

**FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH: THE CASE
OF UGANDA (1970-2007)**

BY

SEMWANGA JORDAN PAUL

REG. No. 2007/HD06/10253U

**A DISSERTATION SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES,
IN PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE AWARD OF A MASTER OF ARTS IN ECONOMICS, OF
MAKERERE UNIVERSITY**

FEBRUARY, 2011

DECLARATION

I, Semwanga Jordan Paul, hereby declare that this work is as a result of my independent investigation except where acknowledged. I also declare that to the best of my knowledge this work has never been submitted anywhere else for any award.

CANDIDATE:

SEMWANGA JORDAN PAUL

DATE

This work has been submitted with the approval of my supervisors

SUPERVISOR:

Dr. ESEZA KATEREGGA

DATE

DEDICATION

I dedicate this research to my grandmother, Nalongo Nkwangu, for the encouragement, patience, love and sacrifice that made the Nkwangu's what they are today.

ACKNOWLEDGEMENTS

A number of people provided me with encouraging comments, constructive criticism and assistance towards the completion of this study. First and foremost, I acknowledge with sincere gratitude the professional assistance from my supervisors Dr. E. Kateregga and Dr J. Mutenyo, without whom I would have encountered many difficulties towards the completion of the study.

Secondly, I acknowledge the role of all my Lecturers in the Faculty of Economics and Management, who imparted in me all the necessary knowledge and skills throughout my study. I acknowledge the specific contribution of the Dean, Prof. Ddumba Ssentamu and my uncle, Dr. J. Muwanga who is also the course coordinator particularly for their encouragement and support.

I also acknowledge the specific contribution of the Nkwangu Family and my fellow students in the MA ECON and CMAP especially Gabriel, John Bosco, Paul, Archade, Valence, Vincent, Chrispus, Dorothy, Leila, Mariama, Hellen, Kagiso, Emilly, Kudzai, Tsolo, Chris, and my Managerial economics lecturer, Dr. Dele Adekunle.

Finally, I wish to free all the people acknowledged above from the responsibility of any mistakes and personal opinions expressed in this study.

God bless you all.

TABLE OF CONTENTS

LIST OF TABLES	vii
LIST OF ACRONYMS	viii
ABSTRACT.....	x
CHAPTER ONE.....	1
INTRODUCTION.....	1
1.0 Background	1
1.1 Problem Statement.....	10
1.2 Objective of the study.....	11
1.3 Hypothesis of the Study.....	11
1.4 Significance and motivation of the study	11
1.5 Scope of the study	12
1.6 Organization of the thesis	12
CHAPTER TWO.....	13
LITERATURE REVIEW	13
2.1 Introduction.....	13
2.2 Theoretical Overview	13
2.3 The basic conceptual framework.....	15
2.4 Empirical literature.....	23
2.5 Trends of FDI Inflow to Uganda.....	33
2.7 Summary of the literature	37
CHAPTER THREE:	39
METHODOLOGY.....	39

3.0. Introduction	39
3.1 The Model	39
3.2 Data Sources.....	43
CHAPTER FOUR:.....	45
RESULTS	45
4.0 Introduction	45
4.1 Unit root test Results	45
4.2 Functional Form Results	47
4.3 OLS Regression Analysis	48
CHAPTER FIVE.....	53
DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS.....	53
5.0 Introduction	53
5.1 Discussion	53
5.2 Summary of the findings.....	55
5.3 Policy implications	55
5.4 Areas for further Research	57
REFERENCES	58
APPENDICES	69
Appendix 1: Raw Data Used.....	69
Appendix 2: Model (1) Results Cobb Douglas.....	71
Appendix3: Translog Results for model (2)	72
Appendix 4: Panel Data Studies of FDI and Economic Growth	73

LIST OF TABLES

Table 3.1: Summary of Variable Definitions.....	41
Table 4.1: Unit-root tests after first difference of variables	46
Table 4.2: Determinants of Economic Growth.....	49

LIST OF ACRONYMS

PCF	Private Capital Flows
PSIS	Private Sector Investment Survey
FPC	Foreign Private Capital
UNCTAD	United Nation Commission on Trade and Development
WIR	World Investment Report
BOU	Bank Of Uganda
UIA	Uganda Investment Authority
HIPC	Highly Indebted Poor Countries
IMF	International Monetary Fund
FDI	Foreign Direct Investment
LDCs	Least Developed Countries
ADB	Africa Development Bank
IPAs	Investment Promotion Agencies
WAIP	World Association of Investment Promotion Agency
SADC	Southern African Development Community
EAC	East African Community
BOP	Balance Of Payment
SSA	Sub Sahara Africa
BV	Book Value
IIP	International Investment Position
ODA	Official Development Assistance
WDIs	World Development Indicators

IFIs	International financial Institutions.
NRM	National Resistance Movement
GDP	Gross Domestic Product
UBOS	Uganda Bureau of Statistics
GMM	Generalized Method of Moments
MFR	Mixed Fixed and Random
WDI	World Development Indicators
TNCs	Transnational Corporations
NEPAD	New Partnership for Africa's Development
SADC	Southern Africa Development Community
WAIPA	World Association of Investment Promotion Agency
ODS	Official Development Assistance
EPRC	Economic Policy Research Centre

ABSTRACT

Most countries strive to attract Foreign Direct Investment (FDI) because of its acknowledged advantages as a tool of economic development. Africa and Uganda in particular joined the rest of the world in seeking FDI as evidenced by the proactive role played by the UIA in attracting FDI in the country as a major component.

This study investigated the empirical relationship between FDI and economic growth in Uganda for the period 1970 to 2007. Secondary annual data on both dependent and independent variables were sourced from the World Development Indicator CD-ROM 2008, Selected Statistics for African Countries by the African development bank, Background to the Budget of various years. The Ordinary Least Squares method was utilized for estimation of the augmented growth model to ascertain the relationship between FDI and other identified variables that influence economic growth.

The empirical results like other previous studies confirmed that FDI impacts positively on Uganda's economic growth. Therefore, taking a peek at Uganda through the lens of FDI we can see that this country is making bigger economic strides step by step and year by year. From the results, it was recommended that in order to encourage and finance economic growth, the government should continue striving to achieve a sound degree of infrastructural development, together with a good domestic labor force.

CHAPTER ONE

INTRODUCTION

1.0 Background

The relationship between FDI and economic growth is a well-studied subject in the development economics literature, both theoretically and empirically (Mahmoud and Fatima, 2007). Recently, renewed interest in growth determinants and the considerable research on externality-led growth, with the advent of endogenous growth theories, made it more plausible to include FDI as one of the determinants of long run economic growth. In a broad sense, FDI is composed of an investment abroad, usually where the company being invested in is controlled by the foreign corporation. In this study, the term FDI was used to refer to an inflow of capital, expertise, and technology into the host country. Formally, the IMF (1993) defined FDI as an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. On the other hand, the World Bank (1996) defines FDI as an investment made to acquire a lasting management interest (normally 10% of voting stock) in a business enterprise operating in a country other than that of the investor. Such investments may take the form of either “greenfield” investment or Merger and Acquisition (M&A), which entails the acquisition of existing interest rather than new investment. Adeolu (2007) notes that FDI comprises not only merger and acquisition and new investment, but also reinvested earnings and loans and similar capital transfer between parent companies and their affiliates. Countries could be both host to FDI projects in their own country and a participant in investment projects in other countries.

In view of the above contention, one of the most salient features of today's globalization drive is a conscious encouragement of cross-border investments, especially by Transnational Corporations (TNCs) and Firms. World Bank statistics show that worldwide, FDI grew on average 23.4 percent per annum between 1970-2006 and reached 1.4 trillion dollars in 2006 (Hakan, 2008). In the same period, the world GDP experienced on average a three percent growth rate per annum. The free movement of capital along with stable economic growth suggests that there is a positive relationship between FDI growth and economic growth. Thus, increasing global FDI continues to rapidly accelerate competitiveness in international productivity, with developed countries being the prime destination for FDI. FDI inflows to developing countries shot up to about US\$240 billion, but their share to the global FDI flows slumped in 2001 to 19.0%, compared to the 41.0% in 1990. The stock of FDI in Africa increased from US\$32.2 billion in 1980 to US\$171.0 billion in 2002 (BOU, UIA and UBOS, 2003). FDI inflows also maintained an upward trend, from an annual average of US\$4.6 billion between 1991 and 1996 to US\$18.8 billion in 2001.

On theoretical grounds, it is argued that FDI positively affects growth because it lowers rental rate of capital, increases production via enhancing labor productivity, and introduces new technologies embedded in the capital by moving capital from capital-rich countries to capital-scarce economies. FDI inflows represent additional resources a country needs to improve its economic performance and provides both physical capital and employment possibilities that may not be available in the host market (Seetanah and Khadaroo, 2005). As De Gregorio (1992) argued, by increasing capital stock, FDI can increase a country's output and productivity through a more efficient use of existing

resources by absorbing unemployed resources. For that reason, many developing countries now see attracting FDI as an important element in their strategy for economic development. Most probably, this is because FDI is seen as an amalgamation of capital, technology, marketing and management. Due to its acknowledged advantages as amplified by Asiedu (2001) and Obwona (2004), several countries in Sub-Saharan Africa as a region now have to depend very much on FDI. In fact it has been argued that the effort by many African countries to improve their business climate stems from the desire to attract FDI. Indeed, one of the pillars on which the New Partnership for Africa's Development (NEPAD) was launched was to increase available capital to US\$64 billion through a combination of reforms, resource mobilization and a conducive environment for FDI (Funke and Nsouli, 2003).

FDI is thus welcomed and, indeed, actively sought by all African countries. Over the past two decades, African countries have made considerable efforts to improve their investment climate (UNCTAD, 1998). They have liberalized their investment regulations and have offered incentives to foreign investors. More importantly, many African countries have initiated economic reforms aimed at increasing the role of the private sector, for example, through the privatization of state owned enterprises and other programmes to encourage commercial activity. In addition, they have taken steps to restore and maintain macroeconomic stability through the devaluation of overvalued national currencies, the reduction of inflation rates and budget deficits. As part of these reforms, African countries have also improved their regulatory frameworks for FDI, which are now far more open to FDI, permitting profit repatriation and providing tax and other incentives to attract investment.

Furthermore, realizing that because of a negative image of Africa as a whole, it may not be sufficient to improve the investment climate and have economic determinants in place to catch investors' attention, many African countries have established investment promotion agencies to change this image as well as facilitate investment in their countries. In the Southern African Development Community (SADC), for example, all 14 member states have established such agencies. Since 1995, Investment Promotion Agencies (IPAs) from 25 African countries had joined the World Association of Investment Promotion Agency (WAIPA) by the year 2007 in order to benefit from an exchange of information on best practices in investment promotion among the member agencies. Some African agencies such as the Uganda Investment Authority (UIA) are widely respected as successful agencies that adopt state-of-the-art practices in all areas of promotion (Tillett, 1996). According to UNCTAD (2005), further increases in FDI to developing countries are expected in the near future due to expected favorable economic growth wide spread consolidation, corporate restructuring, profit growth persistence and the continuation of the pursuit of new markets by industries in the source countries.

However, Abdulhamid et al, (2003) note that despite the several incentives, FDI inflows to Africa are still small in absolute terms but nonetheless, they have greater impact on their economies. According to Asiedu (2002), the slow growth of FDI in African countries is attributed to the fact that these countries are perceived as inherently risky and that can be a factor which likely keeps FDI away from the region. Investors are concerned about risks associated with probability of adverse changes. These risks and pessimisms could involve contagion effects and are usually due to war, famine, massive corruption, failure of projects, and poor governance. Africa received only a modest

amount of FDI even though the rate of return in many African countries has been higher than that of other developing countries. This suggests that the risks are perceived to be higher for Sub-Sahara African countries than for other regions (Bhattacharya et al., 1996).

Despite the slow growth, FDI in Africa has evolved into a major source of development finance, accounting for nearly two-thirds of total net capital flows in 2001 as compared to 34.0% through official outflows (UNCTAD, World Investment Report, 2003 cited in BOU, UIA and UBOS PSIS 2003 report). Between 1996 and 2000, sources of FDI to Africa were mainly dominated by the USA, France and the United Kingdom, 37.0 %, 18.0%, 13.0% respectively. The average share of FDI flows in gross domestic capital formation averaged 13.9 percent for Africa as a group compared to 11.1 percent and 16.8 percent for Asia and Latin America, respectively, during 2000-2003 (Abdulhamid et al, 2003).

