent dependent on the return of investment made by investors and the repatriation level thereof. A thorough comprehension of the policy dynamics through which FDI can be attracted coupled with the pros and cons of FDI attraction was made. In this global technologically advanced environment the catalytic role of FDI on the economy is indeed of significant value. It is very clear that the developmental benefits of FDI are of potential strength but whether or not these potential are realised it is highly dependent on the host country's comprehension of the comprehensive developmental strategic vision as well as how FDI fits into the whole picture. The beneficial significance of FDI in the host economies far outweighs the FDI cost to host countries. Where the negative impact of FDI is experienced, the situation last but for short run and can be rectified though policy interventions.

The realignment of South African policy direction is imperative to attract more FDI and to increase potential benefits through policies which speak to the locational advantages, incentivization of investors and trade openness that encourages foreign investments. In South Africa, FDI took the form of M&A particularly the services sectors which and through state leveraged deals. South Africa experienced the counteracting effect of FDI which negatively affected the strength of the currency and provided grounds for increased interest rate and current negative inflationary environment creating economic instability. The disinvestment by foreign investors which took place in 2006 exceeded the direct investment and affected operational activities in South Africa as well as declining cash flow and trading activities impacting the economy negatively.

This study analysed the determinants of FDI on the South African economic growth. It was noted with concern that South Africa attracts relatively few FDI or no significant amounts of FDI are coming to South Africa.

The study revealed that indeed by virtue of the South African geographical location, the country received on average less FDI than other African countries due to negative perception and perceived adverse effect on FDI

landing in Sub-Saharan African soil. The higher the risk, the lower the return on investment. There is empirical evidence which suggest that inherently the continent is perceived risky to the point of over exaggeration (Asiedu, 2002), Investors base their investment decision on neighbouring country's environmental inferences as opposed to the country-specific conditions. According to the World Bank (1994), the uncertainty of government policy is one of the aggravating factors which negatively affect FDI in general and Private Investments in particular. If disinvestment occurs the costs associated with FDI are partly reversible and mostly retrievable. So the uncertainty in policy formulation and implementation as well as the irreversible nature of FDI makes Africa more risky for FDI.

Another finding is that the trade liberalization increases the level of openness; however, trade openness to Southern African country and other country Sub-Saharan Africa differs in that marginal benefit from increased openness is less in Sub-Saharan African countries of which South Africa is one. Most governments in Africa utilized their trade policy as a strategic macroeconomic device to manage their balance of payments, when terms of trade deteriorate, trade restrictions were tightened and then relaxed when the terms of trade were improved. Trade reform can only be sustainable if it is consistent with macroeconomic equilibrium. Trade in Africa has always been ad hoc hence it was not sustainable. It is upon this anticipation by foreign investors that they do not increase investment when liberalization takes place.

With everything remaining equal, Infrastructure development promotes FDI to technologically advanced countries and has relatively low level of significance impact on a less industrial country like South Africa. Infrastructural developments ranging from road infrastructure, building, water and electricity, telecommunication and technological advancement in infrastructure, all play a significant role when investors decide where to invest.

### **6.3 Recommendations of study**

In general investment is essential to the development expansion and profitable state of the economy. One of the major drivers of private-sector growth which subsequently contribute to the growth of the entire economy is FDI. The main findings of this research in relation to each research questions are now discussed. Each question is followed by a discussion of the findings relating and relevant to that question.

#### **6.3.1. What should South Africa now that it is failing to attract more FDI?**

Policies which seek to promote and attract FDI and are developmental in nature and are unlikely to succeed if they are incorporated as the integral part of broader economic development policy framework. The economic market reforms should always be in the national developmental agenda since this is the only way in which FDI can thrive. The maintenance of a much more stable political and economic environment in South Africa is required.

To realize the attraction and retention of the scarce much needed FDI in the South African economy, a more formalized relationship between all spheres of government on investment promotion facilitation could bear fruits in that this integrated approach duplications could be avoided; developing and packaging investment opportunities in a manner that share resources and avoid confusion this approach would as well simplify unnecessary complex bureaucratic procedure and appeal for participation in investment promotions.

Ever since the dawn of the new dispensation in 1994, South Africa has been involved vigorously in creating the developmental state that seek to reform the economic condition and address the imbalances of the past. It is clear that South Africa should strive to be an industrialized country for the significant amount of poverty to be alleviated and the standard of living to be improved. These issues need a decisive government that will swiftly commit and give undivided attention to these macroeconomic concerns uncompromisingly. The

best way to succeed in the attraction of FDI would be to strengthen the national unique competitive advantage which would be of a particular interest to foreign investors and maintain a well- disciplined pattern of a reasonably lower costs and a stabilized financial and legal framework environment.

### **6.3.2 What is the relationship of the determinants of FDI and growth on the economy of South Africa?**

South Africa will benefit through receiving more and more FDI, if it is the proper negotiation of the formulation of regional investment codes is vigorously embarked upon to encourage foreign investors to invest through region-wide incentives codes for large companies to invest in capacity building, health and education. Firms could also be encouraged to source from local suppliers, employ labour-intensive method of production as well as encourage the infrastructure development and investment relevant to the comparative advantage of a country and regional developmental needs.

This requires an integrated planning approach through credible institutions and agencies such as NEDLAC where, government meets organized business, organized labour and community groupings to address national social and economic issues affecting the country in so far as attraction of investors is concerned.

### **6.3.3 To what extent does FDI impact on the sustainability of the South Africa economic growth?**

For South Africa to succeed in the attraction of foreign investors, the country should be of its unique national competitive advantage which would be appealing to foreign investors. Clear policies and strategies that attract and promote FDI should spelt out areas in which FDI is needed.

It goes to say that other medium through which lessons can be learned regarding the attraction of more FDI would be from the experiences of other developed and developing economic countries on FDI promotion. On how these industrial countries implemented their investment drive as well as the evaluation of the cost benefits analysis on successful attraction of FDI.

#### **6.3.4. To what extent does the promotion of FDI eliminate the second economy isolation and what should be done to address inequalities of the past?**

South Africa stands to benefit fully part take in the regional investment code negotiations as well other investment related initiatives aimed at attracting FDI to the region and to South Africa in particular. The region wide incentives for large companies and MNCs are to invest in labour training, health and education, research and development, small medium and micro enterprise development and in the form of merger and acquisition, joint venture Investments. FDI firms should procure from local suppliers and utilize the available local skills through labour – intensive method of production. FDI should mentor Small, medium and micro enterprises out of the periphery into the mainstream economy. Proper consultation and coordination mechanism should be established for smooth implementation of policy decisions between all sphere of government. The fact that, GDP, Labour Cost and Openness to trade are statistically significant to FDI, support the hypothesis that the market demand size and the overall development level of a region positively impact FDI attraction. This suggests that foreign firms should be motivated to invest in South Africa assuming that they will be to gain access to South Africa's growing middle class and second economy.

#### **6.3.5 Does trade liberalization and openness induce investment?**

The degree of openness to trade in South Africa is also significant to FDI taking into account the level of reform in the country. The more ownership government have in business enterprises, the lower the FDI attraction. The

positive and significant coefficient of openness indicates that foreign investors respond positively to economic reform. The result is clearly evident based that an openness in economic policy as well as further reforms are crucial in attracting FDI South Africa. This variable is utilized to capture agglomeration effect, the agglomeration argument is however not supportive of the result, which seem to suggest that the level of similar related firms in the region may lead to an increase in FDI. Some evidence suggests, however, that the positive result yield mild evidence that there is a positive relationship between infrastructure and FDI. With *t* –value of negative impact in labour cost on FDI was not statistically significant. Many FDIs are influenced and enticed by the low-cost labour in South Africa. However, lack of statistical significance indicates that attraction of FDI in South Africa is also based on other FDI determinants. Labour in this instance may not be the main concern for foreign investors who motivated want to access South African market.

#### **6.4 Limitations or Challenges**

In this study accessing data form the pool of data source for FDI including a number data sources IMF, World Bank United Nation Conference for Trade and Development, African Development Bank posed a challenging aspect of the reliability and consistency of data. Varying data collection, recording and reporting posed some inconsistencies. It is reported that many private organisations would not readily avail their information regarding their foreign business transactions. The analysis may not sufficiently and adequately cover and clarify the behavioural pattern as well as interactions between FDI and GDP. The study may not have captured other unique but unobserved factors driving FDI in South Africa since it is only limited to four determinants of FDI namely GDP, Labour Cost, Openness and FDI.

## **6.5 Managerial Guidelines**

From the results of this study the following guidelines are given to responsible policy makers and senior officials of institutions private or public that already have, or are planning to develop/implement policy interventions of what actually needs to be done to attract more FDI in South Africa:

- Investment incentives have the potential to add value to and increase FDI effectiveness in South Africa, but also have the potential to impact immensely on the domestic business investor confidence. This must be considered before implementing strategy to attract any form of FDI.
- Policy maker should be take into account whether or not the trade reform policy intervention as well as trade liberalization is in line with macroeconomic equilibrium in order to be sustainable.
- The imperatives stages of policy intervention across all the socio-economic aspects of our developing economy positively impact the industrial nature of our growing economy therefore managers ought to be considerate, open minded and resolute in implementing policies.
- Most South Africans want to participate and feel that they can add value to the development/implementation of Industrial policies necessary to sustain our economic growth.
- To build a developmental, economically sound state political and economic stability is significant for this to be truly successful.
- In a risky environment, higher return may not attract investment but instead it deters investment.

## **6.6. Future Research**

This study contributes various opportunities for further research, notably:

- Dispelling the myth: Invest in South Africa Wall Matt Mass Matt pros and Cons.

- Studies involving students from different colleges be undertaken separately and findings be compared.
- The advantages of investing in least preferred economies.
- Research should be undertaken to determine more comprehensively other determinants combination of FDI not cover by this study.
- Research should be undertaken to close the gap between developed economies and underdeveloped economies.
- Further Research should be undertaken to determine the right type of FDI needed to attract more FDI South Africa.

### **6.7. Conclusion**

The significance of FDI has been acknowledged throughout world economic market to be a major propellant of economic growth through spillover effects of transfer of technology and technological innovations as well as other externalities. The level of infrastructure development in South Africa determine the effectiveness of FDI generation and the continuous desire to grow the economy through vigorous improved and maintenance of infrastructural development. To some extent FDI has been influencing and exerting an amount of beneficial impacts on the exports of goods and services in the country as well as on the economic growth which places investment of human capital very high in the developmental agenda of South Africa. Even though creation of the necessary environment to promote FDI is essential for governments of developing countries like South Africa, it should not be embark on a blanket approach or blindly reduction of taxes, labour costs, and drastically change regulation so as to attract FDI since this might adversely affect and deter growth which we seek to improve. Rather a well calculated and well thought of approach should be carefully followed.

This study examines the economic sense in policies that promote or aim to attract more Foreign Direct Investment (FDI) by specifically focusing on the determinants of FDI attraction and how they impact the economic growth of South Africa. The study empirically identifies and investigates the

determinants of FDI on South African economic growth as well as FDI attraction and its correlation with economic growth over the period 1994 to 2010 through the utilization of Cointegration and Error-Correction Model to identify the variables in explaining FDI in South Africa. Multinational Corporation (MNC) should agglomerate in such a way that is consistent with country specific externalities. There is somewhat weak evidence that FDI generates positive spillover effects to the host country. In instances where FDI generates positive productivity spillovers for domestic market economy, FDI subsidies and incentives should be warranted particularly where they have been proven to have a catalytic role in FDI attraction. The study also indicates a positive and significant impact of reform on FDI in South Africa.

The study considers trade Openness, GDP per capita as well as the Cost of labour variables if they explain FDI inflows. All variables indicate correct signs and are statistically significant except for cost of labour. There is some mild evidence that labour cost impedes FDI inflows and the infrastructure levels as well as other variables are directly related to FDI. These outcomes have important implications for both national and provincial economies which can be helpful in the allocation of funds and resources much needed for FDI attraction.

This study clearly emphasizes the role of policy in FDI attraction as well determining short-run and long-run growth in South Africa. It further establishes a linear empirical relationship between these determinants, and variables to determine the direction of the causality as well as contribute to the debate on the relationship between FDI and growth through regression analysis. We assess the growth implications of FDI in South Africa and the regional economic implications by subjecting FDI to Granger causality tests within the cointegration framework. Our results also suggest that in the host country, there exist a positive correlation between FDI and economic growth. One can conclude that the South African government should consider encouraging capital-intensive FDI through capacity building and further development of skilled labour force. The study sets up further research that may be helpful in exposing the regional economy with greater FDI potential as

well as identify regional specific interventions needed to improve certain conditions to receive more FDI. The effects of trade liberalization imply that African countries require African specific solution. Policies that have been successful in other countries may not suggest that they equally are successful in African countries. The perception that Africa is overly risky tarnishes the real image of the continent and its countries hence lesser FDI is received in Africa by virtue of its geographical location.

## REFERENCES

- Addison, T. & Heshmati, A. (2003). ***The New Global Determinants of FDI flows to Developing Countries***, United Nation University, World Institute for Development Economic Research ( WIDER), Helsinki.
- Ahmad & Quyyum (2008), ***Effect of Government Spending and Macroeconomic Uncertainty on Private Investment in Services Sector: Evidence from Pakistan***, European Journal of Economics, Finance and Administrative Services, EuroJournals Publishing Inc. Issue 11
- Aitken B.J. & Harrison, A. E (1999), "Do Domestic Firms Benefit from Foreign Direct Investment? Evidence from Venezuela", ***American Economic Review*** 89: 605 – 618
- Alfaro, L. (2003) Foreign Direct Investment and Growth does the sector matter? *Economics* 64: pp. 89 – 112.
- Aqeel, A. & Nishat, M. (2005) ***The Determinants of Foreign Direct Investment in Pakistan***, Submitted for the 20<sup>th</sup> Annual PSDE Conference held on 10 -12 January 2005, Islamabad.
- Arvanitis, A, (2000). ***Foreign Direct investment in South Africa: Why has it been so slow?*** McMillan, SA, pp 64 - 75
- ASGISA, (2006) ***Accelerated and Shared Growth Initiative of South Africa***, The Presidency, Republic of South Africa.
- Asiedu, E (2002). ***On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different?*** World Development 30: 107 – 119.

Asiedu, E. (2007). Foreign Direct Investment in Africa: The Role of natural resources, market size, government policy, institutions and political instability. ***The World Economy***, 19 (1), pp 63 – 77.

Assaf, R. *et al* (2002) ***Trade Openness, Investment Instability and Terms of trade volatility*** National Bureau of Economic Research, Massachusetts

Ayanwale, A. B. (2007). ***FDI and Economic Growth: Evidence from Nigeria***, Obafemi Awolowo University, Nairobi, Kenya, African Economic Research Consortium, paper 165.

Barr, G & Kantor, B (2002) ***The South African Economy and its Assets Markets – An Integrated Approach***, University of Cape Town

Barro, R. J. & Lee, J. W. (1993) ***International Comparison of Educational attainments***, Journal of Monetary Economics, 32(3), 363 – 394.

Balasubramanayam, V. N., Salisu, M. & Spasford, D. (1996). “ Foreign Direct Investment and Growth in EP and IS countries.” ***Economic Journal*** 106: 92 - 105

Bevan, A. & Estrin, S.(2000) ***The Determinants of Foreign Direct Investment in Transition Economies***, William Davidson Institute London

Bhandari, R. Dhkal.D, G. Pradhan & .K. Upadhyaya (2007) ‘***Foreign Aid, FDI and Economic Growth in East European Countries***’ Economics Bulletin, Vol. 6, No.13 pp. 1-9

Borenztein De Gregorio, J & Lee, J. (1998) ***How does Foreign Direct Investment affect Economic growth?*** Journal of International Economics, vol 45: pp 115 - 135

Bostric, V. & Skuflic, L. (2005). ***Main Determinants of Foreign Direct Investment in the East Europe Countries***, Paper prepared for the 2<sup>nd</sup> Conference on Economic Policy Issues in the European Union, Vienna, Australia.

Bengoa Calvo, M. & Sanchez-Robles, B. (2003). Foreign Direct Investment, Economic Freedom and Growth: New evidence from Latin America. *European Journal of Political Economy* 19 (3), pp. 529 – 549.

Bruggemans, A. (2009). Can Excess Liquidity Signal An Asset Price Boom? National Bank of Belgium, Working Paper No. 117.

Buckley, P.J. (1985). ***A Critical View of Theories of the Multinational enterprise***, P.J.

Buckley & Casson (1976). pp. 1 – 19, *The Economic Theory of Multinational Enterprise*. London: The Macmillan Press.

Campbell, W. ( 2009). *Philosophy and Methodology of Economics* , Louisiana State University, *Journal of Market & Mortality* Vol 13, No. 2 pp. 399 – 408.

Carkovic, M. & Levine, R (2002). ***Does Foreign Direct Investment Accelerate Economic Growth?*** University of Minnesota, Working paper.

Caselli, F & Coleman, W. J. (2001). Cross-Country Technology diffusion: The case of computers. ***American Journal of Economics***. Rev. 91 (2) 328 – 335.

Cattaneo, N. (2000) ***A Critical Analysis of the Regional Trade Model for Southern Africa Implications for future Research*** Rhodes University

Caves, R. (1974). Multinational Firms, Competition and Productivity in the Host Country." ***Economica*** 41: 176 – 193.

Caves, R. (1996). ***Multinational Enterprise and Economic Analysis***. Cambridge, England: Cambridge University Press.

Chabe-Ferret, S. (2007) ***Trade – Induced Changes in Economic Inequality: Assessment Issues and Policy Implications for Developing countries***, Document de Travail, University of Paris

Chakraborty, C. & Nunnenkamp, P. (2006) ***Economic Reforms, Foreign Direct Investment and its Economic Effects in India***, The Kiel Institute of the World Economy, Germany, Kiel Working paper No.1272.

Cheng, L. K & Kwan, Y. K. (2000), ***“What are the Determinants of Location of Foreign Direct Investment? The Chinese experience”*** Journal of International Economics, Vol. 51, pp. 379 - 400

Cheng, S. B. & Lai, T. W. (1997). An Investigation of Co-integration and Causality between energy consumption and economic activity in Taiwan Province of China”, ***Energy Economics***, 19, pp. 435 – 444.

Clark, H. R. & Borgran, A (2003) Foreign Direct Investment in South Africa, ***Development Journal International and Policy studies***, 27 (3), 337 – 358.

Cowling, K & Roger, S. (1987). Transitional Monopoly Capitalism, Wheatsheaf Books, New York, ***International Journal of Industrial Organisation***, Vol. 6, issue 3. Pp 405 – 407.

Dahl, J. (2002) Incentives for Foreign Direct Investment: the case of SADC in the 1990s. ***NEPRU Working Paper***, 81.

Dilli, R. K. & Shrestha, P. S. (2008) ***Trade and Investment linkages and Coordination in Nepal: Impact on Productivity and Exports and Business perceptions*** The Asia-Pacific Research

Dunning, J. (1993) Japanese and US manufacturing investment in Europe some comparison and contrast. In Japan Direct Investments in a Unifying Europe, (Mason M., ed) Oxford University Press.

Dunning, J. (1993). ***Multinational and Global Economy***, Addison-Wessley, Wirkingham.

Edward, S.(1990) ***Capital flows, Foreign Direct Investment and Debt – equity swap in developing countries***. NBER working paper no. 3497. Cambridge, MA: NBER.

Erdal, F & Tatoglu (2002), ***Locational Determinants of FDI in an Emerging Economy; Evidence from Turkey***. Multinational Bus. Rev. 10 (1): 21 – 27.

Famiko, T. (2005) ***Trade and the Environment in Latin America: Examining the linkage with the USA***, Economic bulletin, Vol. 6, no. pp1-8

Flourie, M. (2000). A Systems approach to quality assurance and self-evaluation. ***South African Journal of Higher Education***, 14(2), 50 – 55.

Freytag, A (2008) ***Balance of Payments Dynamics, Institutions and economic performance in South Africa: A Policy – Oriented Study***

GEAR, (1996). ***Growth Employment and Redistribution: A Macroeconomic strategy***, Department of Finance, South Africa.

Gelb, S. & Black, A. (2004) ***Foreign Direct Investment in South Africa***. Investment Strategies in Emerging markets, pp. 177 – 212.

Global Insight 2<sup>nd</sup> Quarter, (2005) ***Quarterly Review and Outlook Middle East and Africa***

Gordon, H. H. (2001) '**Should Countries Promote Foreign Direct Investment**' A G-24 Discussion Paper Series, United Nations New York

Graham, E. M & Wada, E. (2001) **Foreign Direct Investment in China: Effects on Growth and Economic Performance**, Peter Drysdale, Oxford University Press

Gregoriou, A. & Ghosh, S. (2006). '**The impact of Government Expenditure on Growth : Emperical Evidence from a Heterogenous Panel**' Uk: Brunel University, Uxbridge, Middlesex.

Griffiths, W. E., Hill, R. C. & Lim, G. C. 2008. **Using EViews for Principles of Econometrics**, John Wiley & Sons.

Haavelmo, T. (1960) **A study in the theory of Investment**. Chicago: University of Chicago Press.

Haavelmo, T. (1964) **A study of the theory of Economic Evolution. Contribution to Economic Analysis III**, North Holland Publishing Company, Amsterdam, third edition, 114.

Halcoussis, D. (2005) **Understanding Econometrics**. Mason, Ohio, USA, Thompson South West.

Hansen, H. & Rand, J. (2004) **On the Causality links between FDI and Growth in Developing countries**, Institute of Economics, University of Copenhagen

Hausmann, R. & Fernandez-Arias, E. (2000). **"Foreign Direct Investment: Good Cholesterol?"** Inter-American Development Bank, Mimeo.

Hausmann, R. & Fernandez-Arias, E. (2000). **The New wave of Capital inflows: Sea change or just another title?** Inter-American Development Bank working paper no. 417.

Hirsch, A. (1977), "An International Trade and Investment Theory of the Firm" Oxford Economic Paper, 28: 258 – 270.

Horaguchi, H. & Tyne, B. (1990) Setting the record straight : Hymer, International theory and transaction cost economies, Journal of International Business Studies.

Hossain, S. (2008). **Econometric Modelling**, Frequently asked questions. Faculty of Management Multimedia University, Cyberjaya, 63100.

Humphrey, J. & Memedovic, O. (2003), **The global Automotive Industry value chain: What Prospect for upgrading by developing countries**, Sectoral Studies Series (Vienna: UNIDO)

Hymer, S. H. (1976). **The International Operations of National Firms: A study of Direct Foreign Investment**, Cambridge. MA, MIT Press.

Hymer, S. H. (1976). **The International Operations of National Firms: A study of Direct Foreign Investment**, Cambridge. MA, MIT Press.

Hymer, S. (1960) **Multinational and Foreign Direct Investment** J. Dunning (ed) The theory of Transitional Corporations London Routledge for UN.

Investec, (2003). **South African Economic Research 2003/07: Outlook** Consumption Expenditure. Second quarter. Johannesburg

Jaspersen, F. Z. & Aylward, A. H. (2000). **The Effects of Risk on the Private Investment: Africa compared with developing areas**. In P. collier, & C Pattilo (eds), Investment and Risk in Africa (pp. 71 – 95). New York: St Martin's Press.

Jia Ren, P (2006) Are Financial Development and Corruption Control Substitutes in Promoting Growth? Vanderbilt University, Nashville Working Paper No. 7

Johnson, H. G. (1970). The efficiency and Welfare Implications of Multinational Corporation. Asymposium of Cambridge, MA: MIT. Press.

Jorgensen, D (1963) ***Econometric studies of Investment behaviour***. A Survey Journal of Economic Literature vol, 9 (4): 1111 - 1147

Kaplinsky, R. ; Memedovic, O.; Morris M., & Readman, J. (2003), ***The Global Wood Furniture value chain***: What prospect for upgrade in developing countries, Sectoral Studies Series (Vienna: UNIDO)

Kindleberger, C. P. (1969). ***American Business Abroad, New Haven***: Yale University Press.

Kindleberger, C. P. (1984). ***American Business Abroad, New Haven***: Yale University Press.

Kinoshita, Y. & Campos, N. F. (2002) ***The Locational determinanants of Foreign Direct Investment in transition economies***, Willam Davidson Institute University of Michigan, NY

Laura, A.(2003) ***Foreign Direct Investment and Growth: Does the Sector matter?***, Harvard Business School, Boston

Le, M. V. & Suruga, T. (2005). '***The effect of FDI and Public Expenditure on Economic Growth: From Theoretical Model to Empirical Evidence***' Kobe University. GSICS Working paper series.

Li, T. Wei Peng & Park, H. (2006) Rthoganal Nonnegative Matrix Tri-factorization for clustering, Research Track paper.