In Uganda, increasingly, FDI is assuming a prominent role in the development and growth strategies more so because of inadequate resources to finance development projects. Because of its presumed benefits to the host country economies, proponents of FDIs such as the World Bank and International Monetary Fund (IMF) strongly encourage countries to attract more FDIs as a way of stimulating and increasing efficiency of resource allocation (Kiiza, 2007). In addition, it is argued that FDI enhances economic growth through technology spillover, creates employment, reduces dependence on accumulation of debt as a source of development financing and enhances human capital and entrepreneur skills. Thus, in the face of Uganda's growth challenges, the country is now pursuing domestic policies that are geared at attracting more FDI.

After a long period of political and economic turmoil especially between 1970 and 1985, FDI has become a significant feature of Uganda's economic outlook. Since 1992, Uganda has witnessed a large number of FDI inflows, which have been due to the response to policy reforms adopted by the National Resistance Movement (NRM) government. This government pursued stabilization and structural adjustment policies with the assistance of the International financial Institutions (IFIs). The ultimate objective of the stabilization programs was to attain a favorable Balance Of Payment (BOP) and International Investment Position (IIP), overall macro-economic stability and sustainable levels of economic growth.

Therefore, to achieve the set objectives, government was committed to eliminating distortions, which had characterized the economy before 1990. This meant increasing reliance on the market mechanism to guide resource allocation. Official Development Assistance (ODA), loans and grants, together with private transfers and FDIs have been increasingly received in the country to facilitate growth and development efforts.

Supportive policy reforms have worked in the economy to attract FDI inflows and according to Ssemogerere et al (2000), the first policy episode started with the relief and rehabilitation program of 1986. This was aimed at resettling the populations displaced by civil wars, restoring essential infrastructures and social services, and reviving the production of essential commodities like basic consumer goods and so on. This was followed by the launching of the Economic Recovery Program (ERP) in May 1987. The IMF, World Bank and bilateral donors supported this program under co-financing arrangements. The major objectives were to rebuild essential infrastructure particularly

roads to support import substitution and primary exports sectors and to correct the overvalued exchange rates. These measures were to collectively revive growth.

According to statistics from the World Development Indicators (WDIs), FDI inflows have grown tremendously from approximately US\$4.2 million in 1970 to US\$ 202 million in 2003 (WDI, 2006 cited by Kiiza, 2007). Over the last two decades, the country has undertaken both economic and structural adjustment strategies aimed at attracting more FDI. The economic and structural adjustment programmes include; liberation of the exchange rate regime, introduction of tax incentives for foreign investors, privatisation of state enterprises and providing a general conducive regulatory framework and investment climate among others.

In 2002 alone, UNCTAD (2004) reports that FDI inflows to Uganda hit a record level of \$202 million. The increase was mainly explained by the country's liberal policy in telecommunication and manufacturing sectors. The three largest affiliates of foreign trans-national companies in Uganda in 2002 included Uganda Breweries from Kenya, Ugandan Bata Shoe Company from Switzerland and General Mouldings from Kenya.

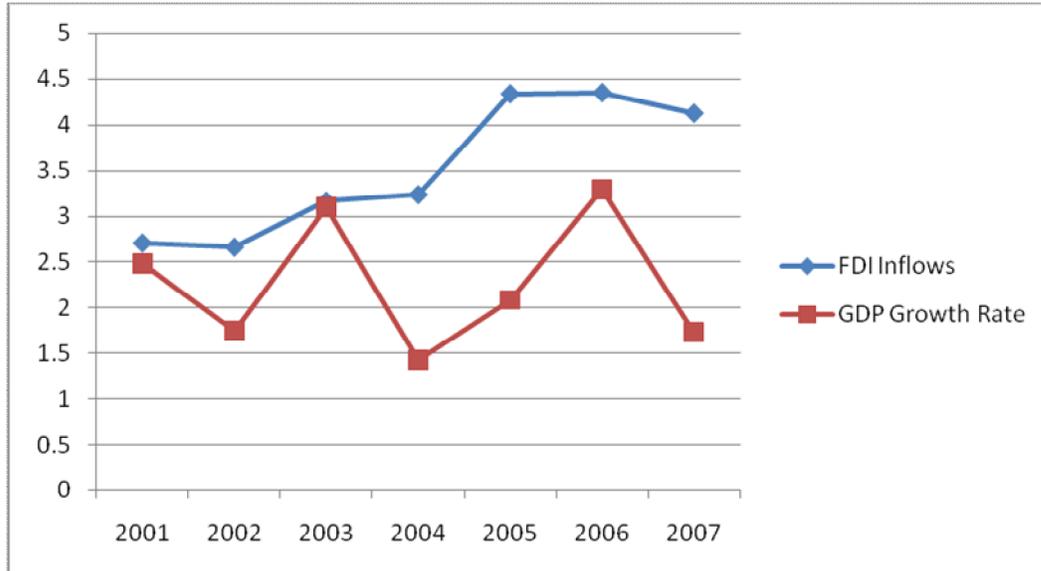
The largest portion of FDI has been attracted by the manufacturing sector, which had more or less collapsed after the expulsion of Asians and the nationalization of most of the industries. The privatization of public companies (parastatals), return of confiscated enterprises and properties back to expelled Asians during the Amin era (1971-1979) and the proactive role played by the UIA are some of the other factors that positively impacted on the attraction of FDI to the manufacturing sector.

In addition, the liberalization of the economy coupled with local demand for services such as the use of mobile telephones attracted investments from big players on both the

regional and international scene such as Celtel by then and the Mobile Telecommunication Network (MTN). Moreover, income growth and technological progress have boosted the provision of services through various forms of cross-border relationship in several sectors such as management and franchise contracts in hotels, restaurants and car rentals; joint ventures in some business services, recreational services, legal and accounting services, civil engineering and so on.

Nonetheless, there are theories and empirical studies which indicate that there is a reverse causation from economic growth to increased FDI. Some authors further caution that there are several risks and repercussions to host countries associated to FDI inflows such as “crowding out” which is the apparent domination of the domestic economy by the foreign companies leading to decreased competition and in some instances monopoly of the domestic economy by the foreign firm(s). Other risks and negative impact could include; reduced investment as a result of financial and capital resource drains, hindrance of capital formation, increase in unemployment and the possibility of brain drain from the developing countries to developed countries. To demonstrate this argument figure 1.1 below shows that whereas FDI rates are increasing, that of GDP seems to be falling and this is against the above theory.

Figure 1.1: FDI-Net Inflows and GDP Growth Rate of Uganda



Source: *World Development Indicator, 2008*

Information from Figure 1.1 indicates that FDI net inflow (percentage of GDP) since 2001 have been steadily increasing from 2.6 to 4.4 percent in 2005 and then decreasing slightly to about 4.1 percent in 2007 whereas real GDP growth rates trend has been inconsistent, falling in one year and increasing in the other but not following the trend of FDI inflows which is not in line with the theory. It is upon on these inconsistencies in the trend of both FDI and growth rates in Uganda that we base our problem of the study.

Basing on the statistics in Figure 1.1, despite the considerable volume of research on the subject, there is conflicting evidence in the literature regarding the question as to whether FDI relates to economic growth in developing countries and in this context Uganda. On one hand, FDI is seen by many as an important element in the solution to the problem of scarce local capital and overall low productivity in many developing countries (Eller, et. al, 2005). Hence, the flow of foreign direct capital is argued to be a potential growth-

enhancing player in the receiving country. This view is however challenged by many authors. For example, Carkovic and Levine (2002) show that there is no robust impact from FDI on growth if country-specific level differences, endogeneity of FDI inflows and convergence effects are taken into account.

1.1 Problem Statement

The role of FDI in the growth process of an economy has long been a topic of discussion in several countries (Moran 2002, Blomstrom et al 1994, Lensink and Morrissey 2006, Kerr et al 1995, Obwona 1999 and Kokko, 1996). These discussions have provided immense insights into the relationship between FDI and growth but the empirical evidence are rather mixed, with some finding a positive and others a negative relationship between FDI and economic growth. Few studies on this subject have been done on Uganda and these include the joint surveys by BOU, UIA, UBOS (2001-2008), Obwona, 2001 and Kiiza, 2007). Inward FDI has been increasing steadily in Uganda at least for the last two decades (BOU, UIA and UBOS, 2003) and for instance FDI inflow as a percentage of gross domestic product in 1990 was 0.2 percent, 2.6 percent in 2000, 4.4 percent in 2006 and 4.2 percent in 2007 showing a rising trend (WDI, 2008).

Given the trend of FDI inflows, we would theoretically expect economic growth to move in the same direction, but this is not the case for Uganda given the statistics available (Figure 1.1). The question then is: Does FDI impact positively on growth? Specifically does Uganda benefit from FDI inflows? The little theoretical and empirical studies have not been able to generate consistent evidence. This study therefore, examined the significance of FDI inflows to Uganda's economy.

1.2 Objective of the study

The objective of the study is to identify the relationship between FDI and economic growth in Uganda.

1.3 Hypothesis of the Study

The study tests one key hypothesis: FDI positively impact on economic growth.

1.4 Significance and motivation of the study

An in-depth and comprehensive analysis of the impact of FDI in Uganda with special focus on economic growth by researchers is limited. The understanding of the linkage between FDI net inflows and its impact on economic growth is important for the following reason; the quantity of FDI in a capital and technology scarce economy like that of Uganda, necessitates the understanding of the relationship between FDI and economic growth essentially for two reasons:

First, it is believed that FDI plays an ever-increasing role in economic development and growth, the understanding of how to encourage greater quantum of FDI, how and when capital inflows might substitute for other forms of capital and how that capital might best be linked to desirable development outcomes will be a critical public question for Uganda.

Second, consensus in the literature, supported by empirical evidence stipulates that FDI forms an important part of economic growth of nations. For that reason, the results of the study provide the much-needed empirical evidence of the impact of FDI on the economic growth of Uganda.

1.5 Scope of the study

The study focused on the relationship between FDI and economic growth in Uganda covering the period 1970 to 2007. Secondary annual time series data were obtained from the WDIs CD ROM (2008), African Development Indicators, selected statistics for African Countries and BOU, UBOS, UIA and other local sources depending on data availability.

1.6 Organization of the thesis

The study is divided into five chapters. Following the current introductory chapter is chapter two which presents a review of the related literature and theoretical framework. In chapter three the methodology is presented. The empirical analysis is presented in Chapter four while chapter five captures the discussion of the findings; conclusions and recommendations drawn.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The FDI inflow differential and economic growth disparity among countries have created much research interest among economists. There is a large body of theoretical and empirical literature on the impact of FDI on economic growth. The existing evidence is however mixed with some showing positive spillovers while others reporting limited or no evidence. In this chapter, the researcher presents a review of the existing theoretical, conceptual and empirical research studies that have been undertaken to ascertain the relationship between FDI and economic growth. The chapter highlights the arguments and findings that have been advanced by the different scholars

2.2 Theoretical Overview

Economic theory provides conflicting predictions about the effects of FDI on growth. According to Kokko (1996), spillovers occur when the entrance or presence of Multinational Enterprises (MNEs) affiliates leads to productivity or efficiency benefits in the host country's local firms and the MNEs are not able to internalize the full value of these benefits. Similarly, negative externalities exist when the entrance or operations of FDI lead to productivity or efficiency loss among domestic firms and foreign affiliates do not have to compensate domestic firms for their loss (Mutenyo, 2008). For that matter, FDI in presence of pre-existing trade, price, financial and other distortions will hurt resource allocation and slow growth.

Foreign firms are expected to compete favorably especially with more informed large domestic firms because former are assumed to possess non-tangible productive assets such as technological know-how, marketing and managerial skills, export contacts, coordinated relationship with suppliers and customers and reputation (Aitken and Harrison 1999). Such knowledge is easily transferred from parental firms abroad to a host country through their affiliates which leads to increase in the productivity of domestic firms. However, there is growing controversy about technological spillover of FDI although the general consensus is that multinational corporations have more advanced technology, such that when they enter a new market (economy) through Direct Investment (DI), they carry along the advanced technology and superior managerial practice in order to compete with local firms that are familiar with consumer preferences. The repercussions are two-fold, either local firms are crowded out or they benefit hence increase their productivity.

Specifically it is assumed that some of the technology may diffuse to the local indigenous firms of the host economies through demonstration and imitation effect (Aitken and Harrison 1999). Secondly, interaction with these foreign firms may provide learning opportunities for the domestic firms hence reduce their innovation costs thus improve total factor productivity. The third mechanism is through a combination of human capital accumulation and labour turnover: For instance workers employed by foreign firms accumulate knowledge but as they leave for domestic firms or form their own, they go along with the accumulated human capital that raises the productivity of the domestic firms. Alternatively, firms' productivity may increase when domestic firms are exposed to new products, production and marketing techniques or receive technical skills through

upstream and downstream foreign firms. All these channels which bring domestic firms closer to their foreign counterparts end up enhancing the productivity of domestic firms.