Lim, E. (2001) ***Determinants of, and Relation between Foreign Direct Investment and Growth: A summary of the recent literature***, IMF, Middle East Department

Loizides, J. & Vamvoukas, G. ( 2004) '***Government Expenditure and Economic Growth: Evidence from Trivariate Causality Testing***' Journal of Applied Economics Vol. VIII, No.1 Athens University of Economics and Business

Lukas, R. E. (1993). On the Determinant of Direct Foreign Investment: Evidence from East and Southeast Asia. World Development, 21: 3, pp. 391 – 406.

Lyrouti, K., Papanastasiou, J. & Vamvakidis, A. (2004) Foreign Direct Investment and Economic Growth in Transitional economies, ***South Eastern Europe Journal of Economics***, vol. 1 (2004), pp 97 – 110.

Magee, (1977) ***Information and Multinational Corporations: appropriability theory of Direct Foreign Investment***, J. Bhagwathy, (ed) pp. 317 – 400, The New International Economic Order. Cambridge, MA: MIT Press.

Manh V. L. & Suruga, T. (2005). '***The effect of FDI and Public Expenditure on Economic Growth: From Theoretical Model to Empirical Evidence***' Kobe University

Marasco, A. (2007) ***The Relationship between FDI and growth under economic integration: Is there one?*** Munich Personal Repec Archive, Munich.

McClain, (1983) ***Interval estimation: Effects of processing demand on prospective and retrospective reports***, Perception and psychophysics , pp. 185 – 189.

Michael, B. and Greenaway, D. (2000) ***The Impact of terms of Trade and real exchange rate volatility on Investment and Growth in Sub-Saharan Africa***, School of Economic, University of Nottingham UK

Mina, W. (2007) ***The Location Determinants of FDI in the GCC countries***, Journal of Multinational Financial Management, United Arab Emirates, vol. 17 pp 336 – 348.

Minrod, Z. (2004) ***The Role of Dynamic Products in Global Integration – Implications for South Africa*** Department of Trade and Industry, Johannesburg, South Africa

Mohd, N. I. (2001) ***Foreign Direct Investment and Development: the Malaysian Electronics Sector***, Michelsen Institute, Malaysia

Moosa, I. A. (2002). ***Foreign Direct Investment: theory, evidence and practice***(1e). Palgrave.

Mwilima, N. (2003) ***Foreign Direct Investment in Africa***, Labour Resource and Research Institution, Social Observatory Pilot Project Report on FDI. African Labour Research Network

Na, L. & Lightfoot, W. S. (2006) ***Determinants of Foreign direct Investment at the Regional level in China***, Emerald Group Publishing Limited, China (Vol. 1 No. 3, pp 262 – 278

Ndikumana, D. L. (2005) Can Macroeconomic policy stimulate private investment in South Africa? New insight from aggregate and manufacturing sector-level evidence [www.umass.edu](http://www.umass.edu).

Norbert, W. & Cacho, J. (2007) ***Linkages between Foreign Direct Investment , Trade and Trade Policy***, OECD Publisng Paris ,France.

North West Province, (2004) **North West Provincial Growth and Development Strategy 2004-2014**, Sun City, South Africa

Onyeiwu, S & Shrestha, H. (2004) Determinants of Foreign Direct Investment in Africa. *Journal of Development Societies*, 20 (89).

Opolot, J. Mutenyo J. & Kalio, A. (2009), **Determinants of Foreign Direct Investment: New Evidence from Sub-Saharan Africa**, Bank of Uganda Journal, Vol. 3 No. 2.

Osabuohien, E. S. C. (2007) **Foreign Capital and Africa's Economic Progress Facts from Nigeria and South Africa**, *Journal of Banking and Finance*, Vol. No.1, pp. 24 - 37

Perkins, P. ;Fedderke, J. & Luiz, J. (2005) An Analysis of Economic Infrastructure Investment in South Africa, Blackwell Publishing for ESSA, USA, **South African Journal of Economics Vol.73:**

Prokopijevic, M. (2002) **Does Growth further improve Economic freedom**, Machiavalli

Ramanathan, R. (1995) **Introductory Econometrics with Application**. Harcourt Brace College Publisher. Orlando Florida.

Resmini, L. (2000) **The Determinant of FDI in Central, Eastern and South-eastern Europe: Lesson from the past and prospects for the future**, Universita Milano.

Richard, H. & Cher Li, Q. (2005) **The Role of International trade & Investment in Business Growth and Development** UKTI

Riley, A. (2006). The Coming of the Russian Gas Deficit: Consequences and Solutions, **Centre for European Policy Studies**, policy brief, vol. 116. October.

Shih, E. Kraemer, K. L. & Dedrick, J. (2007). Determinants of Country-Level Investment in Information Technology, Research note, Informa, **Journal of Management Science**. Vol. 53, No. 3, pp 521 -528.

Schneider, F. & Frey, B. S. (1985). **Economic and Political Determinants of Foreign Direct Investment**. World Development, 13(2), 161 – 175.

Serbu, R. (2008). The Economic Impact and opportunities from the latest Innovations in the new World of possibilities University of Sibiu. Romania **Revista Economica**. No. 5 (57). Pp 40 – 43

South African Reserve bank (2007). Quarterly Bulletin, June 2011. Pretoria, SARB

South African Reserve bank (2011). Quarterly Bulletin, September 2011. Pretoria, SARB

Steak, J. (1998) **The determinants of FDI and South African's Industrial development Strategy: Towards a Research Agenda**, School of Economics, University of Cape Town, South Africa.

Stewart, G. K. (2005) **Introduction to Applied Econometrics**. Thompson Learning USA

Studenmund, A. H. 2011. **Using econometrics: A practical guide**, Boston, Pearson Education.

Thomas, L. & Leape, J. (2005). Foreign Direct Investment in South Africa: The initial impact of the Trade, Development and Cooperation Agreement between

South Africa nad the European Union, CREFSA, **London School of Economics**, October 2005.

Torfinn H. & Rattso, J.(2005) **The Barrier Model of Productivity Growth: South Africa Statistics Norway and Norwegian University of Science and Technology**

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

Verbeek, M. (2004) **A Guide to Modern Econometrics**. John Wiley & Sons Ltd. England.

Verbeek, M. (2008) **A Guide to Modern Econometrics**. Chichester, John Wiley & Sons Ltd. England.

Vernon, R. (1966) International Investment and International trade in the production cycle, **Quarterly Journal of economics**, 80 (May): 474

Wacziarg, R. & Welch, K. H. (2003) **Trade Liberalization and Growth : New Evidence** National Bureau of Economic Research *Massachusetts*

Wagner, J. (2005) **Exports, Foreign Direct Investment and Productivity: Evidence from German Firm level data**, University of Luneburg, Germany

World Investment Report, (2005) transnational corporations and the Internationalization of R & D. **United Nations Conference on Trade and Development**

World Investment Report, (2006) Foreign Direct Investment from developing and transitional economies: Implications fro Development. **United Nations Conference on Trade and Development**

Yamin, (1991) ***A reassessment of Hymers' contribution to the theory of transnational Corporation***, C. N. Pitelis & Sugnden (eds) pp. 64 – 80, *The Nature of the Transnational Firms*. London : Routledge.

## APPENDIX- A

**Table South Africa Data Profile**

| South African Data Profile<br>1 | (GDP)<br>The Total GDP of South Africa<br>2 | (FDI)<br>Investment flows<br>3 | (LABCOST)<br>Compensation of employees<br>4 | (OPENNESS)<br>South Africa Openness to trade<br>5 |
|---------------------------------|---------------------------------------------|--------------------------------|---------------------------------------------|---------------------------------------------------|
| 1994 (1)                        | 261765                                      | 15632                          | 68.3                                        | 21284                                             |
| 1994 (2)                        | 276421                                      | 15471                          | 73.6                                        | 15286                                             |
| 1994 (3)                        | 279549                                      | 15581                          | 74.8                                        | 11737                                             |
| 1994 (4)                        | 282565                                      | 15880                          | 75.4                                        | 14017                                             |
| 1995 (1)                        | 272575                                      | 16716                          | 76.1                                        | 8685                                              |
| 1995 (2)                        | 279230                                      | 17728                          | 75.7                                        | - 1012                                            |
| 1995 (3)                        | 290145                                      | 18783                          | 77.9                                        | 14697                                             |
| 1995 (4)                        | 292631                                      | 19214                          | 80.2                                        | 12186                                             |
| 1996 (1)                        | 283053                                      | 19765                          | 80.6                                        | 9937                                              |
| 1996 (2)                        | 296237                                      | 20307                          | 81.1                                        | 7960                                              |
| 1996 (3)                        | 300760                                      | 20281                          | 83.7                                        | 18551                                             |
| 1996 (4)                        | 303393                                      | 19774                          | 85.9                                        | 13140                                             |
| 1997 (1)                        | 292826                                      | 20715                          | 87                                          | 8934                                              |
| 1997 (2)                        | 305964                                      | 21514                          | 87.6                                        | 9409                                              |
| 1997 (3)                        | 307807                                      | 22536                          | 88.9                                        | 13749                                             |
| 1997 (4)                        | 308171                                      | 22735                          | 89                                          | 10848                                             |
| 1998 (1)                        | 296580                                      | 25874                          | 93.7                                        | 17485                                             |
| 1998 (2)                        | 306386                                      | 29361                          | 95.6                                        | 15749                                             |
| 1998 (3)                        | 308270                                      | 36207                          | 95.3                                        | 4900                                              |
| 1998 (4)                        | 309817                                      | 40836                          | 99.6                                        | 2098                                              |
| 1999 (1)                        | 299684                                      | 29864                          | 97.7                                        | 37828                                             |
| 1999 (2)                        | 312120                                      | 25245                          | 99.1                                        | 19310                                             |
| 1999 (3)                        | 316838                                      | 21339                          | 98.5                                        | 22839                                             |
| 1999 (4)                        | 321205                                      | 19576                          | 98                                          | 17883                                             |
| 2000 (1)                        | 310326                                      | 19364                          | 97.5                                        | 29189                                             |
| 2000 (2)                        | 322664                                      | 19140                          | 101.3                                       | 32236                                             |
| 2000 (3)                        | 333322                                      | 19233                          | 99.5                                        | 27971                                             |
| 2000 (4)                        | 335462                                      | 18991                          | 101.7                                       | 41204                                             |
| 2001 (1)                        | 322026                                      | 18529                          | 101.4                                       | 43240                                             |
| 2001 (2)                        | 334676                                      | 18492                          | 103.4                                       | 50273                                             |
| 2001 (3)                        | 338469                                      | 17997                          | 103.7                                       | 39388                                             |
| 2001 (4)                        | 342212                                      | 18286                          | 108.1                                       | 45487                                             |
| 2002 (1)                        | 333306                                      | 18418                          | 107                                         | 49679                                             |
| 2002 (2)                        | 347204                                      | 19382                          | 108.6                                       | 56187                                             |
| 2002 (3)                        | 350396                                      | 20311                          | 152.6                                       | 47140                                             |

|          |        |       |       |         |
|----------|--------|-------|-------|---------|
| 2002 (4) | 355529 | 23457 | 151.4 | 47982   |
| 2003 (1) | 343995 | 22367 | 152   | 39791   |
| 2003 (2) | 358345 | 23254 | 153.1 | 26432   |
| 2003 (3) | 360923 | 22840 | 154.5 | 28447   |
| 2003 (4) | 364059 | 28531 | 157.2 | 12058   |
| 2004 (1) | 356887 | 27764 | 160.1 | 17943   |
| 2004 (2) | 371714 | 25098 | 162.9 | - 7442  |
| 2004 (3) | 379044 | 26033 | 163.3 | - 2491  |
| 2004 (4) | 384685 | 25517 | 177.1 | - 12946 |
| 2005 (1) | 376327 | 28004 | 170.7 | - 6779  |
| 2005 (2) | 391002 | 29245 | 172.4 | 11109   |
| 2005 (3) | 399722 | 29846 | 173.9 | - 9347  |
| 2005 (4) | 404031 | 30817 | 179.9 | - 2987  |
| 2006 (1) | 395449 | 32946 | 180.1 | - 19450 |
| 2006 (2) | 410298 | 35182 | 206.4 | - 24130 |
| 2006 (3) | 420695 | 35866 | 210.4 | - 13227 |
| 2006 (4) | 432679 | 36922 | 218.5 | - 60297 |
| 2007 (1) | 421730 | 44452 | 211.7 | - 30142 |
| 2007 (2) | 433010 | 45701 | 215.9 | - 34772 |
| 2007 (3) | 442242 | 46468 | 219.9 | - 59311 |
| 2007 (4) | 454517 | 53287 | 227.2 | - 21111 |
| 2008 (1) | 438730 | 58228 | 233.4 | - 53641 |
| 2008 (2) | 453884 | 60340 | 238   | -32319  |
| 2008 (3) | 459015 | 69469 | 245.5 | - 36718 |
| 2008 (4) | 462505 | 70607 | 254.5 | - 19558 |
| 2009 (1) | 432655 | 79357 | 258.6 | - 51799 |
| 2009 (2) | 441909 | 81269 | 259.3 | 13661   |
| 2009 (3) | 449356 | 82351 | 267.1 | 22335   |
| 2009 (4) | 459697 | 83127 | 283.8 | 24887   |
| 2010 (1) | 450207 | 83672 | 285.3 | - 6821  |
| 2010 (2) | 455619 | 84281 | 287.5 | 11123   |
| 2010 (3) | 461450 | 84429 | 291.5 | 29080   |
| 2010 (4) | 477016 | 85126 |       | 75450   |