In light of the foregoing theoretical overview, consensus in the literature supported by theoretical evidence seems to be that foreign firms through FDI do transfer technology to their affiliates; a process which can equally allow spillovers to unaffiliated firms in the host economy which in turn increases growth through productivity and efficiency gains by local firms.

2.3 The basic conceptual framework

Within the framework of the neo-classical models that follow Solow (1956), the impact of FDI on the growth rate of output is constrained by diminishing returns to physical capital. Therefore, FDI can only exert a level effect on the output per capita not a rate effect. In other words, FDI cannot alter the growth rate of output in the long run. With this as the framework, FDI cannot be considered seriously as an engine of growth.

In the context of the new theory of economic growth, however, FDI can affect not only the level of output per capita but also its rate of economic growth. This literature has posed various hypotheses that explain why FDI may potentially enhance the growth rate of per capita income in the host country. First, FDI can be considered as one of the main transmission vehicles of advanced technology to developing countries (Borensztein et al., 1998). Generally speaking, Less Developing Countries (LDCs) lack the necessary background in terms of capital, educated population, infrastructure, liberalized markets, economic and social stability and so forth in order to be able to innovate and generate new discoveries and designs. Accordingly, they will have to benefit from the diffusion of technology that originates elsewhere. The technological diffusion from the leader

countries to LDCs can take place through FDI. Technological advances implemented by multinationals may spill over to the rest of the economy, giving rise to beneficial externalities and encouraging domestic private activity.

However, there are prerequisites for host countries to benefit from FDI. Abramowitz, (1986) maintains that a minimal degree of social capacity is required. Social capacity, in turn, is related to an adequate level of human capital, economic and political stability, liberalization of markets and sufficient infrastructure. With regard to infrastructure, Sanchez (1998) empirically explored the correlation among public infrastructure and economic growth in Latin America in the period 1970-1985 and found a positive and significant impact of FDI on the economic growth of the countries of this area.

In view of the above, Benhabib and Spiegel (1994) argue that the ability of an LDC to absorb and make sound use of the flows of foreign investment increases with the level of human capital of the host country. Some studies underlining these features of FDI are Duttaray (2001), Hsiao and Hsiao (2004) and Hyun (2006) among others. In contrast, other studies argue that, in supporting its own interests, FDI may discourage competition and even corrupt the development path of a country. Abdulhamid et al (2003) opine that in theory, FDI is expected to benefit the host country by transferring resources, increasing employment opportunities, improving the balance of payments and transferring technology. These resources have the potential to be diffused into indigenous firms thereby creating more innovation and productivity growth.

Originally, FDI had been seen as “parasitic” and retarding the development of domestic industries for export promotion. However, Bende and Ford (1998) submit that the wide externalities in respect of technology transfer, the development of human capital and the

opening up of the economy to international forces, among other factors, have served to change the former image. In this regard, Caves (1996) affirms that the rationale for increased efforts to attract more FDI stems from the belief that FDI has several positive effects. Among these are productivity gains, technology transfers, introduction of new processes, managerial skills and know-how in the domestic market, employee training, international production networks, and access to markets. Borensztein et al. (1998) see FDI as an important vehicle for the transfer of technology, contributing to growth in larger measure than domestic investment.

On the basis of these assertions governments have often provided special incentives to foreign firms to set up companies in their countries. Carkovic and Levine (2002) note that the economic rationale for offering special incentives to attract FDI frequently derives from the belief that foreign investment produces externalities in the form of technology transfers and spillovers. Recognizing the importance of FDI to their growth, many countries are using specific incentives to attract FDI to flow in. Tax breaks and rebates are examples of such incentives (Tung and Cho, 2001) although the effectiveness of such incentives has been questioned (Guisinger, 1992).

Today, a lot of research has been conducted on the relationship between FDI and economic growth, although most of such work is not situated in Africa. The focus of the research work on FDI and economic growth can be broadly classified into two. First, FDI is considered to have direct impact on trade through which the growth process is assured. Second, FDI is assumed to augment domestic capital thereby stimulating the productivity of domestic investments. These two arguments are in conformity with endogenous growth theories (Romer, 1990) and cross country models on industrialization in which

the quantity and quality of factors of production as well as the transformation of the production processes are ingredients in developing a competitive advantage.

Blomstrom et al. (1994) report that FDI exerts a positive effect on economic growth, but they also note that there is a threshold level of income above which FDI has positive effect on economic growth and below which it does not. According to Blomstrom et al. (1994), the explanation is that only those countries that have reached a certain income level can absorb new technologies and benefit from technology diffusion, and thus reap the extra advantages that FDI can offer. From this assertion De Mello infers that the extent to which FDI is growth-enhancing depends on the degree of complementarity between FDI and domestic investment, in line with the eclectic approach. The degree of substitutability between foreign and domestic capital stocks appears to be greater in technologically advanced countries than in developing countries.

Developing countries may have difficulty in using and diffusing new technologies of MNEs. Findings of Xu (2001) for United States FDI in 40 countries for the period 1966-94 also support the finding of De Mello (1999) that technology transfer from FDI contributes to productivity growth in developed countries but not in developing countries, which he attributes to lack of adequate human capital. Previous works suggest human capital as one of the reasons for the differential response to FDI at different levels of income. This is because it takes a well-educated population to understand and spread the benefits of new innovations to the whole economy. Accordingly, Bengos and Sanchez (2003) assert that even though FDI is positively correlated with economic growth, host countries require minimum human capital, economic stability and liberalized markets in order to benefit from long-term FDI inflows. In view of this, after finding out a positive

correlation between FDI and economic growth, Marta et al (2003) recommended that for the host country to benefit from long-term capital flows, the country requires adequate human capital, economic stability and liberalized markets. This recommendation is in perfect alignment with Abdulhamid et al's (2003) study which examined the effect of FDI on economic growth in Sub-Sahara African countries. In particular, domestic economic conditions such as macroeconomic policy, openness, and domestic investment had a significant positive effect on economic growth.

UNCTAD (1999) submits that FDI has either a positive or negative impact on output depending on the variables that are entered alongside it in the test equation. These variables include the initial per capita GDP, education attainment, domestic investment ratio, political climate, terms of trade, black market exchange rate premiums, and the state of financial development. Examining other variables that could explain the interaction between FDI and growth, Olofsdotter (1998) reports that the beneficiary effects of FDI are stronger in those countries with a higher level of infrastructure capability. He therefore emphasized the importance of bureaucratic efficiency in enabling FDI effects.

Up to now, there is conflicting evidence in the literature regarding the question as to how, and to what extent, FDI affects economic growth. According to Mahmoud and Fatima (2007), FDI may affect economic growth directly because it contributes to capital accumulation, and the transfer of new technologies to the recipient country. To this debate, Findlay, (1978) asserts that FDI increases technical progress in the host country by means of a contagion effect, which eases the adoption of advanced managerial procedures by the local firms. In addition, FDI enhances economic growth indirectly

where the direct transfer of technology augments the stock of knowledge in the recipient country through labor training and skill acquisition, new management practices and organizational arrangements (De Mello, 1999).

Theoretically, however, in the context of either neo-classical or endogenous growth models, the effects of FDI on the economic growth of the receiving country differ in the recent growth models from their conventional counterparts. The conventional economic growth theories are being augmented by discussing growth in the context of an open rather than a closed economy, and the emergence of externality-based growth models. Even with the inclusion of FDI in the model of economic growth, traditional growth theories confine the possible impact of FDI to the short-run level of income, when actually recent research has increasingly uncovered an endogenous long-run role of FDI in economic growth determination (De Mello, 1997). According to the neo-classical models, FDI can only affect growth in the short run because of diminishing returns of capital in the long run.

Nevertheless, most studies generally indicate that the effect of FDI on growth depends on other factors such as the degree of complementarity and substitution between domestic investment and FDI, and other country-specific characteristics. Buckley et al, (2002) argue that the extent to which FDI contributes to growth depends on the economic and social conditions in the recipient country. Countries with high rate of savings, open trade regime and high technological levels would benefit from increase in FDI to their economies. However, FDI may have negative effect on the growth prospects of the recipient economy if they result in a substantial reverse flows in the form of remittances of profits, and dividends and/or if the multinational corporations (MNCs) obtain

substantial or other concessions from the host country. Bengoa and Sanchez (2003) argue that in order to benefit from long-term capital flows, the host country requires adequate human capital, sufficient infrastructure, economic stability and liberalized markets. The view that FDI fosters economic growth in the host country, provided that the host country is able to take advantage of its spillovers is supported by empirical findings in De Mello (1999) and Obwona (2001).

According to Seetanah and Khadaroo (2005), FDI is a particularly key ingredient of successful economic growth in developing countries because the very essence of economic development is the rapid and efficient transfer and cross border adoption of best practices, be it managerial and technical best practice or deployment of technology from abroad. Proximity and better access to large market is also well known to attract FDI that in turn implies often accelerated technology transfer. As such, better worker training dispensed by foreign investors has often been argued to raise the level of productivity. FDI can thus speed up the structural shift of the economy by acting as a catalyst for inward investment by complementing local resources and providing a signal of confidence in investment opportunities (Agosin and Mayer, 2000). New FDI projects may invite complementary local private investments that provide inputs to, or use outputs of the foreign firm.

Hermes and Lensink (2000) summarised different channels through which positive externalities associated with FDI can occur namely: i) competition channel where increased competition is likely to lead to increased productivity, efficiency and investment in human and/or physical capital. Increased competition may lead to changes in the industrial structure towards more competitiveness and more export-oriented

activities; ii) training channel through increased training of labor and management; iii) linkages channel whereby foreign investment is often accompanied by technology transfer; such transfers may take place through transactions with foreign firms and iv) domestic firms imitate the more advanced technologies used by foreign firms commonly termed as the demonstration channel.

The importance of economic growth to attracting FDI is closely linked to the fact that FDI tends to be an important component of investing firms' strategic decisions. In fact Brewer (1993) suggests three hypotheses in explaining strategic FDI projects namely, efficiency seeking hypothesis, resource seeking hypothesis and market seeking or market size hypothesis. Pfefferman and Madarassy (1992) state that market size is one of the most important considerations in making investment location decisions for three reasons: larger potential for local sales, the greater profitability of local sales than export sales and the relatively diverse resources which make local sourcing more feasible. In other words, the market size hypothesis predicts that markets with large populations and/or rapid economic growths (as measured by real GDP per capita or its growth) tend to give multinational firms more opportunities to generate greater sales and profits and thus become more attractive to their investments.

However, FDI may have negative effects on the growth prospects of the recipient economy if they give rise to a substantial reverse flows in the form of remittances of profits, and dividends and/or if the Transnational Corporations (TNCs) obtain substantial or other concessions from the host country. FDI may not lead to growth rate because MNCs tend to operate in imperfectly competitive sectors (with high barriers to entry or a high degree of concentration). As a result, FDI may crowd out domestic savings and

investment. For instance, Agosin and Mayer, (2000) analyzed the effect of lagged values of FDI inflows on investment rates in host countries to examine whether FDI crowds-in or crowds-out domestic investment over the 1970-95 period. They conclude that FDI crowds-in domestic investment in Asian countries crowds-out in Latin American countries while in Africa their relationship is neutral (or one-to-one between FDI and total investment). Therefore, they conclude that effects of FDI have by no means always favourable and simplistic policies are unlikely to be optimal.

Moreover, FDI may have a negative impact on the external balance because profit repatriation will tend to affect the capital account negatively. It is also at times associated with enclave investment, sweatshop employment, income inequality and high external dependency (Ramirez, 2000).

2.4 Empirical literature

This section reviews the recent empirical evidence on the effect of FDI on growth hypothesis. According to Seetanah, et al (2005) the economic impact of FDI remains more contentious in empirical than in theoretical studies. While many studies observe positive impacts of FDI on economic growth, others also reported a negative relationship and among the main reasons for this controversy remain data insufficiency and methodological flaws. Curiously, the empirical evidence of these benefits both at the firm level and at the national level remains ambiguous. The majority of studies, however, conclude that FDI contributes to total productivity and economic growth.

Among the popular and influential work features Borensztein et al (1998) who tested the effect of FDI on economic growth in a framework of cross-country regressions for 69 developing countries. Their results suggested that FDI was in fact an important vehicle

for the transfer of technology, contributing to growth in larger measure than domestic investment. Analyzing whether FDI stimulate economic growth in Sub-Saharan Africa, Mutenyo (2008), found that FDI has a positive impact on economic growth but its significance reduced when he controlled for private investment. De Gregorio (2003), while contributing to the debate on the importance of FDI, notes that FDI allows a country to bring in technologies and knowledge that are not readily available to domestic investors, and in this way increases productivity growth throughout the economy.