## APPENDIX- B

### ANNUAL PERCENTAGE CHANGE ON A MONTHLY BASIS

Producer Price Index (P0142.1)

Producer Price Index for domestic output of South African industry groups

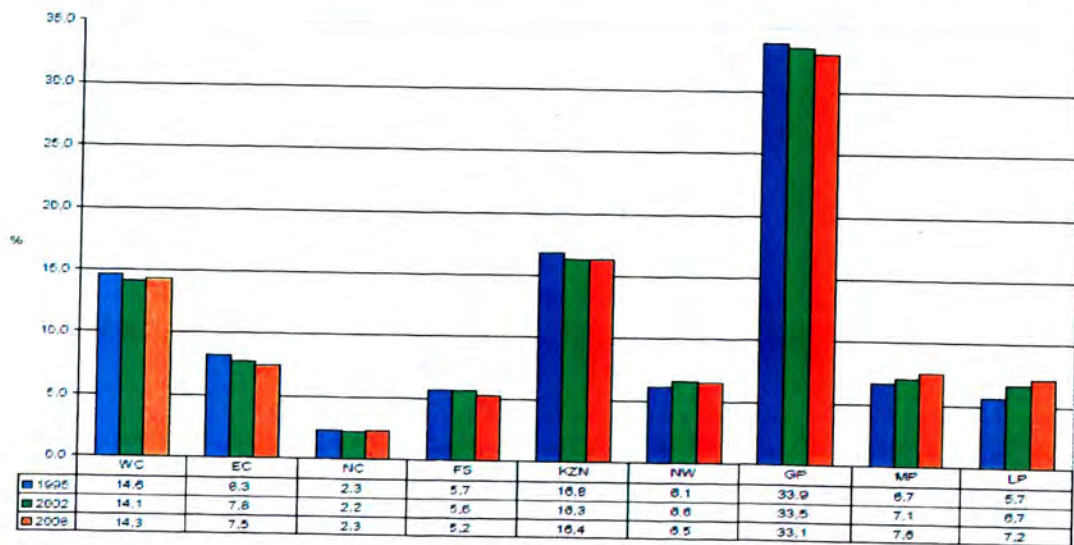
Domestic Output Base year: 2000 = 100

| Year | Jan.  | Feb.  | Mar.  | Apr.  | May.  | Jun.  | Jul.  | Aug.  | Sep.  | Oct.  | Nov.  | Des.  | Ave.  |
|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| 1994 | +7,0  | +7,1  | +6,7  | +6,5  | +8,0  | +8,8  | +9,5  | +10,4 | +10,4 | +10,4 | +10,0 | +10,5 | +8,7  |
| 1995 | +10,8 | +11,1 | +11,5 | +12,3 | +12,0 | +11,3 | +9,7  | +9,0  | +9,1  | +9,4  | +10,0 | +9,9  | +10,6 |
| 1996 | +8,3  | +7,6  | +7,5  | +6,9  | +7,1  | +7,5  | +8,2  | +9,1  | +9,2  | +9,7  | +9,7  | +10,3 | +8,4  |
| 1997 | +10,6 | +9,7  | +9,8  | +9,6  | +9,1  | +9,2  | +8,7  | +7,7  | +7,2  | +6,2  | +5,6  | +4,9  | +8,2  |
| 1998 | +4,3  | +3,8  | +4,1  | +4,3  | +4,1  | +3,1  | +4,8  | +5,8  | +6,2  | +4,7  | +4,4  | +3,6  | +4,4  |
| 1999 | +4,8  | +5,9  | +6,7  | +5,2  | +5,9  | +5,8  | +4,3  | +3,1  | +2,6  | +4,3  | +5,1  | +5,8  | +4,9  |
| 2000 | +5,5  | +5,4  | +4,6  | +6,5  | +5,8  | +6,5  | +6,5  | +7,0  | +7,7  | +7,8  | +8,3  | +8,2  | +6,6  |
| 2001 | +7,8  | +7,7  | +7,6  | +6,9  | +7,3  | +7,5  | +7,6  | +7,5  | +6,8  | +7,7  | +8,2  | +8,4  | +7,6  |
| 2002 | +11,2 | +12,9 | +13,5 | +14,3 | +14,2 | +14,0 | +14,4 | +14,7 | +14,5 | +13,6 | +12,4 | +11,8 | +13,5 |
| 2003 | +7,9  | +5,9  | +5,2  | +3,4  | +1,8  | +2,5  | +2,5  | +1,0  | +0,1  | -0,6  | -1,2  | -0,9  | +2,2  |
| 2004 | +0,2  | +0,5  | +0,5  | +1,4  | +2,5  | +3,0  | +2,1  | +2,7  | +3,5  | +3,9  | +4,3  | +3,6  | +2,3  |
| 2005 | +2,8  | +2,6  | +3,2  | +3,0  | +3,2  | +3,0  | +4,2  | +4,3  | +4,2  | +3,7  | +4,3  | +4,8  | +3,7  |
| 2006 | +5,1  | +4,7  | +4,7  | +5,0  | +5,9  | +7,2  | +7,9  | +9,9  | +9,8  | +10,6 | +10,9 | +10,5 | +7,7  |
| 2007 | +10,8 | +11,3 | +12,5 | +13,1 | +13,2 | +12,6 | +11,6 | +9,6  | +9,3  | +9,4  | +9,0  | +9,5  | +10,9 |
| 2008 | +10,4 | +11,3 | +11,9 | +12,4 | +16,4 | +16,8 | +18,9 | +19,1 | +16,0 | +14,5 | +12,6 | +11,0 | +14,2 |
| 2009 | +9,2  | +7,3  | +5,3  | +2,9  | -3,0  | -4,1  | -3,8  | -4,0  | -3,7  | -3,3  | -1,2  | +0,7  | -0,1  |

Source: Reserve Bank of South Africa

## APPENDIX- C

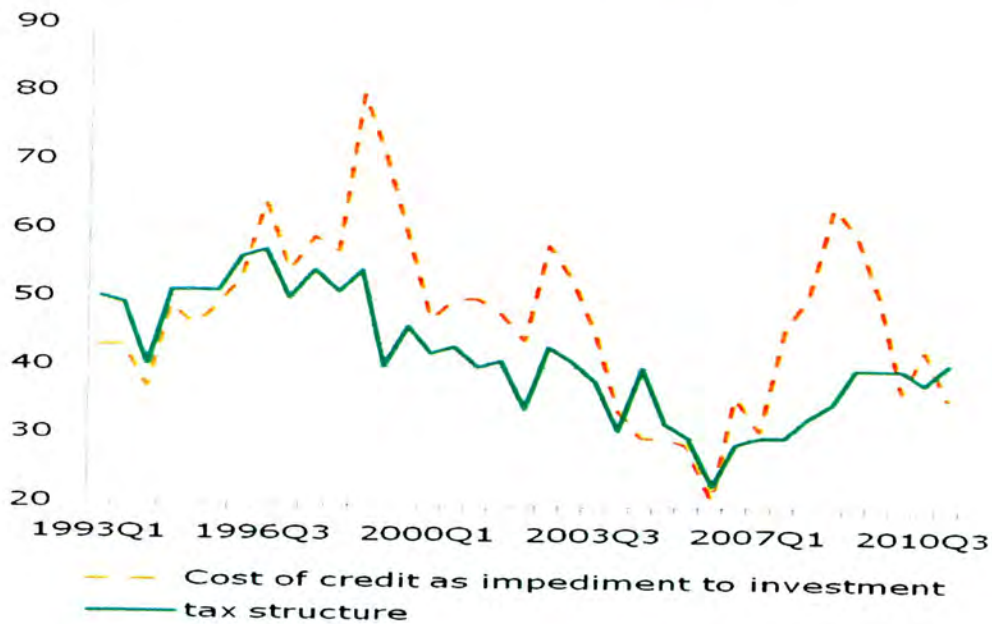
**Figure 3.10 Provincial Contributions to the South African Economy 1995, 2005 2008**



Source: Statistics South Africa

## APPENDIX- D

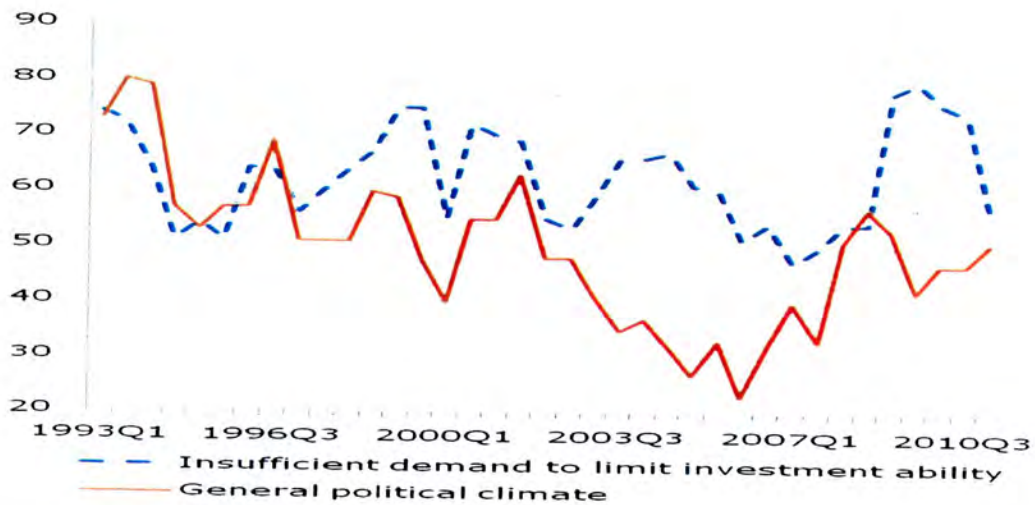
**Figure 3.11 presents the impediments to annual investment**



Source: Bureau of Economic Research

## APPENDIX- E

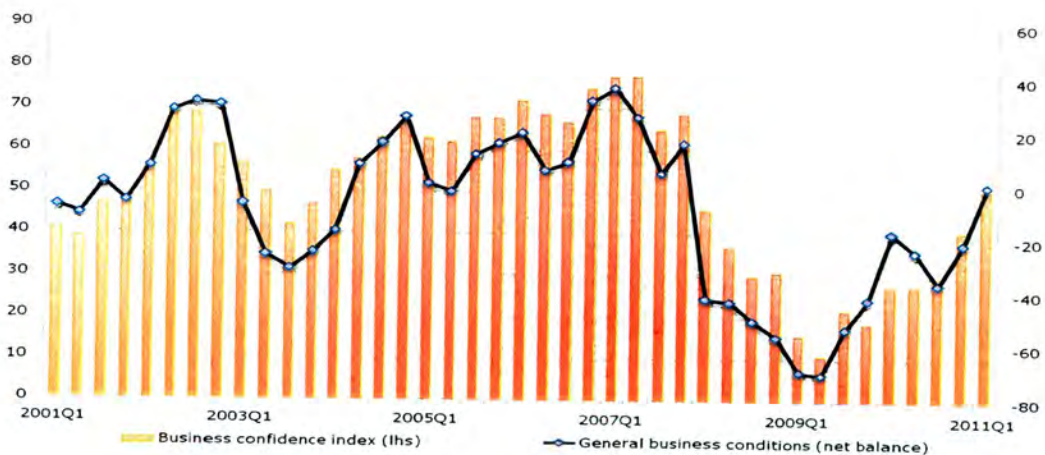
**Figure 3.12** presents the impediments to annual investment