Earlier works by De Gregorio (1992) which analyzed a panel of 12 Latin American countries in the period 1950-1985, the results suggested a positive and significant impact of FDI on economic growth. In addition the study showed that the productivity of FDI was higher than the productivity of domestic investment.

Similarly, Campos and Kinoshita (2002) investigated the effects of FDI on 25 transitional economies of the former Soviet Bloc. Their results concurred with those of Borensztein et al (1998), indicating that FDI is a significant factor in economic growth. Dees (1998) submits that FDI has been important in explaining China's economic growth, while De Mello (1997) presents a positive correlation for selected Latin American countries. Nyatepe-Coo (1998) also assessed the contributions of FDI to economic growth in selected countries in Southeast Asia, Latin America and Sub-Saharan Africa covering the period 1963-1992 following the work of Borensztein et al., (1998). The authors reported that FDI did promote economic growth in the majority of the 12 countries examined.

Using Thailand annual macroeconomic data for the 1970-1999 periods and adding export openness, Kohpaiboon (2003) showed that FDI is positively correlated with GDP growth in Thailand. Similarly, Marwah and Tavakoli (2004) examined Indonesia, Malaysia,

Philippines, and Thailand separately. Their results showed that FDI has a positive impact on GDP growth for all four countries.

De Mello (1999) attempted to find support for an FDI-led growth hypothesis with time series analysis and panel data estimation for a sample of 32 OECD and non-OECD countries covering the period 1970-1990. His work estimated the impact of FDI on capital accumulation and output growth in the recipient economy. In the same vein, Wang (2002) used data from 12 Asian economies over the period of 1987-1997 and found that total FDI inflows significantly affect economic growth. Disaggregating the types of flows entering these economies, she found that only FDI in the manufacturing sector has a significant and positive impact on economic growth and attributes this positive contribution to FDI's spillover effects.

Li and Liu (2005) also investigated the hypothesis in both developed and developing countries using a large cross-country sample for the period 1970 to 1999. FDI and economic growth were reported to become significantly complementary to each other and form an increasingly endogenous relationship only from the mid-1980s. Li and Liu found that there was a strong complementary connection between FDI and economic growth in both developed and developing countries. They furthermore reported that FDI not only directly promoted economic growth by itself but also indirectly did so via human capital hence facilitating in the improvement the know how and managerial skills of local firms (the learning by watching effect). Moreover FDI stimulates the development and propagation of technological skills through multinational corporations, internal transfers and through linkages and spillovers among firms (Borensztein et al, 1998). Besides, Borensztein et al., (1998) found a strong complementary effect between FDI and human

capital, that is, the contribution of FDI to economic growth was enhanced by its interaction with the level of human capital in the host country. Earlier works by De Gregorio (1992) for a panel of 12 Latin American countries and Blomstrom et al (1994). Bende-Nabende, Ford, Sen and Slater (2000) also found that less advanced countries' output responded more to among other variables FDI and human capital than that of advanced countries.

Balasubramanyan et al. (1996) report positive interaction between human capital and FDI. They had earlier found significant results supporting the assumption that FDI is more important for economic growth in export-promoting than import-substituting countries. This implies that the impact of FDI varies across countries and that trade policy can affect the role of FDI in economic growth.

In the same line, another study was conducted by Borensztein, et. al, (1995) which included 69 developing countries in their sample. The study found that the effect of FDI on host country growth is dependent on stock of human capital. They infer from it that flow of advanced technology brought along by FDI can increase the growth rate only by interacting with country's absorptive capability. They also find FDI to be stimulating total fixed investment more than proportionately. In other words, FDI crowds-in domestic investment. However, the results are not robust across specifications.

Higher level of development allows countries to reap the benefits of productivity fostered by foreign investment. For similar reasons, Borensztein et al. (1995) found significant relations between FDI flows and economic growth to be dependent on the level of human capital. Host countries with better endowment of human capital are believed to benefit more from FDI induced technology transfer as spillover-effects than others with less

human capital. They therefore suggest that the differences in both human and the technological absorptive ability may explain the variation in growth effects of FDI across countries and consequently GDP. They suggest further that countries may need a minimum threshold stock of human capital in order to experience positive effects of FDI. It should however be noted that although FDI contributes positively to economic growth, Adeolu (2007) study revealed that openness to trade and available human capital, are not FDI inducing. The importance of education to economic growth is proxied by the ratio of secondary and tertiary institution enrolment in the population. Barro and Lee (1994) and Akinlo (2004) included this variable in their growth equation and found a direct relationship. Borensztein et al. (1998), however, found a conditional relationship, where the relationship was indirect below some threshold and positive thereafter.

Bende and Ford (1998) found an indirect relationship between human capital and growth in Taiwan. In Adeolu's (2007) study which investigated FDI and Nigeria's economic growth, human capital had no statistically significant relationship to overall economic growth and according to him this suggested that there is a shortage of skilled labour in the country. However, it had been posited that efficiency seeking FDI will tend to locate in those destinations that are able to supply skilled and disciplined labour force. In fact, in the work of Fung et al (2000) it was found out that although labour quality is an important determinant of FDI, low labour costs were insignificant determinants of FDI. Owing to this, Otepola (2002) concluded that for any significant contribution of human capital to economic growth, there is a need for conscious development in a new and innovative way.

One of the conditions for location of efficiency-seeking FDI is that there is an ample supply of skilled and disciplined labour. Obwona (2004) notes that although labour appears to be cheap in Africa, there is nonetheless an overall shortage of skilled labour on the continent. He adds that the lack of middle or senior level entrepreneurial experience has increased the existing skill gap, and many foreign companies have resorted to employment of expatriate managers (Bhinda et al., 1999). This is the situation in Uganda, where foreign companies and many conglomerates prefer expatriates as their senior managers. The companies only hire Ugandans on the condition of retraining and mostly this training is done outside the country.

However it should be pointed out that some studies have not established any positive relationship between FDI and growth. Even when the relation is positive, the effects tend to be weak. For instance Carkovic and Levine (2002) used a mix of countries and analyzed a data sample of 72 countries, ranging from the United States to Rwanda that included aggregate FDI flows to each of the countries. Employing both panel and cross-section data to investigate the issue using both OLS and Generalized Method of Moments (GMM) methods of estimation, the results of their analyses indicated that the exogenous component of FDI had no effect on growth.

Hein (1992) avers that FDI may have negative effect on the growth prospect of the recipient economy if they give rise to a substantial reverse flows in the form of remittances of profits, particularly if resources are remitted through transfer pricing and dividends and/or if the transnational corporations (TNCs) obtain substantial or other concessions from the host country. For instance, Singh, (1998) found FDI penetration variable to have a little or no consequences for economic or industrial growth in a sample

of 73 developing countries. In the same way (Hein, 1992) reported an insignificant effect of FDI inflows on medium term economic growth of per capita income for a sample of 41 developing countries.

Fry (1992) examined the role of FDI in promoting growth by using the framework of a macro-model for a pooled time series cross section data of 16 developing countries for the period 1966-1988. The countries included in the sample are Argentina, Brazil, Chile, Egypt, India, Mexico, Nigeria, Pakistan, Sri Lanka, Turkey, Venezuela, and 5 Pacific basin countries viz. Indonesia, Korea, Malaysia, Philippines, Thailand. For his sample as a whole he did not find FDI to exert a significantly different effect from domestically financed investment on the rate of economic growth, as the coefficient of FDI after controlling for gross investment rate was not significantly different from zero in statistical terms. In fact, FDI had a significant negative effect on domestic investment suggesting that it crowds-out domestic investment.

Durham (2004) also failed to identify a positive relationship between FDI and economic growth, but instead suggests that the effects of FDI are contingent on the absorptive capability of host countries. Aitken and Harrison (1999) argue that there is no significant positive relation between FDI and economic growth.

Balasubramanyam et.al, (1996) carried out a study on FDI and economic growth. Export-oriented strategy and the effect of FDI on average economic growth rate for the period 1970-85 for the cross-section of 46 countries as well as the sub-sample of countries that are deemed to pursue export-oriented strategy was found to be positive and significant and some times negative for the sub-set of countries pursuing inward-oriented strategy.

On his part, Alfaro (2003) used cross-country data for the period 1981 to 1999 and examined the impact of FDI on growth in the primary; manufacturing and services sectors. The findings showed that the benefits of FDI vary greatly across sectors. In particular, FDI in the primary sector had a negative effect on growth while this relationship was positive for the manufacturing sector, and ambiguous in the service sector. Lensink and Morrissey (2006), using a cross-section panel data and instrumental variable technique found that FDI has a positive impact on growth but their findings were conditional on the level of human capital development in the host country.

Furthermore, albeit FDI inflows had a significant positive effect on the average growth rate of per capita income for a sample of 78 developing and 23 developed countries as found by Blomstrom et.al (1994), when the sample of developing countries was split between two groups based on level of per capita income, the effect of FDI on growth of lower income developing countries was not statistically significant although still with a positive sign. They argue that least developed countries learn very little from MNEs because domestic enterprises are too far behind in their technological levels to be either imitators or suppliers to MNEs.

Durham's (2004) study, the outcomes of the findings revealed that FDI only has a positive effect on growth in countries with strong financial systems. Additionally, he found out that only countries with high quality governance, as evidenced by strong institutional development and investor-friendly legal environment, enjoy positive effects of FDI on growth. Also using data on developing countries, Hsiao et al (2003) found that institutional strength and high levels of urbanization are conditions for positive effects of FDI on growth. Chakraborty and Basu (2002) found that GDP growth in India is not

influenced by FDI. Instead, the causality they found was from GDP growth to FDI, with trade liberalization weakly increasing the flows of inward FDI.

Studies investigating the role of infrastructure in FDI in the African context have been very scarce and among the rare ones feature Asiedu (2002) who analysed 34 countries Africa over the period 1980-2000. Using the number of telephones per 1000 population to measure infrastructure development and controlling for classical FDI determinants she concluded that countries that improved their infrastructure were rewarded with more investments. In fact a one unit increase in infrastructure was estimated to lead to a 1.12 percent increase in FDI/GDP in the 1980s. While some studies found the importance of infrastructure for FDI, there are also other studies which failed to validate the hypothesis. For instance Quazi (2005) could not establish positive and significant relationship between infrastructure (measured as the number of telephones per 1,000 people) and FDI using panel data from 1995-2000 for a sample of seven East Asian countries.

Therefore, despite the adduced evidence presented in recent studies, there are several theoretical arguments why developing countries may not gain from FDI. Krugman (1998) argues that the transfer of control from domestic to foreign firms may not always be beneficial to the host countries because of the adverse selection problem. FDI undertaken within a crisis situation under “Fire Sale” may transfer ownership of firms from domestic to foreign firms that are less efficient. This concern is particularly important to the developing countries where, as part of privatization, state owned enterprises are sold to foreign firms simply because foreign firms have more available funds than domestic ones. As pointed out by Salz (1992), FDI may also “crowd out” domestic firms through unfair competition. There is also a concern that the enclave nature of many foreign

owned firms and their minimal linkage to the rest of the economy could reduce the potential spillover contribution to the national economy. Moreover, the potential subsequent outflow of foreign firms' subsidiary earnings to their parent companies could also cause deterioration in the balance of payments. It is also argued that foreign corporations tend to produce inappropriate goods that are tailored to satisfy the wealthy portion of the host country's consumers, thereby increasing inequality and engaging in transfer pricing (Abdulhamid et al, 2003).

Therefore, growth enhancing effect of FDI is not, automatic, but depends on various country specific factors. UNCTAD (1999) indicates that the positive effect of FDI is stronger the higher the level of development of a host country. Higher level of development allows countries to reap the benefits of productivity fostered by foreign investment. For similar reasons, Borensztein et al. (1998) have found that significant relations between FDI flows and economic growth depend on the level of human capital. Host countries with better endowment of human capital are believed to benefit more from FDI induced technology transfer as spillover-effects than others with less human capital.

Evidence adduced from the preceding review shows that most of the empirical research that has been undertaken in this area (such as Mutenyo, 2008, David N, 2007) settled for a number of countries (SSA) to establish the relationships between FDI and economic growth. There is therefore limited exhaustive country specific research studies on Uganda to establish the relationship and interaction between FDI and economic growth. Chowdhury and Mavrotas (2005) proposed that individual country studies be carried out to ascertain the impact of FDI on economic growth. This provided a major incentive for this study especially for Uganda where there are virtually few studies undertaken to

ascertain the influence of FDI on economic growth and for a country specific analysis, time series method of data analysis is appropriate.