Source: Bureau of Economic Research

## APPENDIX- F

**Figure 3.13** Business Confidence is rising 2009

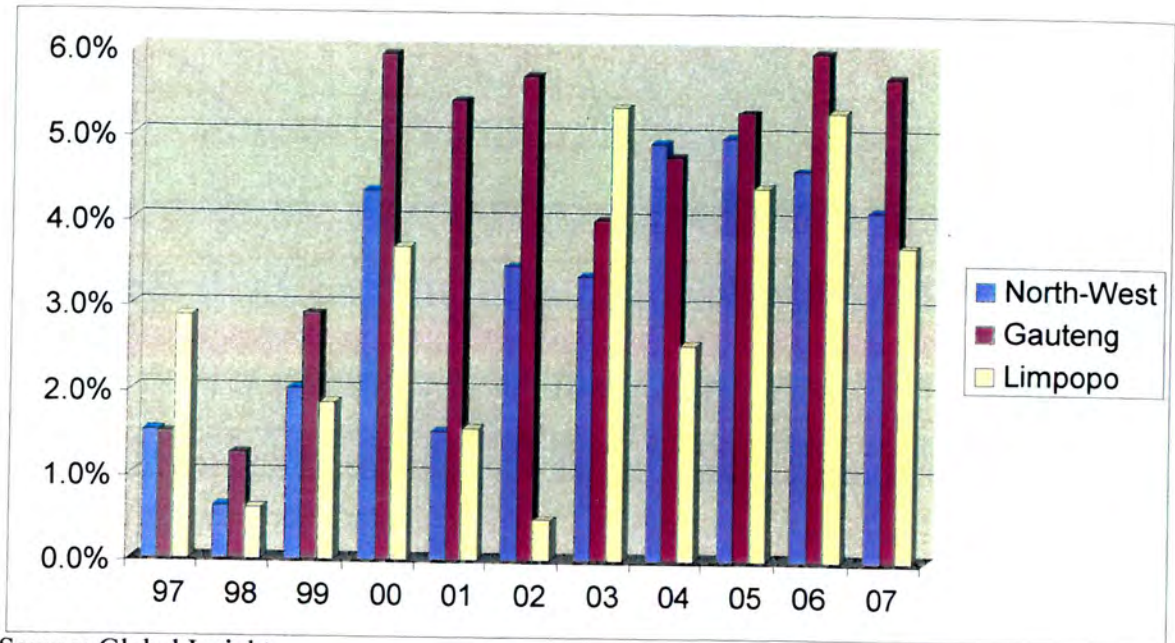


Source: Bureau of Economic Research

## APPENDIX- G

**Figure 3.15**

**Economic Growth Performance three provinces**

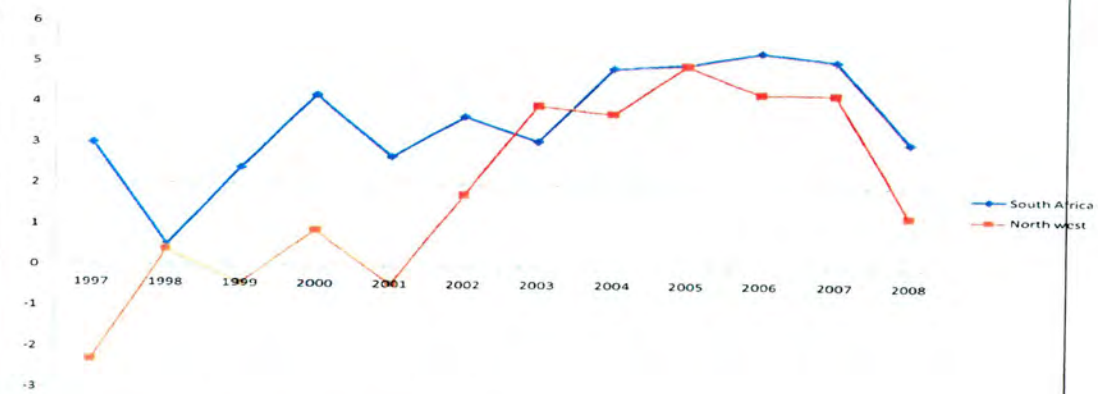


Source: Global Insight

## APPENDIX- H

**Figure 3.11**

**SA GROWTH TRENDS and NW GDP**  
(Global Insight)

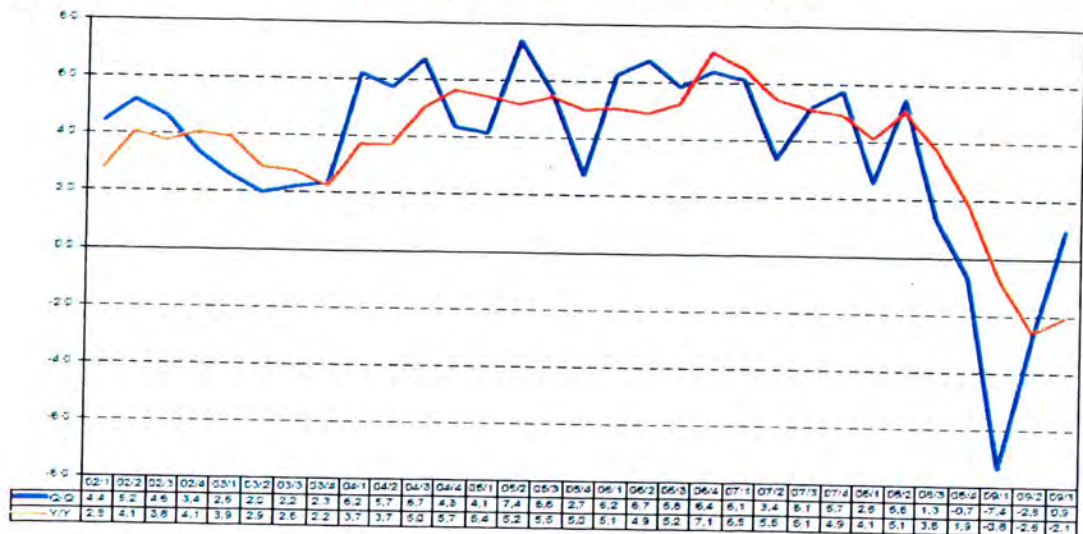


Source: Global Insight 2<sup>nd</sup> Edition 2005

## APPENDIX- I

Figure 3.8

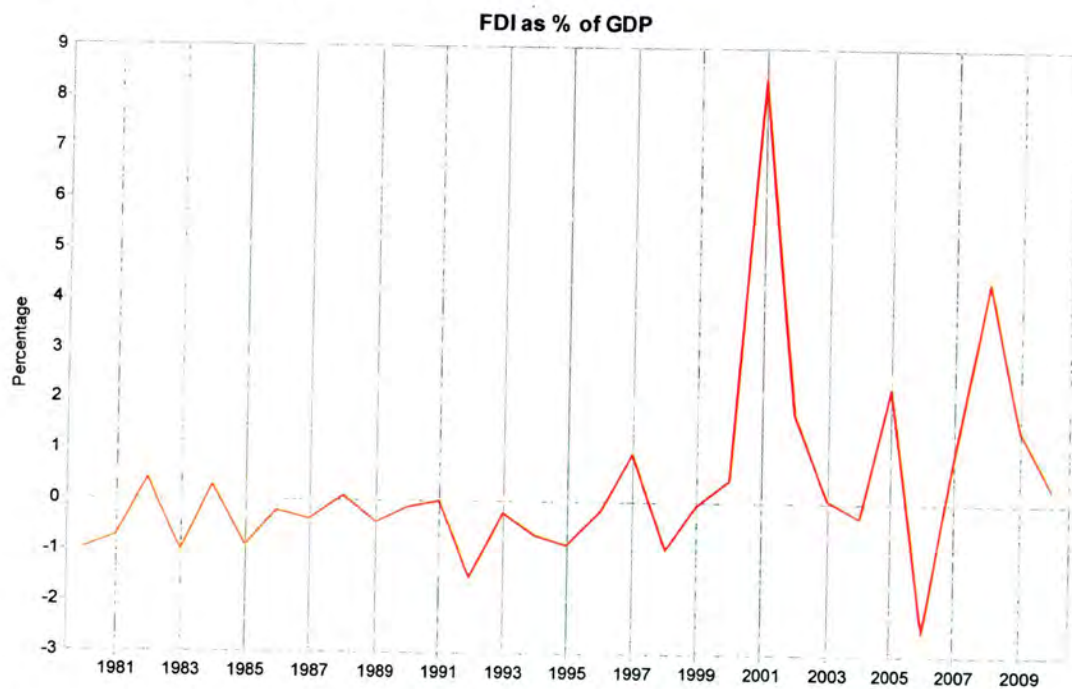
Growth in gross domestic product



Source: Statistics South Africa

## APPENDIX- J

Figure 3.3 FDI as a percentage of GDP



Source: Reserve Bank of South Africa

## APPENDIX- K

Table 3.1 GDP per capita and Unemployment 1980 - 2010

| Year | Gross Domestic Product in billions of USD | US Dollar Exchange in early January | Unemployment rate | Per Capita Income as a percentage of US Per Capita Income |
|------|-------------------------------------------|-------------------------------------|-------------------|-----------------------------------------------------------|
| 1980 | 80.547                                    | 0.8267 Rand                         | 9.2               | 22.56                                                     |
| 1985 | 57.273                                    | 2.0052 Rand                         | 15.5              | 9.81                                                      |
| 1990 | 111.998                                   | 2.5419 Rand                         | 18.8              | 13.10                                                     |
| 1995 | 151.117                                   | 3.5486 Rand                         | 16.7              | 13.24                                                     |
| 2000 | 132.964                                   | 6.1188 Rand                         | 25.6              | 8.47                                                      |
| 2005 | 246.956                                   | 5.6497 Rand                         | 26.7              | 12.34                                                     |
| 2010 | 354.414                                   | 7.462 Rand                          | 24.8              | 15.06                                                     |

Source: International Monetary Fund

## APPENDIX- L

Table 3.5 Historical and Future Trends of Trade and Employment

| Historic trends | Increase | Same | Decrease |
|-----------------|----------|------|----------|
| Annual Turnover | 69%      | 15%  | 15%      |
| Employment      | 48%      | 34%  | 18%      |
| Imports         | 55%      | 33%  | 11%      |
| Exports         | 44%      | 44%  | 11%      |
| Future trends   | Increase | Same | Decrease |
| Turnover        | 84%      | 15%  | 1%       |
| Employment      | 70%      | 25%  | 5%       |
| Imports         | 35%      | 35%  | 29%      |
| Exports         | 36%      | 36%  | 28%      |

Source: Statistics South Africa

## APPENDIX- M

**Table 3.3 Percent living below poverty lines and poverty gap: 2000 and 2006**

| Poverty line      | Percent below poverty line |              | Poverty Gap |      |
|-------------------|----------------------------|--------------|-------------|------|
|                   | 2000                       | 2006         | 2000        | 2006 |
| Food Poverty line | R148<br>28.5               | R209<br>24.8 | 10.4        | 7.9  |
| \$1.00 (ppp)      | 11.3                       | 5.0          | 3.2         | 1.1  |
| \$1.25 (ppp)      | 17.0                       | 9.7          | 5.4         | 2.3  |
| \$2.00 (ppp)      | 33.5                       | 25.3         | 13.0        | 8.1  |
| \$2.50 (ppp)      | 42.2                       | 34.8         | 18.0        | 12.5 |