2.5 Trends of FDI Inflow to Uganda

Until 1990s, factors that influenced FDI in Uganda included macroeconomic and political instability; complex administrative bureaucracies; undeveloped physical, human and financial assets; high global market competition; narrow markets most of which in their nascent stages; credibility of the bilateral relations with foreign states; and negative investor perceptions. In fact, like other African nations political leaders in Uganda had hostile policies regarding private sector development and FDI in particular. There was a widespread concern about the loss of control over major enterprises especially if foreigners are involved. Aside from the lack of macroeconomic stability and economic growth, there were many other structural rigidities and institutional factors that kept FDI away from Uganda. It was not until the second half of the 1990s that large scale privatization programs were initiated.

Since the liberalization of Uganda's economy in the early 1990s, Uganda has made considerable efforts to improve its investment climate by liberalizing its investment regulations and offering incentives to foreign investors (UNCTAD, 1998). More importantly, the country has initiated economic reforms aimed at increasing the role of the private sector, for example, through the privatization of state owned enterprises and other programmes to encourage commercial activity. In addition, steps have been taken to among other things improve infrastructure facilities, restore and maintain macroeconomic stability through the devaluation of overvalued national currencies, the reduction of inflation rates and budget deficits. For example a joint survey by the BOU, UIA and

UBOS (2006) on firm level investment: determinants and constraints, the analysis revealed that turnover, profit and credit are significant determinants of firm level investment. On the basis of the study findings, a number of strategies were suggested one which among other factors involved improvement in the infrastructure services to reduce transactions costs that affect investors in the Ugandan economy.

Specifically, the survey showed that power supply is the most recognized critical and daunting constraint to investment and the growth of firms. The share of production lost due to power outages and fluctuations average 6.3 percent in manufacturing. It was therefore recommended that the government needs to fast track policies to increase power generation, transmission and distribution as a matter of urgency. Other key services such as water and sanitation, telecommunications and transportation and storage were also seen as constraints to the operation and growth of firms. In particular, the quality and price of these services was emphasized as key factors hampering profitability and expansion of existing firms. Thus, once transactions costs are reduced productivity at firm level will rise and it would be possible to unleash a new growth spurt that the economy needs. In the same way, the survey recommended that the poor ratings of Uganda's investment climate at the global level need to improve to reduce the costs of doing business, reflecting administrative procedures, licensing, lack of transparency and predictability of tax and other regulatory obligations which were perceived as being high. It should be recalled that in the 1990s, Uganda took a major economic stride to remove exchange controls and freed both the current and capital accounts thus, fully liberalizing both the domestic and external sectors of the economy. This resulted into increased influx of private investment to take advantage of the economic stability and growth. Since the

liberalisation of the economy in the 1990s, the growth of private sector investment in Uganda has been driven by foreign inflows in the form of either FDIs or portfolio investments (BOU, UIA and UBOS 2008). Uganda has actively promoted the private sector as an engine of economic growth and development. This sector continues to benefit from the overall macroeconomic stability resulting from formulation of appropriate domestic and external sector policies.

Consensus in the literature, supported by empirical evidence stipulates that there is a positive relationship between FDI and growth. The spill over effects of FDI directly and indirectly have stimulated growth in African countries (BOU, UIA and UBOS 2003). For the last decade or so, African countries have made efforts to attract FDI by designing and implementing reform policies geared at attracting foreign capital. To a significant level, the continent has managed to revamp its capacity to absorb the spillovers generated by FDI and converting these dividends into growth and poverty reduction.

In Uganda, the Uganda Investment Authority (UIA) has kept Uganda's competitiveness on track by constantly refining its investment promotion strategy by maintaining an exemplary trend in attracting FDI within Africa mainly due to the political and economic stability. In 2001, Uganda was cited in the World Investment Report 2002, to be the 11th top investment spot in Africa, out of 53 countries. In 1999/2000, Uganda maintained a GDP growth rate of 5.9% in real terms and 5.7% in 2000/01. The infrastructural developments in Uganda maintained an upward trend over the last three years. The Transport and Communication sectors grew at a rate of 9.0%, which was mainly driven by the expansion of the fully liberalized and privatized telecommunication sector (which grew by 20.5% about the same period).

In 2001, Bank of Uganda in conjunction with the Uganda Bureau of Statistics (UBOS) and Uganda Investment Authority (UIA) conducted a survey on Private Capital Flows (PCF-2001 Survey) and the findings from the PCF-2001 Survey revealed that FDI forms an important part of Uganda's development, totaling to US\$0.96bn (19% of GDP) as at end of 2000. On a net basis, flows were roughly the same as earlier estimated. Foreign liabilities stocks recorded increased by 19.0% from US\$903m (16.0% of GDP) in 1999 to US\$1,072m (23.0% of GDP) in 2000.

The PSIS 2008 results revealed that, private sector investments in Uganda have continued to grow and provide impetus for sustained economic growth. The preliminary findings of the survey indicated that actual investments increased by 24.2 percent, entity turnover by 22.7 percent, employment by 10.6 percent, and compensation of employees by 18.9 percent between 2006 and 2007, all revealed positive trends. This is an indication that Uganda is a competitive investment destination and the private sector continues to contribute to economic growth. There is need to consolidate the achievements registered in the attraction and retention of private investments.

Over the two years surveyed (2006 and 2007) by BOU, UIA and UBOS (2008), Uganda's economy experienced robust growth of 8.2% in 2007 up from 7.0% in 2006. This was a remarkable performance when compared with the average growth of 5.2% achieved by the non-oil producing African countries in 2006. Maintaining such robust growth was primarily attributed to sound macroeconomic policies; acceleration of supply-side reforms and removal of bottlenecks to private sector growth and competitiveness. With regard to FDI, the preliminary findings by BOU, UIA and UBOS (2008) showed that the net FDI flows in terms of liabilities were dominated by equity

flows which accounted for 72.8% or US\$90.9 million in 2006 when compared to net debt related inflows with US\$34.0 million or 27.2%. In 2007, net FDI flows increased to US\$253.8 million from US\$124.9 million registered in 2006. Net equity related flows in 2007 increased to US\$210.4 million (82.9%) of which, returned earnings was US\$153.9 million and new equity flows US\$56.5 million. The net transaction in form of long-term debt from related sources rose to US\$36.5 million in 2007 from US\$12.9 million registered in 2006. In Book Value (BV) terms, and on account of increase flows in 2007, FDI stock level increased from US\$1,143.5 million in 2006 to US\$1,397.0 million recorded in 2007.

Obwona (2001) using both qualitative and quantitative data found that FDI impacts on growth positively on economic growth. Oscar (2007), looking at causality between FDI and Economic growth of Uganda, found evidence that there is a one way causality from FDI to GDP for Uganda and this implies that FDI impact positively on the economic growth. In Opolot et al survey (2008) the number of telephone lines per 1000 people was positively and significantly related to FDI.

2.7 Summary of the literature

Existing empirical evidence, in contrast with more settled theoretical evidence, have shown mixed results about the relationship between FDI and economic growth of the host countries. Several reasons can be advanced to explain such disparity of empirical results. To mention a few, first, tests are traditionally conducted using data sets usually belonging to heterogeneous groups of countries. Second, previous studies have used a variety of theoretical models. Third, empirical studies have usually implemented a number of different econometric techniques in testing and estimation. Available evidence for

developed countries seems to support the idea that FDI is positively related to economic growth. For the case of developing countries, FDI's impact on growth remains ambiguous with some finding positive spillovers while others reporting limited evidence. Further more, a review of the literature reveals that empirical evidences from African economies have been very scarce and moreover mixed results exist in the literature research of FDI and economic growth. In this thesis an attempt was made to bring on new evidences from African economies with particular reference to Uganda on the role of FDI flow to the economic growth of the country.

CHAPTER THREE:

METHODOLOGY

3.0. Introduction

This chapter describes the frame work within which the research was conducted. The chapter presents the specified model, data source, model estimation technique and analysis.

3.1 The Model

The specified model took the following form.

$$Y=f (FDI,K_D,LAB,INFRA)..... (1)$$

Where;

Y = Gross Domestic Product

FDI = Foreign Direct Investment

K_D = Domestic Capital

LAB = Domestic Labor Force

INFRA; Infrastructure Development (proxied as telephone lines per 1000 people)

Studies on FDI have used several different proxies for the infrastructure variable (see Root, and Ahamed 1978; Nonnemberg and Cardoso 2002; Jaumotte 2004 among others). Unfortunately however, complete time series data on most of these proxies is not readily

available for the period under study (1970-2007). Consequently, this study followed Morisset (2000) and Nizar and Singleton (2001), among others and uses the number of telephone lines (landlines and mobile) per 1000 people in a country as a proxy for infrastructure. This has been reported to be a consistent and reliable measure of economic growth which has been extensively employed in the FDI literature (Asiedu, 2002; Loree and Guisinger, 1995; Khadaroo, and Seetanah, 2003 Mutenyo, 2008; Opolot, et al 2008). In fact, Opolot et al (2008) contend that although the number of telephone lines may not be the best proxy for infrastructure, its significance nonetheless shows that infrastructure development does matter for FDI inflows to SSA. Accordingly, in this study, the assumption was that a country with a large number of telephone lines is more likely to have better roads, Internet access, and water/electricity supply, or in short better infrastructure. The model was specified just like Maria Delgado et al. (2000) and Balamurali et al (2004), the time subscripts are omitted for presentation simplicity.

Table 3.1: Summary of Variable Definitions and Hypotheses

Variable	Definition	Expected Sign
Y	Gross Domestic Product.	Y , dependent
FDI	Foreign direct investment, net inflows (BOP current US\$).	+
K_D	Domestic capital stock, proxied as gross capital formation	+
LAB	Domestic labor stock, proxied as Total labor force	+
INFRA	Infrastructure development, proxied as number of telephone lines per 1000 people	+

Note; variables are transformed into logs afterwards.

By taking logs and extending the baseline model in (1) to allow for interactions among factor inputs, a translog growth function was obtained which allowed the estimation of substitution and complementary relationships between the factor inputs (Christensen, Jorgenson and Lau 1973). Specifically, Dewan’s translog production function meets this condition (Dewan and Min, 1997):

$$\log Y = \beta_0 + \beta_1 \log K_D + \beta_2 \log LAB + \beta_3 \log FDI + \beta_4 \log INFRA + \delta_1 (\log K_D)(\log LAB) + \delta_2 (\log K_D)(\log FDI) + \delta_3 (\log LAB)(\log FDI) + \delta_4 (\log FDI)(\log INFRA) + \alpha_1 (\log K_D)^2 + \alpha_2 (\log LAB)^2 + \alpha_3 (\log FDI)^2 + \alpha_4 (\log INFRA)^2 + \varepsilon \dots\dots\dots(2)$$

β_i coefficient of factor inputs, δ_i coefficient of the quadratic factor terms, α_i coefficient of the interaction terms; $i = 1, 2, \dots, 4$ and $\beta, \alpha, \delta > 0$, ε is the error term. The F- statistic was computed to ascertain a suitable functional form of the model appropriate for this study

.whether the translog (unrestricted) or a Cobb Douglas (restricted) using the following formula

$$F(q, n-k) = \frac{(RSS_R - RSS_{UR})/q}{RSS_{UR}/n-k}$$

Where:

q = number of restricted variables

n = number of observations, in this case they are 38

k = total number of parameters in the translog function

RSS_R = Residual sum of squares for restricted equation (Cobb Douglas)

RSS_{UR} = Residual sum of squares for unrestricted equation (Translog)

With the null and alternative hypothesis given as;

$$H_0: \delta_i = \alpha_i = 0$$

$$H_A: \delta_i = \alpha_i \neq 0$$

The F-test on the subset of regression coefficients was carried out just like the F-test on the entire regression equation. Taking 5 percent level of significance, the test statistic was compared with the critical value of the F distribution. Since the test statistic was larger than the critical value, the null hypothesis was rejected and the conclusion was that the subset of variables was statistically significant and in this case, the results of the translog (unrestricted) were considered while those of the Cobb Douglas (restricted) were dropped or excluded from further consideration.

In order to test the hypothesis empirically, use was made of the multivariate regression analysis on the time series data to facilitate the estimation of the relative importance of FDI on economic growth and other identified explanatory variables as well. In this study, a translog production specification was estimated. This has become more prevalent because the Cobb-Douglas functional form imposes severe restrictions on the technology by restricting the production elasticity to be unity whereas the translog function does not impose constant substitution elasticity and it allows for the estimation of substitution and complementary relationships between the variables. This seems more appropriate when analyzing low-income countries like Uganda, where structural rigidities may be more in evidence (Blomstrom, et al, 1994).

3.2 Data Sources

Secondary annual data on both dependent and independent variables were extracted from the WDI CD-ROM 2008, Selected Statistics for African Countries by the ADB (2006), Background to the Budget of various years. This is because there was no single local source to get this data for the period under study. The missing data in the FDI and other variables were obtained by the use of the linear interpolation technique of the stata programme. The technique of data interpolation that was used was based on the method developed by Maddala (1977).