Source: Statistics South Africa

## APPENDIX- N

|                                                              |             |                       |             |                                                       |
|--------------------------------------------------------------|-------------|-----------------------|-------------|-------------------------------------------------------|
| EViews - [Series: FDI, Workfile: MAFULE=Untitled]            |             |                       |             |                                                       |
| File Edit Object View Proc Quick Options Add-ins Window Help |             |                       |             |                                                       |
| View                                                         | Proc        | Object                | Properties  | Print Name Freeze Sample Genr Sheet Graph Stats Ident |
| Augmented Dickey-Fuller Unit Root Test on FDI                |             |                       |             |                                                       |
| Null Hypothesis: FDI has a unit root                         |             |                       |             |                                                       |
| Exogenous: Constant Linear Trend                             |             |                       |             |                                                       |
| Lag Length: 0 (Automatic - based on SIC, maxlag=2)           |             |                       |             |                                                       |
|                                                              |             |                       | t-Statistic | Prob.*                                                |
| Augmented Dickey-Fuller test statistic                       |             |                       | -0.263298   | 0.9902                                                |
| Test critical values                                         | 1% level    |                       | -4.100935   |                                                       |
|                                                              | 5% level    |                       | -3.476305   |                                                       |
|                                                              | 10% level   |                       | -3.166788   |                                                       |
| *MacKinnon (1996) one-sided p-values                         |             |                       |             |                                                       |
| Augmented Dickey-Fuller Test Equation                        |             |                       |             |                                                       |
| Dependent Variable: D(FDI)                                   |             |                       |             |                                                       |
| Method: Least Squares                                        |             |                       |             |                                                       |
| Date: 10/19/11 Time: 14:34                                   |             |                       |             |                                                       |
| Sample (adjusted): 1994Q2 2010Q4                             |             |                       |             |                                                       |
| Included observations: 67 after adjustments                  |             |                       |             |                                                       |
| Variable                                                     | Coefficient | Std. Error            | t-Statistic | Prob.                                                 |
| FDI(-1)                                                      | -0.007182   | 0.027278              | -0.263298   | 0.7932                                                |
| C                                                            | -409.3791   | 712.2935              | -0.574734   | 0.5675                                                |
| @TREND(1994Q1)                                               | 49.64049    | 29.31108              | 1.693574    | 0.0952                                                |
| R-squared                                                    | 0.085356    | Mean dependent var    |             | 1037.224                                              |
| Adjusted R-squared                                           | 0.056774    | S.D. dependent var    |             | 2920.342                                              |
| S.E. of regression                                           | 2836.231    | Akaike info criterion |             | 18.78208                                              |
| Sum squared resid                                            | 5.15E+08    | Schwarz criterion     |             | 18.88080                                              |
| Log likelihood                                               | -626.1998   | Hannan-Quinn criter.  |             | 18.82115                                              |
| F-statistic                                                  | 2.986308    | Durbin-Watson stat    |             | 1.566928                                              |
| Prob(F-statistic)                                            | 0.057552    |                       |             |                                                       |



|                                                              |      |        |            |       |      |        |        |      |       |       |       |       |
|--------------------------------------------------------------|------|--------|------------|-------|------|--------|--------|------|-------|-------|-------|-------|
| EViews - [Series: GDP Workfile: MABULE:Untitled]             |      |        |            |       |      |        |        |      |       |       |       |       |
| File Edit Object View Proc Quick Options Add-ins Window Help |      |        |            |       |      |        |        |      |       |       |       |       |
| View                                                         | Proc | Object | Properties | Print | Name | Freeze | Sample | Genr | Sheet | Graph | Stats | Ident |

# Augmented Dickey-Fuller Unit Root Test

Null Hypothesis: GDP has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 4 (Automatic - based on SIC, maxlag=10)

|                                        | t-Statistic | Prob.* |
|----------------------------------------|-------------|--------|
| Augmented Dickey-Fuller test statistic | -2.386989   | 0.3826 |
| Test critical values: 1% level         | -4.110440   |        |
| 5% level                               | -3.482763   |        |
| 10% level                              | -3.169372   |        |

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(GDP)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:18  
 Sample (adjusted): 1995Q2 2010Q4  
 Included observations: 63 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.  |
|--------------------|-------------|-----------------------|-------------|--------|
| GDP(-1)            | -0.121334   | 0.050831              | -2.386989   | 0.0204 |
| D(GDP(-1))         | -0.038360   | 0.092578              | -0.414352   | 0.6802 |
| D(GDP(-2))         | -0.093868   | 0.086245              | -1.088395   | 0.2811 |
| D(GDP(-3))         | -0.179931   | 0.084062              | -2.140450   | 0.0367 |
| D(GDP(-4))         | 0.750101    | 0.085554              | 8.767623    | 0.0000 |
| C                  | 31259.85    | 12598.67              | 2.481203    | 0.0161 |
| @TREND(1994Q1)     | 405.3255    | 162.3284              | 2.496947    | 0.0155 |
| R-squared          | 0.815621    | Mean dependent var    | 3245.095    |        |
| Adjusted R-squared | 0.795866    | S.D. dependent var    | 9723.421    |        |
| S.E. of regression | 4393.162    | Akaike info criterion | 19.71793    |        |
| Sum squared resid  | 1.08E+09    | Schwarz criterion     | 19.95605    |        |
| Log likelihood     | -614.1146   | Hannan-Quinn criter.  | 19.81158    |        |
| F-statistic        | 41.28691    | Durbin-Watson stat    | 1.742233    |        |
| Prob(F-statistic)  | 0.000000    |                       |             |        |

EViews - [Series: GDP Workfile: MABULE=Untitled]

File Edit Object View Proc Quick Options Add-ins Window Help

View Proc Object Properties Print Name Freeze Sample Genr Sheet Graph Stats Ident

Augmented Dickey-Fuller Unit Root Test on D(GDP)

Null Hypothesis: D(GDP) has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 1 (Automatic - based on SIC, maxlag=1)

|                                        | t-Statistic | Prob.* |
|----------------------------------------|-------------|--------|
| Augmented Dickey-Fuller test statistic | -8.443004   | 0.0000 |
| Test critical values: 1% level         | -4.105534   |        |
| 5% level                               | -3.480463   |        |
| 10% level                              | -3.168039   |        |

\*MacKinnon (1996) one-sided p-values

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(GDP.2)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:26  
 Sample (adjusted): 1994Q4 2010Q4  
 Included observations: 65 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| D(GDP(-1))         | -1.696404   | 0.200924              | -8.443004   | 0.0000   |
| D(GDP(-1).2)       | 0.280371    | 0.122792              | 2.283298    | 0.0259   |
| C                  | 3028.538    | 2411.272              | 1.255992    | 0.2139   |
| @TREND(1994Q1)     | 57.99614    | 59.65259              | 0.972232    | 0.3348   |
| R-squared          | 0.683969    | Mean dependent var    |             | 191.3538 |
| Adjusted R-squared | 0.668426    | S.D. dependent var    |             | 15640.52 |
| S.E. of regression | 9006.188    | Akaike info criterion |             | 21.10878 |
| Sum squared resid  | 4.95E+09    | Schwarz criterion     |             | 21.24258 |
| Log likelihood     | -682.0352   | Hannan-Quinn criter.  |             | 21.16157 |
| F-statistic        | 44.00634    | Durbin-Watson stat    |             | 2.351797 |
| Prob(F-statistic)  | 0.000000    |                       |             |          |

|                                                              |      |        |            |       |      |        |        |      |       |       |       |       |
|--------------------------------------------------------------|------|--------|------------|-------|------|--------|--------|------|-------|-------|-------|-------|
| EViews - [Series: LCOST Workfile: MABULE=Untitled]           |      |        |            |       |      |        |        |      |       |       |       |       |
| File Edit Object View Proc Quick Options Add-ins Window Help |      |        |            |       |      |        |        |      |       |       |       |       |
| View                                                         | Proc | Object | Properties | Print | Name | Freeze | Sample | Genr | Sheet | Graph | Stats | Ident |
| Augmented Dickey-Ful                                         |      |        |            |       |      |        |        |      |       |       |       |       |

Null Hypothesis: LCOST has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 0 (Automatic - based on SIC, maxlag=5)

|                                        | t-Statistic | Prob.* |
|----------------------------------------|-------------|--------|
| Augmented Dickey-Fuller test statistic | -1.325944   | 0.8727 |
| Test critical values: 1% level         | -4.103198   |        |
| 5% level                               | -3.479367   |        |
| 10% level                              | -3.167404   |        |

\*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(LCOST)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:31  
 Sample (adjusted): 1994Q2 2010Q3  
 Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| LCOST(-1)          | -0.057747   | 0.043552              | -1.325944   | 0.1896   |
| C                  | 2.562561    | 2.303783              | 1.112327    | 0.2702   |
| @TREND(1994Q1)     | 0.277270    | 0.150013              | 1.848307    | 0.0693   |
| R-squared          | 0.083541    | Mean dependent var    |             | 3.381818 |
| Adjusted R-squared | 0.054447    | S.D. dependent var    |             | 6.930821 |
| S.E. of regression | 6.739499    | Akaike info criterion |             | 6.698237 |
| Sum squared resid  | 2861.514    | Schwarz criterion     |             | 6.797767 |
| Log likelihood     | -218.0418   | Hannan-Quinn criter.  |             | 6.737566 |
| F-statistic        | 2.871420    | Durbin-Watson stat    |             | 2.243718 |
| Prob(F-statistic)  | 0.064056    |                       |             |          |

EViews - [Series: LCOST Workfile: MABULE:Untitled\]

File Edit Object View Proc Quick Options Add-ins Window Help

View Proc Object Properties Print Name Freeze Sample Genr Sheet Graph Stats Ident

Augmented

Null Hypothesis: D(LCOST) has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 0 (Automatic - based on SIC, maxlag=5)

|                                        | t-Statistic | Prob.* |
|----------------------------------------|-------------|--------|
| Augmented Dickey-Fuller test statistic | -9.297833   | 0.0000 |
| Test critical values: 1% level         | -4.105534   |        |
| 5% level                               | -3.480463   |        |
| 10% level                              | -3.168039   |        |

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(LCOST,2)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:33  
 Sample (adjusted): 1994Q3 2010Q3  
 Included observations: 65 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.  |
|--------------------|-------------|-----------------------|-------------|--------|
| D(LCOST(-1))       | -1.161500   | 0.124922              | -9.297833   | 0.0000 |
| C                  | 0.214051    | 1.738238              | 0.123143    | 0.9024 |
| @TREND(1994Q1)     | 0.108320    | 0.046145              | 2.347390    | 0.0221 |
| R-squared          | 0.582369    | Mean dependent var    | -0.020000   |        |
| Adjusted R-squared | 0.568897    | S.D. dependent var    | 10.30954    |        |
| S.E. of regression | 6.769084    | Akaike info criterion | 6.707663    |        |
| Sum squared resid  | 2840.870    | Schwarz criterion     | 6.808020    |        |
| Log likelihood     | -214.9991   | Hannan-Quinn criter.  | 6.747260    |        |
| F-statistic        | 43.22819    | Durbin-Watson stat    | 2.028352    |        |
| Prob(F-statistic)  | 0.000000    |                       |             |        |

EViews - [Series: OPENNES Workfile: MABULE::Untitled]

File Edit Object View Proc Quick Options Add-ins Window Help

View Proc Object Properties Print Name Freeze Sample Genr Sheet Graph Stats Ident

Augr

Null Hypothesis: OPENNES has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 1 (Automatic - based on SIC, maxlag=10)

|                                        | t-Statistic | Prob.* |
|----------------------------------------|-------------|--------|
| Augmented Dickey-Fuller test statistic | -0.794767   | 0.9606 |
| Test critical values: 1% level         | -4.103198   |        |
| 5% level                               | -3.479367   |        |
| 10% level                              | -3.167404   |        |

\*Mackinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(OPENNES)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:37  
 Sample (adjusted): 1994Q3 2010Q4  
 Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| OPENNES(-1)        | -0.071904   | 0.090471              | -0.794767   | 0.4298   |
| D(OPENNES(-1))     | -0.408442   | 0.129183              | -3.161741   | 0.0024   |
| C                  | -1085.743   | 5062.735              | -0.214458   | 0.8309   |
| @TREND(1994Q1)     | 76.58934    | 122.5938              | 0.624741    | 0.5344   |
| R-squared          | 0.200141    | Mean dependent var    |             | 911.5758 |
| Adjusted R-squared | 0.161438    | S.D. dependent var    |             | 18332.77 |
| S.E. of regression | 16787.87    | Akaike info criterion |             | 22.35339 |
| Sum squared resid  | 1.75E+10    | Schwarz criterion     |             | 22.48610 |
| Log likelihood     | -733.6620   | Hannan-Quinn criter.  |             | 22.40583 |
| F-statistic        | 5.171212    | Durbin-Watson stat    |             | 1.850668 |
| Prob(F-statistic)  | 0.002968    |                       |             |          |

|                                                       |      |        |            |       |       |         |         |        |       |       |       |       |
|-------------------------------------------------------|------|--------|------------|-------|-------|---------|---------|--------|-------|-------|-------|-------|
| EViews - [Series: OPENNES Workfile: MABULE::Untitled] |      |        |            |       |       |         |         |        |       |       |       |       |
| File                                                  | Edit | Object | View       | Proc  | Quick | Options | Add-ins | Window | Help  |       |       |       |
| View                                                  | Proc | Object | Properties | Print | Name  | Freeze  | Sample  | Genr   | Sheet | Graph | Stats | Ident |

Null Hypothesis: D(OPENNES) has a unit root  
 Exogenous: Constant, Linear Trend  
 Lag Length: 0 (Automatic - based on SIC, maxlag=10)

|                                        | t-Statistic | Prob.* |
|----------------------------------------|-------------|--------|
| Augmented Dickey-Fuller test statistic | -12.14718   | 0.0000 |
| Test critical values: 1% level         | -4.103198   |        |
| 5% level                               | -3.479367   |        |
| 10% level                              | -3.167404   |        |

\*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation  
 Dependent Variable: D(OPENNES,2)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:39  
 Sample (adjusted): 1994Q3 2010Q4  
 Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| D(OPENNES(-1))     | -1.447427   | 0.119157              | -12.14718   | 0.0000   |
| C                  | -3236.676   | 4266.125              | -0.758692   | 0.4509   |
| @TREND(1994Q1)     | 121.7711    | 108.2980              | 1.124407    | 0.2651   |
| R-squared          | 0.701146    | Mean dependent var    |             | 793.4545 |
| Adjusted R-squared | 0.691658    | S.D. dependent var    |             | 30144.37 |
| S.E. of regression | 16738.72    | Akaike info criterion |             | 22.33323 |
| Sum squared resid  | 1.77E+10    | Schwarz criterion     |             | 22.43276 |
| Log likelihood     | -733.9965   | Hannan-Quinn criter.  |             | 22.37256 |
| F-statistic        | 73.90251    | Durbin-Watson stat    |             | 1.885742 |
| Prob(F-statistic)  | 0.000000    |                       |             |          |

Null Hypothesis: FDI has a unit root  
 Exogenous: Constant, Linear Trend  
 Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | -0.570328   | 0.9775 |
| Test critical values: 1% level | -4.100935   |        |
| 5% level                       | -3.478305   |        |
| 10% level                      | -3.166788   |        |

\*Mackinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 7684018. |
| HAC corrected variance (Bartlett kernel) | 11393785 |

Phillips-Perron Test Equation  
 Dependent Variable: D(FDI)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:43  
 Sample (adjusted): 1994Q2 2010Q4  
 Included observations: 67 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| FDI(-1)            | -0.007182   | 0.027278              | -0.263298   | 0.7932   |
| C                  | -409.3791   | 712.2935              | -0.574734   | 0.5675   |
| @TREND(1994Q1)     | 49.64049    | 29.31108              | 1.693574    | 0.0952   |
| R-squared          | 0.085356    | Mean dependent var    |             | 1037.224 |
| Adjusted R-squared | 0.056774    | S.D. dependent var    |             | 2920.342 |
| S.E. of regression | 2836.231    | Akaike info criterion |             | 18.78208 |
| Sum squared resid  | 5.15E+08    | Schwarz criterion     |             | 18.88080 |
| Log likelihood     | -626.1998   | Hannan-Quinn criter.  |             | 18.82115 |
| F-statistic        | 2.986308    | Durbin-Watson stat    |             | 1.566928 |
| Prob(F-statistic)  | 0.057552    |                       |             |          |

|                                                  |      |        |            |       |       |         |         |        |       |       |       |
|--------------------------------------------------|------|--------|------------|-------|-------|---------|---------|--------|-------|-------|-------|
| EViews - [Series: FDI Workfile: MABULE:Untitled] |      |        |            |       |       |         |         |        |       |       |       |
| File                                             | Edit | Object | View       | Proc  | Quick | Options | Add-ins | Window | Help  |       |       |
| View                                             | Proc | Object | Properties | Print | Name  | Freeze  | Sample  | Genr   | Sheet | Graph | Stats |
| Ident                                            |      |        |            |       |       |         |         |        |       |       |       |

Null Hypothesis: D(FDI) has a unit root

Exogenous: Constant

Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | -6.116536   | 0.0000 |
| Test critical values: 1% level | -3.533204   |        |
| 5% level                       | -2.906210   |        |
| 10% level                      | -2.590628   |        |

\*MacKinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 7852301. |
| HAC corrected variance (Bartlett kernel) | 8618568. |

Phillips-Perron Test Equation

Dependent Variable: D(FDI,2)

Method: Least Squares

Date: 10/21/11 Time: 18:48

Sample (adjusted): 1994Q3 2010Q4

Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| D(FDI(-1))         | -0.723048   | 0.119955              | -6.027636   | 0.0000   |
| C                  | 766.6899    | 371.9233              | 2.061419    | 0.0433   |
| R-squared          | 0.362120    | Mean dependent var    |             | 13.00000 |
| Adjusted R-squared | 0.352153    | S.D. dependent var    |             | 3535.447 |
| S.E. of regression | 2845.643    | Akaike info criterion |             | 18.77480 |
| Sum squared resid  | 5.18E+08    | Schwarz criterion     |             | 18.84115 |
| Log likelihood     | -617.5684   | Hannan-Quinn criter.  |             | 18.80102 |
| F-statistic        | 36.33239    | Durbin-Watson stat    |             | 2.080131 |
| Prob(F-statistic)  | 0.000000    |                       |             |          |

EViews - [Series: GDP Workfile: MABULE:Untitled]

File Edit Object View Proc Quick Options Add-ins Window Help

View Proc Object Properties Print Name Freeze Sample Genr Sheet Graph Stats Ident

Phillips-Perro

Null Hypothesis: GDP has a unit root  
 Exogenous: Constant  
 Bandwidth: 14 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | 0.443632    | 0.9834 |
| Test critical values:          |             |        |
| 1% level                       | -3.531592   |        |
| 5% level                       | -2.905519   |        |
| 10% level                      | -2.590262   |        |

\*Mackinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 91986029 |
| HAC corrected variance (Bartlett kernel) | 27594029 |

Phillips-Perron Test Equation  
 Dependent Variable: D(GDP)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:49  
 Sample (adjusted): 1994Q2 2010Q4  
 Included observations: 67 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| GDP(-1)            | -0.004055   | 0.019515              | -0.207789   | 0.8360   |
| C                  | 4665.027    | 7089.954              | 0.657977    | 0.5129   |
| R-squared          | 0.000664    | Mean dependent var    |             | 3212.701 |
| Adjusted R-squared | -0.014711   | S.D. dependent var    |             | 9666.529 |
| S.E. of regression | 9737.370    | Akaike info criterion |             | 21.23473 |
| Sum squared resid  | 6.16E+09    | Schwarz criterion     |             | 21.30054 |
| Log likelihood     | -709.3633   | Hannan-Quinn criter.  |             | 21.26077 |
| F-statistic        | 0.043176    | Durbin-Watson stat    |             | 2.551898 |
| Prob(F-statistic)  | 0.836044    |                       |             |          |

|                                                              |      |        |            |       |      |        |        |      |       |       |       |       |  |
|--------------------------------------------------------------|------|--------|------------|-------|------|--------|--------|------|-------|-------|-------|-------|--|
| EViews - [Series: GDP Workfile: MABULE:Untitled\]            |      |        |            |       |      |        |        |      |       |       |       |       |  |
| File Edit Object View Proc Quick Options Add-ins Window Help |      |        |            |       |      |        |        |      |       |       |       |       |  |
| View                                                         | Proc | Object | Properties | Print | Name | Freeze | Sample | Genr | Sheet | Graph | Stats | Ident |  |

Phillips-Per

Null Hypothesis: D(GDP) has a unit root  
 Exogenous: Constant, Linear Trend  
 Bandwidth: 16 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | -16.07146   | 0.0001 |
| Test critical values:          |             |        |
| 1% level                       | -4.103198   |        |
| 5% level                       | -3.479367   |        |
| 10% level                      | -3.167404   |        |

\*MacKinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 81825006 |
| HAC corrected variance (Bartlett kernel) | 20943127 |

Phillips-Perron Test Equation  
 Dependent Variable: D(GDP,2)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:50  
 Sample (adjusted): 1994Q3 2010Q4  
 Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| D(GDP(-1))         | -1.313208   | 0.119428              | -10.99578   | 0.0000   |
| C                  | 2400.383    | 2379.460              | 1.008793    | 0.3169   |
| @TREND(1994Q1)     | 45.98708    | 59.83431              | 0.768574    | 0.4450   |
| R-squared          | 0.658011    | Mean dependent var    |             | 13.78788 |
| Adjusted R-squared | 0.647154    | S.D. dependent var    |             | 15586.64 |
| S.E. of regression | 9258.587    | Akaike info criterion |             | 21.14888 |
| Sum squared resid  | 5.40E+09    | Schwarz criterion     |             | 21.24841 |
| Log likelihood     | -694.9130   | Hannan-Quinn criter.  |             | 21.18821 |
| F-statistic        | 60.60830    | Durbin-Watson stat    |             | 2.166425 |
| Prob(F-statistic)  | 0.000000    |                       |             |          |

Null Hypothesis: LCOST has a unit root  
 Exogenous: Constant, Linear Trend  
 Bandwidth: 6 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | -1.005411   | 0.9359 |
| Test critical values: 1% level | -4.103198   |        |
| 5% level                       | -3.479367   |        |
| 10% level                      | -3.167404   |        |

\*Mackinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 43.35627 |
| HAC corrected variance (Bartlett kernel) | 26.84111 |

Phillips-Perron Test Equation  
 Dependent Variable: D(LCOST)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:52  
 Sample (adjusted): 1994Q2 2010Q3  
 Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| LCOST(-1)          | -0.057747   | 0.043552              | -1.325944   | 0.1896   |
| C                  | 2.562561    | 2.303783              | 1.112327    | 0.2702   |
| @TREND(1994Q1)     | 0.277270    | 0.150013              | 1.848307    | 0.0693   |
| R-squared          | 0.083541    | Mean dependent var    |             | 3.381818 |
| Adjusted R-squared | 0.054447    | S.D. dependent var    |             | 6.930821 |
| S.E. of regression | 6.739499    | Akaike info criterion |             | 6.698237 |
| Sum squared resid  | 2861.514    | Schwarz criterion     |             | 6.797767 |
| Log likelihood     | -218.0418   | Hannan-Quinn criter.  |             | 6.737566 |
| F-statistic        | 2.871420    | Durbin-Watson stat    |             | 2.243718 |
| Prob(F-statistic)  | 0.064056    |                       |             |          |

Null Hypothesis: OPENNES has a unit root  
 Exogenous: Constant, Linear Trend  
 Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | -2.024508   | 0.5773 |
| Test critical values:          |             |        |
| 1% level                       | -4.100935   |        |
| 5% level                       | -3.478305   |        |
| 10% level                      | -3.166788   |        |

\*Mackinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 3.03E+08 |
| HAC corrected variance (Bartlett kernel) | 3.03E+08 |

Phillips-Perron Test Equation  
 Dependent Variable: D(OPENNES)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:55  
 Sample (adjusted): 1994Q2 2010Q4  
 Included observations: 67 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| OPENNES(-1)        | -0.179704   | 0.088764              | -2.024508   | 0.0471   |
| C                  | 2373.151    | 5085.027              | 0.466694    | 0.6423   |
| @TREND(1994Q1)     | -1.129902   | 124.2660              | -0.009093   | 0.9928   |
| R-squared          | 0.072167    | Mean dependent var    |             | 808.4478 |
| Adjusted R-squared | 0.043172    | S.D. dependent var    |             | 18212.93 |
| S.E. of regression | 17815.44    | Akaike info criterion |             | 22.45726 |
| Sum squared resid  | 2.03E+10    | Schwarz criterion     |             | 22.55598 |
| Log likelihood     | -749.3183   | Hannan-Quinn criter.  |             | 22.49632 |
| F-statistic        | 2.488960    | Durbin-Watson stat    |             | 2.437035 |
| Prob(F-statistic)  | 0.090999    |                       |             |          |

Null Hypothesis: D(OPENNES) has a unit root  
 Exogenous: Constant, Linear Trend  
 Bandwidth: 3 (Newey-West automatic) using Bartlett kernel

|                                | Adj. t-Stat | Prob.* |
|--------------------------------|-------------|--------|
| Phillips-Perron test statistic | -12.38838   | 0.0001 |
| Test critical values:          |             |        |
| 1% level                       | -4.103198   |        |
| 5% level                       | -3.479367   |        |
| 10% level                      | -3.167404   |        |

\*MacKinnon (1996) one-sided p-values.

|                                          |          |
|------------------------------------------|----------|
| Residual variance (no correction)        | 2.67E+08 |
| HAC corrected variance (Bartlett kernel) | 2.42E+08 |