Maddala (1977) points out those meaningful results can be obtained from OLS regression only when the data series are stationary. Consequently, non-stationary time series are usually made stationary before analysis in order to avoid spurious regression results. The

study found some of the variables non-stationary and performed the Augmented Dickfuller (ADF) unit root test to make them stationary.

Tests for autocorrelation and heteroskedasticity were done after regressions. The problem of serial correlation may be detected in the data if upon regression the Durbin-Watson statistic (DW) is not approximately 2 (Gujarati 1988). This is the correlation between the error terms arising in time series data. It often arises from the correlation of omitted variables that the error term may capture. Since most economic data is characterized by serial correlation (Maddala, 1977), a Breusch-Godfrey LM test was carried out.

After knowing the data features, the Ordinary Least Squares method was utilized for estimation. The analysis of the data involved use of a statistical computer package Stata 9 and the results were then used to carry out tests and interpretations in regard to the existing relationships among the variables. But the analysis was expanded to include other identified variables that influence economic growth.

CHAPTER FOUR:

RESULTS

4.0 Introduction

This chapter presents the results of the model specified in chapter three.

4.1 Unit root test Results

The ADF unit root test was performed after adjusting for trend intercept to make those series which were not stationary in levels stationary. The null hypothesis was that the time series variable is non-stationary and the alternative was that the time series is stationary. Failing to reject the null hypothesis implies that the series are non-stationary and would thus yield spurious results if used in OLS regression. If the ADF test statistic is less than the critical values (in absolute terms) at the 1 percent, 5 percent, and 10 percent levels of significance, the null hypothesis is accepted implying that the series are non-stationary, otherwise they are stationary.

The results of unit root tests at levels indicate that most of the variables were non-stationary at the 1 percent and 5 percent levels of significance. The series were differenced to yield stationary results after adjusting for a constant and trend requirement.

The results are presented in Table 4.1 below;

Table 4.1: Unit-root tests after first difference of variables

Variable	t-ADF	t-ADF*	Order of Integration
Y	-3.04	-3.84*	1(1)
FDI	-3.06	-3.39*	1(1)
INFRA	0.58	-4.70*	1(1)
K _D	-1.80	-6.21*	1(1)
LAB	-0.46	-4.461*	1(1)

* Denotes stationary after first differencing

The results of the test on Y indicated that the data series is integrated of order one, I(1). The series was made stationary after first level differencing. The result further shows that the critical value at first level differencing are -3.71 at 1 percent level of significance and -2.98 at 5 percent level of significance. The test statistic was -3.84, which lies to the left of the critical values. Since the test statistic lies to the left of the critical values, the null hypothesis is rejected.

The results for FDI showed that the data series of this variable is integrated of order one I(1), indicating that the series is stationary after one differentiation. The critical values at first level differencing are -3.71 and -2.98 at 1 percent and 5 percent levels of significance respectively. The test statistic was -3.39, which lies to the left of the critical values. Since the test statistic lies to the left of the critical values, the null hypothesis is rejected.

The results for LAB indicated that the data series of this variable is integrated of order one I(1), indicating that the series is stationary after one differentiation. The critical values at first level differencing are -4.35 and -3.59 at 1 percent and 5 percent levels of

significance respectively. The test statistic was -4.46, which lies to the left of the critical values. Since the test statistic lies to the left of the critical values, the null hypothesis is rejected.

The results for K_D showed that the data series of this variable is integrated of order one $I(1)$, indicating that the series is stationary after one differentiation. The critical values at first level differencing are -4.35 and -3.59 at 1 percent and 5 percent levels of significance respectively. The test statistic was -6.21, which lies to the left of the critical values. Since the test statistic was -6.21, this lies to the left of the critical values. Since the test statistic lies to the left of the critical values, the null hypothesis is rejected. After making the variables stationary, they were used in the translog function where interaction terms and squared terms were developed. Taking the log of Y automatically gave the growth rate and the coefficient of the independent variables elasticity.

4.2 Functional Form Results

The unrestricted translog function results are presented in the appendix 3 and the restricted Cobb-Douglas function results are presented in the appendix 2. We conducted an F-test as described in chapter three and the sum squared residual for both Cobb-Douglas and translog model results were used to compute the F statistic below, which was important in testing that the translog model better suited for this study than the Cobb-Douglas to analyze the relationship between FDI and economic growth.

$$F(6, 27) = \frac{(0.262 - 0.0089)/6}{(0.0089)/27} = 1406$$

Where; $q = 6$, $n = 38$, $k = 11$, $R_{SSR} = 0.262$, $R_{SSUR} = 0.0089$

F-Statistic computed is 1406 against the critical value of 2.75. This means that the critical value is less than the computed value of the F-statistic and in this case, the null hypothesis is rejected that the values of the cross products and squares of the translog model are equal to zero and we adopt the alternative. Therefore, we drop the restricted equation (Cobb-Douglas) and adopt the unrestricted (translog).

4.3 OLS Regression Analysis

After rejecting the null hypothesis that the value of the squared and interaction variables in the translog model are equal to zero and accepting the alternative hypothesis basing on the F-statistic computed in chapter three, we dropped the Cobb-Douglas model results and adopted the translog model results. But the Cobb-Douglas results showed that the independent variables explained about 96 percent of the changes in the dependent variable.

Apart from the domestic capital (lnkd) whose coefficient took an insignificant ($p=.09$) negative coefficient (-.003), other variables showed positive and significant coefficients of the respective explanatory variables. For example, the coefficients of lnfdi (0.09), domestic labor force lnlab (0.66) and the coefficient of the proxy for infrastructural development (0.02) portrayed the expected signs and significant at 1 percent level. The full results of the Cobb-Douglas model are given in Appendix 2 while those results for the translog model are presented in the table 4.2 below.

Table 4.2: Determinants of Economic Growth

Variable	Coefficient	t-Statistic	Prob.
lnkd	-4.12	-3.55	0.00
lnfdi	2.56	3.02	0.00
infra	0.68	2.77	0.01
infra ²	0.004	7.16	0.00
lnfdi ²	0.004	1.07	0.29
lnlab ²	1.06	4.92	0.00
lnfdikd	0.005	0.37	0.71
lnfdilab	0.14	2.06	0.04
lnfdiinfra	-0.03	-3.24	0.00
lnkdlab	0.25	2.97	0.00
lnlab	-39.60	-8.02	0.00
F(11, 26) = 2105.90		R-squared = 0.95	
Prob > F = 0.00		Adj R-squared = 0.95	
Number of obs = 38		Root MSE = .018	
Residual sum of squares 0.0089		Breusch-Godfrey LM 3.5, prob. 0.06	
Durbin's Alternative test 2.5, prob. 0.10		Breusch-Pegan test 2.06, prob. 0.15	

It can be noted that the overall performance of the model was satisfactory. This is because most of the coefficients were correctly signed and only two explanatory variables statistically insignificant. In particular, the results from the estimation of the translog model in Table 4.2 show that FDI, infrastructural development, the interaction between FDI, domestic capital, FDI and labor, domestic capital and labor are positive and significant with expected signs while that of independent coefficient of domestic capital,

labor, the interaction between FDI and infrastructure are significantly negative. All the squared terms are positive and significant at conventional levels. The R-squared showed that the independent variables explain about 95 percent of the changes in the economic growth (dependent variable).

The results indicate that FDI has a positive overall effect on economic growth and this is in line with the theory that postulates a positive relationship. FDI coefficient was found to be positive (2.56) and significant at 1 percent level. This result is not far different from the results of many studies like Obwona (2001), and Li and Lui (2005), Mutenyi (2008), Olofsdotter (1998) and that of Borenztein et al (1998). This confirms that FDI is necessary for Uganda's economic growth.

The nature of the interaction of FDI with human capital is positive (0.14) and significant at 1 percent level. This implies that domestic capital and labor complement each other which is in agreement with the theory. That is, it is likely that at good levels of human capital, the contribution of FDI to growth is high and that it rises rapidly at higher levels of human capital. This result is contrary to that of Borenztein et al (1998) who found that the nature of the interaction of FDI with human capital is such that for countries with very low levels of human capital the direct effect of FDI is negative. Accordingly, this means that in Uganda the level of human capital is not very low. The results also showed that domestic labor complements domestic capital (0.25) more than it complements foreign capital (0.14).

We can though not exclude the possibility of a nonlinear relationship between FDI and human capital, that is a more complex relationship that does not appear in this study, it is however not likely, from my point of view that a sufficient level of human capital is the

only condition that needs to be satisfied in order for FDI to work efficiently, but it is one that may be of major importance.

The results of the model also showed that most of the economic variables exhibited the expected signs except the independent coefficient of labor stock which exhibited a negative sign but significant. This could be as a result of high levels of unemployment in Uganda and/or those employed are in the unproductive sectors. But as labor doubles, the coefficient become positive (1.06) and significant at 1 percent level

The coefficient of the domestic capital ($\ln k_d$) is negative (-4.12) and significant at 1 percent level. This can be as a result of the negative effects that come with foreign investments like stiff competition and pressures on the available resources, market and the shift in the use of technology.

The effect of the infrastructural development (infra) is positive and significant at 1 percent level (0.68). In this case good infrastructure facilitates production through reducing operating costs (Wheeler and Mody, 1992), and therefore increasing productivity of investment and thereby enhancing economic growth. This suggests that investing in productive infrastructure can be considered an instrument to improve the competitiveness of the country. Our results support the idea that infrastructure stocks should be increased in Uganda to ensure that limited infrastructure does not impede the development of new private activity.

The independent labor coefficient is negatively related to economic growth. It portrays unexpected sign but significant. This could be true because labor in itself could not be useful unless it is backed up by capital both domestic and foreign.

The interaction term between FDI and infrastructure is negative (-0.03) but significant at 1 percent level. This can be as a result of foreign investment in unproductive infrastructures like stadia. FDI and domestic capital portrayed a positive relationship which means they complement each other in an economy. The squared terms of infrastructural development and FDI are both negative with that of infra being significant while that of FDI being not different from zero.

CHAPTER FIVE

DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter is devoted to the discussion of the findings relating to the interaction between FDI and economic growth in Uganda.

5.1 Discussion

In most of the previous studies, the relationship between FDI and growth had been studied presuming relationship running from FDI to GDP growth. The results obtained in this research which are based on translog model showed that most of the parameters that were entered in the model indicated a positive link from FDI to GDP. The results therefore indicate that in Uganda, FDI has been an important factor in the country's economic growth. The results thus confirm and are indeed consistent with most of the previous evidence cited in the literature (e.g. Seetanah et al 2005; De Gregorio, 1992, Campos and Kinoshita, 2002; Marwah and Tavakoli, 2004; Nyatepe, 1998; Li and Liu, 2005; Borensztein et al 1998) and also in accordance with the endogenous growth hypothesis. In general, according to the revelations of this study, Uganda's economic growth is significantly dependent on FDI inflows and its interaction with local factors like labor and capital. This suggests that the country would benefit more from adopting policies that attract FDI flows into the economy.

Baharumshah et al. (2006) suggest that FDI inflows are more beneficial and create fewer problems if they are long-term, and in the form of direct investment, induced by growth prospects of the economy and invested in physical assets. As opposed to short-term

portfolio investment, long-term FDI has positive spill over effect on the economy. Short-term investments are often associated with increase in consumption in the financial systems. Thus, it is important for Uganda to improve the quality of FDI that it attracts. According to Lensink and Morrissey (2001), theory also suggests that uncertain capital flows and a more volatile profile of FDI inflows are growth retarding. Accordingly, a key policy option is to maintain a steady stream of foreign capital flows and to minimize the fluctuations in these inflows.

Today, the new wave of globalization sweeping through the world has intensified the competition for FDI among developing countries. Thus, if Uganda aims at favorably competing with other countries, concerted efforts are needed to attract significant FDI flows and improve prospects for sustained growth and development. This means that policy makers in the different sectors of the economy (e.g. manufacturing, tourism, telecommunications and of recent oil and others) should work together in designing and formulating pertinent strategies to attract stable investment flows in order to benefit from long term FDI inflows. It has been observed from highly developed economies that growth enhancing policies coupled with sound macroeconomic policies foster a healthy rate of returns to investment and hence attract FDI.

It is therefore the considered view of the researcher that in order to maximize the benefit of FDI further, the Uganda Investment Authority (UIA) should be supported in its efforts geared at promoting and marketing investment opportunities and attract FDI.

Although some previous studies (e.g. Asiedu, 2002; Bhattacharya et al., 1996 e.t.c) have shown that African countries have been among the lowest beneficiaries of FDI, using Uganda as a case study, the results highlight the economic importance of FDI and

provide new evidences for the case of African economies. The results therefore contradict the views of the core-periphery economists of the 1940s and 1950s mentioned in the literature. These authors such as Rosenstein (1943) and Hirschman (1958) argued that FDI exerted a deleterious effect on development in less advanced countries.

5.2 Summary of the findings

Most of the variables posited the expected signs except individual coefficients of domestic labor stock and domestic capital. The interaction term for FDI and human capital is positive and statistically significant at one percent level. This suggests that although the magnitude of the separate human capital elasticity is smaller compared with other major inputs, the overall impact of FDI on growth is much higher. For example, it is interesting to observe that the coefficient of the interactive term of FDI and labor stock is positive and significant at 1 percent level. Since a positive sign on the coefficient of an explanatory variable shows an increase in efficiency in the model, FDI inflows along with labor force would therefore increase growth. This is an important finding, especially for a developing country like Uganda with a big proportion of unskilled labor.

Therefore, the results revealed that the strongest effect of the independent variable on economic growth came from FDI (2.56), the square of labor coefficient (1.06) and proxy for infrastructural development (0.68), FDI-domestic Labor interaction (0.14), and they are all positively correlated with economic growth. The other interactions are negatively significant.

In conclusion, the basic objective of this study was to ascertain the relationship between FDI and economic growth. Despite the data limitations, the model performed rather well

and the study confirmed earlier results from the conducted studies that found FDI to be positively correlated with economic growth.

5.3 Policy implications

The aim of this research was to determine how Foreign Direct Investment affects economic growth in Uganda. According to the findings, the results demonstrated that FDI, investment in telecommunication (as a proxy for infrastructural development) and domestic labour had a statistically positive effect on economic growth. These results suggest that in order to boost Uganda's GDP, there is need to improve on these variables. Specifically, in order to encourage economic growth, policymakers should encourage FDI and to make Uganda a serious contender for FDI, the country needs to be modernly equipped with well functioning infrastructure and effective vocational and skill training institutions suited to investors' generic human resource needs. With regard to country development policy, investing in productive infrastructure is considered to be an instrument to improve the economic growth of the country. The rationale for investment in improvements in infrastructure and in vocational educational to attract foreign firms is strengthened by the likelihood that they will improve the business environment for indigenous firms as well. Since Multi-national corporations are often attracted to developing nations by the abundance of their cheap labor, higher level of human capital is a good indicator of the availability of skilled workers, which, along with cheap labor, can significantly boost the locational advantage of a host country. Adopting these policies may be difficult in the short run, but these policies would yield long-run benefits of economic growth that would far outweigh any short-run costs.

5.4 Areas for further Research

The study focused on the FDI inflows and economic growth. It would be useful to explore whether other types of capital inflows-equity and foreign loans also have differential growth effects across sectors, and whether they too show both direct and indirect impact on economic growth.

REFERENCES

- Abdulhamid S; Syed, A and, Murray S.H, (2003). The Effects of Foreign Direct Investment on Economic Growth: The Case of Sub-Saharan Africa. *Southwestern Economic Review*
- Abramovitz, M., (1986). Catching up, forging ahead and falling behind. *The Journal of Economic History* 46, 385– 406.
- Adeolu B. A. (2007) FDI and Economic Growth: Evidence from Nigeria. AERC Research Paper 165 African Economic Research Consortium, Nairobi April 2007
- African Development Bank (2006), African Development Report, 2004: Africa in the World
- Agosin M.R. and R. Mayer. (2000). Foreign investment in developing countries: does it crowd in domestic investment? UNCTAD paper, No.146. UNCTAD, Geneva.
- Aitken, B. and Harrison, A. (1999) “Do domestic firms benefit from foreign direct investment? Evidence from Venezuela”, *The American Economic Review*, Vol. 89.3, p.615-618.
- Aitken, B., G. Hanson, and A. Harrison, (1997) “Spillovers, foreign investment and Export behavior”, *Journal of international Economics*, Vol. 43, p. 103-132.
- Alfaro L (2003). FDI and Economic Growth Does the Sector Matter? Unpublished manuscript. Available at: <http://www.people.hbs.edu/lalfaro/fdisectorial.pdf>

- Asiedu, E. (2002). On the Determinants of Foreign Direct Investment to Developing Countries: Is Africa Different? *World Development*, 30(1), 107-118.
- Asiedu, E. (2001). "Foreign Direct Investment to Africa: "The role of Government Policy, Governance and Political Instability."
- Benassy, Q..A. Fontagne, L., Lahreche, R, A., (2001). Exchange-rate strategies in the competition for attracting foreign direct investment. *Journal of the Japanese and International Economies* 15, 178– 198.
- Bende, N.A. and Ford, J.L. (1998). "FDI, policy adjustment and endogenous growth: Multiplier effects from a small dynamic model for Taiwan 1959–1995". *World Development* 26(7): 1315–30.
- Bengoa, M. and Sanchez B. R (2003), "Foreign direct investment, economic freedom and growth: new evidence from Latin America," *European Journal of Political Economy*, Vol. 19 (2003) 529–545
- Benhabib, J., Spiegel, M., (1994). The role of human capital in economic development: evidence for cross-country data. *Journal of Monetary Economics* 34, 143–173.
- Bhattacharya, A., P. J. Montiel & S. Sharma (1996), "Private Capital Flows to Sub-Saharan Africa: An Overview of Trends and Determinants", unpublished, World Bank and International Monetary Fund, Washington.
- Bhinda, N. Griffith-Jones, S. and Martin, M. (1999), Private Capital Flows to Africa: Perception and Reality, FONDAD, The Hague.
- Blomstrom M., Lipsey, R.E and Zejan, M., (1996). Is Fixed Investment the Key to Economic Growth?, *Quarterly Journal of Economics*, No. 111, pp. 269-276.

- Blomstrom, M. and Sjöholm, F. (2004) "Technology Transfer and Spillovers: Does Local Participation with Multinationals Matter?" *European Economic Review*, 43, 1999, 915-923.
- Borensztein E., De Gregorio, J. and Lee, J. W. (1998), "How does Foreign Direct Investment Affect Economic growth?" *Journal of International Economics* 45, 115-135
- Borensztein, E, De Gregorio J. and J. Lee (1995), "How Does Foreign Direct Investment Affect Economic Growth?" *NBER Working Paper 5057*
- Brewer, T.L., (1993). Foreign Direct Investment in Emerging Market Countries, Chapter 7 of the Global Race on Foreign Direct Investment, The Industrial Institute for Economic and Social Research.
- Buckley, P. J., J. Clegg, and C. Wang (2002): "The impact of inward FDI on the performance of Chinese manufacturing firms," *Journal of International Business Studies*, 33(4), 637–655.
- BOU, UIA and UBOS (2008) Preliminary findings of private sector investment survey (PSIS) 2008
- BOU, UBOS and EPRC (2006) Firm Level Investment: Trends, determinants and constraints. *Research Series No.47*
- BOU, UIA & UBOS (2003) private sector investment and investor perception in Uganda 2003 report
- Campos, N, F. and Y, Kinoshita, (2002), Foreign Direct Investment as Technology Transferred: Some Panel Evidence from the Transition Economies. *William Davidson Working Paper*, Number 438.

- Carkovic, M. and R. Levine (2002), 'Does Foreign Direct Investment Accelerate Economic Growth' Working Paper (University of Minnesota Department of Finance, available at: [www//ssrn.com/abstract=314924](http://www.ssrn.com/abstract=314924)).
- Caves, R.E. (1996). *Multinational Enterprise and Economic Analysis*. 2nd ed. Cambridge: Cambridge University Press.
- Chakraborty, C. and Basu, P. (2002). Foreign Direct Investment and Growth in India: A Cointegration Approach. *Applied Economics*, 34, 1061-1073.
- Chowdhury, A and Mavrotas, G (2005), "FDI and growth: A Causal Relationship," *WIDER Research Paper No. 2005/25*
- De Gregorio, J. (1992), "Economic growth in Latin America". *Journal of Development Economics* 39, pp. 59-83.
- De Mello J. L.R., (1999). Foreign Direct Investment in developing Countries and Growth: A Selective Survey. *The Journal of Development Studies*, 34 (1):1-34
- De Mello, L. (1999), "Foreign Direct Investment led growth: Evidence from time series And panel Data", *Oxford Economic papers* 51, pp. 133-151.
- De Mello, J. L.R., (1997). FDI in Developing Countries and Growth: A Selective Survey
- De Mello, L. (1996). "Foreign Direct Investment, International Knowledge Transfers and Endogenous Growth: Time Series Evidence". Department of Economics, University of Kent, U.K Mimeo
- Durham, K.B. (2004). "Absorptive Capacity and the Effects of Foreign Direct Investment and Equity Foreign Portfolio Investment on Economic Growth," *European Economic Review* 48, 285-306. *Economy, Africa in the Global Trading System*, Economic and Social Statistics on Africa, Oxford University Press

- Duttaray, M. (2001). "Essays on Foreign Direct Investment and Growth: Causality and Mechanism".
- Eller, M., P. Haiss, and K. Steiner (2005) "Foreign Direct Investment in the Financial Sector: The Engine of Growth for Central and Eastern Europe?" *Working Paper* No. 69, Vienna University of Economics and Business Administration.
- Findlay, R. (1978). Relative Backwardness, Direct Foreign Investment and the Transfer of Technology: A Simple Dynamic Model." *Quarterly Journal of Economics* 92: 1-16.
- Fry, M. J. (1992) Foreign Direct Investment in a Macroeconomic Framework: Finance, Efficiency, Incentives and Distortions, PRE Working Paper, Washington DC: The World Bank
- Funke, N. and S.M Nsouli. (2003). "The New Partnership for Africa's Development (NEPAD): Opportunities and challenges". *IMF Working Paper* No.03/69. International Monetary Fund,
- Guisinger, S., (1992). Rhetoric and Reality in International Business: A note on the Effectiveness of Incentives, *Transnational Corporations*, 1, pp 111-23.
- Hakan Y. (2008) Endogenous Determination of FDI Growth and Economic Growth: The OECD Case. Department of Economics, Izmir University of Economics, Izmir, Turkey
- Hein, S. (1992) "Trade Strategy and the Dependency Hypothesis: A Comparison of Policy, Foreign Investment, and Economic Growth in Latin America", *Economic Development and Cultural Change*, 40(3); 495-521

- Hermes, N. and R. Lensink (2000), Foreign Direct Investment, Financial Development and Economic Growth, SOM Research Report 00E27, University of Groningen, The Netherlands
- Hirschman, A., (1958). The Strategy of Economic Development. Yale Univ. Press, New Haven.
- Hsiao, C., and Y. Shen, (2003). Foreign Direct Investment and economic growth: the Importance of Institutions and urbanization. *Economic Development and Cultural change*, 51(4), 883- 896.
- Hyun, H-J. (2006). "Foreign Direct Investment and Economic Growth in Developing Countries". Indiana University. Increasingly Endogenous Relationship. *World Development*, 33 (3): 393.407.
- IMF (1993), "Balance of Payments Manual" Fifth Edition (Washington, D.C., International Monetary Fund, 1993)
- International Monetary Fund (1999). "Growth in sub-Saharan Africa: Performance, Impediments And Policy requirements", *World Economic Outlook Chapter VI*
- Jaumotte F., 2004. Foreign Direct Investment and Regional Trade Agreements: The market size effects revised. *IMF Working paper* WP/04/206.
- Khadaroo, J. and Seetanah, B. (2003)Transport Infrastructure and FDI: Lessons from Sub Saharan African Economies.
- Kiiza, O.E (2007) The casual relationship between foreign direct investment and economic growth: Case study of Uganda
<https://dspace.lib.cranfield.ac.uk/handle/1826/2094>

- Kohpaiboon, A (2003). Foreign Trade Regime and FDI Growth Nexus: A Case Study of Thailand. *Journal of Development Studies*, 40: 55-69.
- Kokko, A. (1996) Productivity spillovers from competition between local firms and foreign affiliates. *Journal of International Development*, vol. 8, pp. 517-30
- Kokko, A., and Zejan, M. (1996). Planned and Failed Foreign Direct Investment in Vietnam. *Asia Pacific Development Journal* 3(1), 37-53.
- Krugman, P. (1998), “Fire Sale FDI”, Working paper, Massachusetts Institute of Technology.
- Lensink, R and Morrissey, O (2006), “Foreign Direct Investment: Flows, Volatility and the Impact on Growth.” *Review of International Economics*, 14(3), 478-493.
- Li, X., and X. Liu (2005). Foreign Direct Investment and Economic Growth: An
- Lipsey, R., (1999). The location and characteristics of U.S. affiliates in Asia. NBER *Working Paper* No. 6876. Cambridge, MA.
- Loree D. W. and S. E. Guisinger (1995), Policy and non-policy determinants of U.S. equity foreign direct investment, *Journal of International Business Studies*, 26 (2), 281-299.
- Love, J., Lage-Hidalgo, F., (2000). Analysing the determinants of US direct investment in Mexico. *Applied Economics* 32, 1259– 1267.
- Maddala, G.S. (1977). Introduction to Econometrics. Macmillan Publishing Company- New York
- Mahmoud A and Fatima A (2007) Foreign Direct Investment and Economic Growth in the GCC Countries: A Causality Investigation Using Heterogeneous Panel Analysis. United Arab Emirates University