Phillips-Perron Test Equation  
 Dependent Variable: D(OPENNES,2)  
 Method: Least Squares  
 Date: 10/21/11 Time: 18:57  
 Sample (adjusted): 1994Q3 2010Q4  
 Included observations: 66 after adjustments

| Variable           | Coefficient | Std. Error            | t-Statistic | Prob.    |
|--------------------|-------------|-----------------------|-------------|----------|
| D(OPENNES(-1))     | -1.447427   | 0.119157              | -12.14718   | 0.0000   |
| C                  | -3236.676   | 4266.125              | -0.758692   | 0.4509   |
| @TREND(1994Q1)     | 121.7711    | 108.2980              | 1.124407    | 0.2651   |
| R-squared          | 0.701146    | Mean dependent var    |             | 793.4545 |
| Adjusted R-squared | 0.691658    | S.D. dependent var    |             | 30144.37 |
| S.E. of regression | 16738.72    | Akaike info criterion |             | 22.33323 |
| Sum squared resid  | 1.77E+10    | Schwarz criterion     |             | 22.43276 |
| Log likelihood     | -733.9965   | Hannan-Quinn criter.  |             | 22.37256 |
| F-statistic        | 73.90251    | Durbin-Watson stat    |             | 1.885742 |
| Prob(F-statistic)  | 0.000000    |                       |             |          |

## APPENDIX- O

### Johansen Cointegration Test

Date: 10/27/11 Time: 17:12  
Sample (adjusted): 1995Q2 2010Q3  
Included observations: 62 after adjustments  
Trend assumption: Linear deterministic trend  
Series: FDI GDP LCOST OPENNES  
Lags interval (in first differences): 1 to 4

#### Unrestricted Cointegration Rank Test (Trace)

| Hypothesized<br>No. of CE(s) | Eigenvalue | Trace<br>Statistic | 0.05<br>Critical Value | Prob.** |
|------------------------------|------------|--------------------|------------------------|---------|
| None *                       | 0.336471   | 56.26599           | 47.85613               | 0.0067  |
| At most 1 *                  | 0.272895   | 30.83467           | 29.79707               | 0.0378  |
| At most 2                    | 0.139514   | 11.07627           | 15.49471               | 0.2069  |
| At most 3                    | 0.027993   | 1.760303           | 3.841466               | 0.1846  |

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

#### Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

| Hypothesized<br>No. of CE(s) | Eigenvalue | Max-Eigen<br>Statistic | 0.05<br>Critical Value | Prob.** |
|------------------------------|------------|------------------------|------------------------|---------|
| None                         | 0.336471   | 25.43132               | 27.58434               | 0.0920  |
| At most 1                    | 0.272895   | 19.75840               | 21.13162               | 0.0769  |
| At most 2                    | 0.139514   | 9.315968               | 14.26460               | 0.2608  |
| At most 3                    | 0.027993   | 1.760303               | 3.841466               | 0.1846  |

Max-eigenvalue test indicates no cointegration at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

#### Unrestricted Cointegrating Coefficients (normalized by b\*S11\*b=I):

| FDI       | GDP       | LCOST     | OPENNES   |
|-----------|-----------|-----------|-----------|
| -0.000147 | -0.000108 | 0.122921  | 4.31E-06  |
| -0.000160 | -4.14E-05 | 0.082571  | -5.27E-05 |
| 4.34E-05  | -1.72E-05 | -0.017977 | -4.92E-05 |
| -0.000105 | 7.09E-05  | -0.050384 | -2.63E-05 |

#### Unrestricted Adjustment Coefficients (alpha):

| D(FDI)    | D(GDP)    | D(LCOST)  | D(OPENNES) |
|-----------|-----------|-----------|------------|
| -387.8150 | 804.7837  | -1.226853 | -5740.574  |
| 795.0698  | 1090.930  | -0.663456 | -295.9546  |
| 40.38891  | -668.8712 | -2.176874 | 1710.590   |
| 324.3097  | -439.2227 | 0.147044  | -1062.447  |

1 Cointegrating Equation(s): Log likelihood -2035.252

Normalized cointegrating coefficients (standard error in parentheses)  
FDI GDP LCOST OPENNES

|                                                                       |                        |                        |                        |
|-----------------------------------------------------------------------|------------------------|------------------------|------------------------|
| 1.000000                                                              | 0.730578<br>(0.17732)  | -833.3869<br>(162.885) | -0.029246<br>(0.09873) |
| Adjustment coefficients (standard error in parentheses)               |                        |                        |                        |
| D(FDI)                                                                | 0.057201<br>(0.05617)  |                        |                        |
| D(GDP)                                                                | -0.118702<br>(0.08821) |                        |                        |
| D(LCOST)                                                              | 0.000181<br>(0.00014)  |                        |                        |
| D(OPENNES)                                                            | 0.846711<br>(0.25020)  |                        |                        |
| <hr/>                                                                 |                        |                        |                        |
| 2 Cointegrating Equation(s):                                          | Log likelihood         | -2025.372              |                        |
| <hr/>                                                                 |                        |                        |                        |
| Normalized cointegrating coefficients (standard error in parentheses) |                        |                        |                        |
| FDI                                                                   | GDP                    | LCOST                  | OPENNES                |
| 1.000000                                                              | 0.000000               | -342.4120<br>(71.1510) | 0.527312<br>(0.17094)  |
| 0.000000                                                              | 1.000000               | -672.0362<br>(126.401) | -0.761806<br>(0.30368) |
| Adjustment coefficients (standard error in parentheses)               |                        |                        |                        |
| D(FDI)                                                                | -0.069860<br>(0.07862) | 0.008842<br>(0.04173)  |                        |
| D(GDP)                                                                | -0.293045<br>(0.12504) | -0.131930<br>(0.06638) |                        |
| D(LCOST)                                                              | 0.000287<br>(0.00020)  | 0.000160<br>(0.00011)  |                        |
| D(OPENNES)                                                            | 0.894008<br>(0.36877)  | 0.630853<br>(0.19577)  |                        |
| <hr/>                                                                 |                        |                        |                        |
| 3 Cointegrating Equation(s):                                          | Log likelihood         | -2020.714              |                        |
| <hr/>                                                                 |                        |                        |                        |
| Normalized cointegrating coefficients (standard error in parentheses) |                        |                        |                        |
| FDI                                                                   | GDP                    | LCOST                  | OPENNES                |
| 1.000000                                                              | 0.000000               | 0.000000               | 2.518986<br>(0.64717)  |
| 0.000000                                                              | 1.000000               | 0.000000               | 3.147160<br>(1.03569)  |
| 0.000000                                                              | 0.000000               | 1.000000               | 0.005817<br>(0.00166)  |
| Adjustment coefficients (standard error in parentheses)               |                        |                        |                        |
| D(FDI)                                                                | -0.068106<br>(0.08016) | 0.008148<br>(0.04219)  | 17.25276<br>(53.9154)  |
| D(GDP)                                                                | -0.322095<br>(0.12554) | -0.120444<br>(0.06607) | 201.0285<br>(84.4393)  |
| D(LCOST)                                                              | 0.000192<br>(0.00020)  | 0.000197<br>(0.00010)  | -0.166454<br>(0.13140) |
| D(OPENNES)                                                            | 0.968301<br>(0.37168)  | 0.601479<br>(0.19562)  | -760.8273<br>(250.001) |

## APPENDIX- P

### Error Correction Model

Vector Autoregression Estimates

Date: 10/27/11 Time: 17:39

Sample (adjusted): 1994Q3 2010Q4

Included observations: 66 after adjustments

Standard errors in ( ) & t-statistics in [ ]

|                                         | FDI                                  | GDP                                  | OPENNES                              |
|-----------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| FDI(-1)                                 | 1.082418<br>(0.13246)<br>[ 8.17180]  | -0.617748<br>(0.46534)<br>[-1.32753] | 1.163691<br>(0.76452)<br>[ 1.52213]  |
| FDI(-2)                                 | -0.123339<br>(0.13187)<br>[-0.93530] | 0.589810<br>(0.46327)<br>[ 1.27314]  | -0.643850<br>(0.76113)<br>[-0.84592] |
| GDP(-1)                                 | 0.040897<br>(0.03545)<br>[ 1.15369]  | 0.666539<br>(0.12453)<br>[ 5.35224]  | -0.296774<br>(0.20460)<br>[-1.45049] |
| GDP(-2)                                 | -0.021011<br>(0.03705)<br>[-0.56714] | 0.352732<br>(0.13015)<br>[ 2.71014]  | 0.168044<br>(0.21383)<br>[ 0.78586]  |
| OPENNES(-1)                             | -0.023617<br>(0.02156)<br>[-1.09514] | -0.006099<br>(0.07576)<br>[-0.08050] | 0.501380<br>(0.12447)<br>[ 4.02821]  |
| OPENNES(-2)                             | -0.005239<br>(0.02163)<br>[-0.24223] | -0.012923<br>(0.07598)<br>[-0.17007] | 0.469954<br>(0.12484)<br>[ 3.76451]  |
| C                                       | -4663.725<br>(3250.37)<br>[-1.43483] | -1106.663<br>(11418.8)<br>[-0.09692] | 29737.53<br>(18760.4)<br>[ 1.58512]  |
| R-squared                               | 0.986110                             | 0.978502                             | 0.732665                             |
| Adj. R-squared                          | 0.984698                             | 0.976316                             | 0.705479                             |
| Sum sq. resids                          | 4.28E+08                             | 5.28E+09                             | 1.43E+10                             |
| S.E. equation                           | 2693.766                             | 9463.432                             | 15547.80                             |
| F-statistic                             | 698.1229                             | 447.5712                             | 26.94951                             |
| Log likelihood                          | -611.2640                            | -694.1926                            | -726.9606                            |
| Akaike AIC                              | 18.73527                             | 21.24826                             | 22.24123                             |
| Schwarz SC                              | 18.96751                             | 21.48050                             | 22.47347                             |
| Mean dependent                          | 34906.47                             | 362648.4                             | 9211.121                             |
| S.D. dependent                          | 21776.20                             | 61491.89                             | 28649.08                             |
| Determinant resid covariance (dof adj.) |                                      | 1.46E+23                             |                                      |
| Determinant resid covariance            |                                      | 1.04E+23                             |                                      |
| Log likelihood                          |                                      | -2029.930                            |                                      |
| Akaike information criterion            |                                      | 62.14939                             |                                      |
| Schwarz criterion                       |                                      | 62.84610                             |                                      |

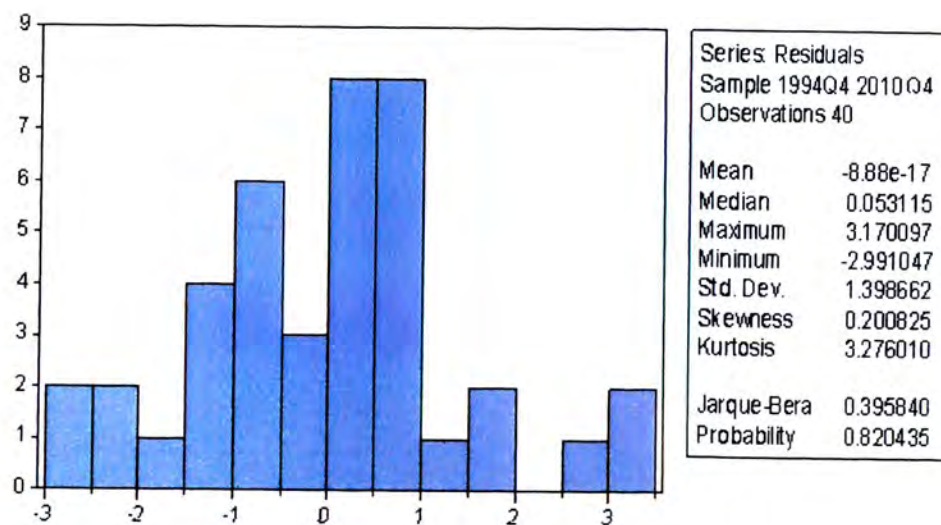
## APPENDIX- Q

### Breusch-Godfrey Serial Correlation LM Test:

|             |          |             |          |
|-------------|----------|-------------|----------|
| F-statistic | 1.618736 | Probability | 0.215544 |
|-------------|----------|-------------|----------|

|               |          |             |          |
|---------------|----------|-------------|----------|
| Obs*R-squared | 4.017030 | Probability | 0.134188 |
|---------------|----------|-------------|----------|

### Histogram of residuals



### White Heteroskedasticity Test:

|             |          |             |          |
|-------------|----------|-------------|----------|
| F-statistic | 1.301048 | Probability | 0.275706 |
|-------------|----------|-------------|----------|

|               |          |             |          |
|---------------|----------|-------------|----------|
| Obs*R-squared | 19.00347 | Probability | 0.268483 |
|---------------|----------|-------------|----------|