- Marta, B. Blanca, Sanchez, R (2003) Foreign direct investment, economic freedom and growth: new evidence from Latin America. *European Journal of Political Economy* 19 (2003) 529–545
- Marwah, K. and Tavakoli A.(2004), “ The Effect of Foreign Capital and Imports on Economic Growth: Further Evidence from Four Asian Countries (1970-1998)” *Journal of Asian Economics*, 15 (2004)
- Moran. T.H. (2002). Foreign Direct Investment and Development. Washington, D.C Institute for International Economics.
- Morisset, P., 2000. Foreign Direct Investment to Africa: policies also matter *Transnational Corporation*, 9 (2), pp. 107-125.
- Mutenyo, J. (2008). Foreign Direct Investment in Sub-Saharan Africa: Determinants and Effects, *PHD thesis*, University of Dar es salaam
- Nizar, A. and Singleton, B. 2001. The quality of Foreign Direct Investment: Does it matter for economic growth?. Un-published.
- Nonnemberg and Cardoso (2002) Nonnemberg, M. B. and Cardoso de Mendonca, M.J., 2002. The determinants of Foreign Direct Investment in developing countries. Unpublished.
- Noorbakhsh, F., Paloni, A., Youssef, A., (2001). Human capital and FDI inflows to developing countries: new empirical evidence. *World Development* 29, 1593–1610.
- Nyatepe-Coo, A., (1998), Foreign Direct Investment and Economic Growth in Selected LDCs, 1963-1992, *Handbook on the Globalization of the World Economy* Chapter

- Obwona, M and B. Mutambi (2004), “Foreign Direct Investment in Africa: Trends, Determinants and Linkages with Growth and Poverty” Paper presented at the Policy Seminar on Growth and Poverty reduction in Kampala, Uganda.
- Obwona, M. (1999). “Foreign Direct Investments Growth Linkage and Institutional Constraints in Sub-Sahara Africa: A case of Uganda”. *African Review of Money, Finance Banking*. Supplementary issue of Savings and Development, Pp. 99-126.
- Obwona, M .(2001). “Determinants of FDI and their impacts on economic growth in Uganda”. *African Development Review*, 13:(1) 46–80. Blackwell Publishers, Oxford UK.
- Olofsdotter, K. (1998), Foreign direct investment, country capabilities and economic growth, *Weltwirtschaftliches Archiv*, 134(3), 534-547
- Opolot, J. Mutenyo, J. and Kalio, A (2008). Determinants of foreign direct investment: evidence from sub-Saharan Africa using a generalized method of moments dynamic panel estimator
- Pfefferman, G.P. and Madarassy A., (1992), Trends in Private Investment in Developing Countries, 1992 edition, International Finance Corporation, Discussion Paper No. 14, Washington D.C.
- Quazi, R (2005), Economic Freedom and Foreign Direct Investment in East Asia. College of Business Prairie View A&M University Prairie View, Texas 77446, USA International Academy of Business and Public Administration Disciplines (IABPAD) meetings
- Ramirez, M. D. (2000). Foreign direct investment in Mexico: A cointegration analysis. *Journal of Development Studies*, 37, 138.162.

- Romer, P. (1990). "Endogenous technological change". *Journal of Political Economy*, 98: s71–s103.
- Root, R. F. and Ahamed, A. A., 1978. The influence of policy instruments on manufacturing Direct Foreign Investment in developing countries," *Journal of International Business Studies*, Vol. 9(3), pp. 81-93.
- Rosenstein, R.P. (1943). Problems of industrialization of Eastern and South Eastern Europe. *Economic Journal* 53, 202–211.
- Saltz, I. S. (1992), "The Negative Correlation between Foreign Direct Investment and Economic Growth in the Third World: Theory and Evidence", *Rivista Internazionale Di Scienz Economiche e Commerciale*, 19(7), 617-633.
- Sanchez, R. B. (1998). Infrastructure investment and growth: Some empirical evidence, *Contemporary Economic Policy*, Vol. XVI, n.1, pp.98-109.
- Seetanah, B and Khadaroo A J (2005) Foreign Direct Investment And Growth: New Evidences from Sub- Saharan African countries
- Singh, R.D. (1998) "The Multinational's Economic Penetration, Growth, Industrial Output and Domestic Savings in Developing Countries: Another Look", *The Journal of Development Studies*, 25(1):55-82
- Solow, R., (1956). A contribution to the theory of economic growth. *Quarterly Journal of Economics* 70, 65– 94.
- Ssemogerere G., J. Kalema and J. Kakonge, (2000), "Managing the transition from aid dependency in SSA: Opportunities and challenges in the case of Uganda." *African Economic Consortium, Collaborative Research Report* April, 2000.

- Tillett, C (1996). "Foreign investment: targeting and promotional strategies" (London: Commonwealth Secretariat), occasional paper No. 2, mimeo
- Tung, S. and Cho, S., (2001). Determinants of regional investment decisions in China: an econometric model of tax incentive policy. *Review of Quantitative Finance and Accounting* 17, 167–185.
- UNCTAD (1998). Foreign direct investment in Africa: Performance and potential
- UNCTAD (2001), Foreign Direct Investment in Least Developed Countries at a Glance.
- UNCTAD (2005), United Nations Conference on Trade and Development, World Investment Report 2005, New York and Geneva. United Nations
- Wang, M., (2002), Manufacturing FDI and Economic Growth: Evidence from Asian Economies, Department of Economics, University of Oregon mimeo.
- Wheeler, D. and A. Mody. (1992). International Investment Location Decisions: the Case of US Firms. *Journal of International Economics* 33: 57-76.
- World Bank. (1996). World Debt Tables: External Finance for Developing Countries, Vol. 1 (Analysis and Summary Tables). Washington, D.C.: The World Bank. Washington, D.C.
- Xu, B. (2001). Multinational enterprises, technology diffusion and host Country productivity growth. *Journal of Development Economics*, 62:477-494

APPENDICES

Appendix 1: Raw Data Used

period	lngdp1	lnfdi1	lnkd1	lnlab1	infra1
1970	21.53304	15.20181	18.36519	15.25612	0.132919
1971	21.5368	15.20181	18.34409	15.28429	0.135108
1972	21.54056	15.20181	18.32298	15.31246	0.137296
1973	21.54432	15.20181	18.30187	15.34063	0.139485
1974	21.54808	15.20181	18.28076	15.3688	0.141674
1975	21.55184	15.20181	18.25965	15.39698	0.143862
1976	21.5556	15.20181	18.23854	15.42515	0.146051
1977	21.55936	15.20181	18.21743	15.45332	0.14824
1978	21.56313	15.20181	18.19633	15.48149	0.150429
1979	21.56689	15.20181	18.17522	15.50966	0.152617
1980	21.57065	15.20181	18.15411	15.53783	0.154806
1981	21.57441	15.20181	18.133	15.566	0.156995
1982	21.58178	14.51861	19.10378	15.59665	0.170849
1983	21.63763	14.51861	18.9275	15.62328	0.173695
1984	21.63418	14.66307	19.50014	15.67496	0.146577
1985	21.60056	14.80753	19.54347	15.712	0.172828
1986	21.60445	14.95199	19.61882	15.74858	0.168357
1987	21.64331	15.09644	20.2278	15.78648	0.163246
1988	21.72274	15.36307	20.37011	15.82138	0.162838
1989	21.78441	14.84722	20.19156	15.85689	0.159506

1990	21.84715	14.33137	20.11966	15.8912	0.156304
1991	21.9012	13.81551	20.03799	15.92551	0.153486
1992	21.93481	14.91412	19.93679	15.95885	0.156617
1993	22.01479	17.81554	20.01192	15.98979	0.104529
1994	22.07686	18.29512	20.1886	16.01925	0.148136
1995	22.18592	18.61295	20.38697	16.04485	0.191753
1996	22.27276	18.6113	20.92159	16.06766	0.237027
1997	22.3225	18.9803	20.85401	16.09279	0.261666
1998	22.37039	19.16262	20.80302	16.11767	0.373808
1999	22.44785	18.75858	20.88255	16.14109	0.474254
2000	22.5027	18.89505	20.89114	16.16616	0.763846
2001	22.55097	18.83607	20.7766	16.19541	1.333736
2002	22.61305	19.03396	20.84456	16.22498	1.705515
2003	22.65914	19.12473	20.97111	16.25572	3.084712
2004	22.71198	19.5039	21.14088	16.28596	4.412091
2005	22.77666	19.75518	21.35448	16.31776	4.846113
2006	22.82615	19.78569	21.51957	16.34989	7.080459
2007	22.88909	19.81	21.73218	16.35729	14.08836

Appendix 2: Model (1) Results Cobb Douglas

Source	SS	df	MS	Number of obs = 38		
				F(4, 33) = 240.07		
Model	7.6394182	4	1.90985455	Prob > F = 0.0000		
Residual	0.262528938	33	.007955422	R-squared = 0.9668		
				adj R-squared = 0.9627		
Total	7.90194714	37	.213566139	Root MSE = 0.08919		
lngdp1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
lnfdi1	0.0994536	0.0128368	7.75	0.000	0.0733369	0.1255703
lnkd1	-0.0033978	0.0465698	-0.07	0.942	-0.0981449	0.0913492
lnlab1	0.669398	0.1745573	3.83	0.001	0.3142585	1.024538
infra1	0.0266474	0.0068134	3.91	0.000	0.0127854	0.0405094
_cons	9.767857	1.870121	5.22	0.000	5.963067	13.57265

Appendix3: Translog Results for model (2)

Source	SS	df	MS	Number of obs = 38		
				F(11, 26)	= 2105.90	
Model	7.89308803	11	0.71755345	Prob > F	= 0.0000	
Residual	0.008859109	26	0.00034073	R-squared	= 0.9589	
				Adj R-squared	= 0.9584	
lngdp1	Coef.	Std. Err.	t	P> t	[95% Conf. Interval	
lnfdi1	2.568624	0.850755	3.02	0.006	4.317376	0.8198718
lnkd1	-4.120127	1.160335	-3.55	0.001	-6.50523	-1.735024
lnlab1	-39.60199	4.93716	-8.02	0.000	-49.75047	-29.45351
infra1	0.6858746	0.2475852	2.77	0.010	0.1769559	1.194793
lnfdi2	0.0046919	0.004386	1.07	0.295	-0.0043237	0.0137075
lnlab2	1.065389	0.2163802	4.92	0.000	0.620613	1.510165
infra2	0.0048561	0.0006781	7.16	0.000	0.0034622	0.0062501
lnfdikd	0.0059734	0.0160334	0.37	0.71	-0.0269837	0.0389306
lnfdilab	0.1443097	0.0700377	2.06	0.049	0.0003452	0.2882741
lnfdiinfrac	-0.0397289	0.0122561	-3.24	0.003	-0.0649216	-0.01453
Cons	333.6778	48.84996	6.83	0.000	233.0694	434.2862

Appendix 4: Panel Data Studies of FDI and Economic Growth

Study	Type of data	Countries and time period	Empirical Approach	Results
De Mello (1999)	Panel data	32 developed and developing countries 1970-1990	Stationarity tests	Only weak evidence for FDI effects on economic growth
Mutenyo (2008)	Panel data	32 Sub-Saharan countries: 1991-2003	Panel regressions and GMM estimator	FDI has a positive impact on economic growth
Balasubramanyam et al (1996)	Panel data	46 developing Countries 1970-1985	OLS Regressions	FDI has a positive effect but only for export promoting host countries.
Borenszrein et al (1998)	Panel data	69 developing Countries 1970-1989	Regression estimations using SUR technique	FDI has a positive effect on growth but magnitude depends on availability of host country human

				capital
Zhang (2001)	Panel data	11 developing Countries in East Asia and Latin America, varying time periods between 1957-1997	Regression analysis using OLS as well as GMM	FDI inflows do not exert a robust, independent influence on economic growth
Bengoa and Sanchez-Robles (2003)	Panel data	18 Latin American Countries 1970-1999	Regression analysis, comparing fixed and random effects	FDI has a positive effect on economic growth, magnitude depends on host country conditions
Olofsdotter (1998)	Panel data	50 developed and developing countries 1980-1990	OLS Regressions	Increase in inward FDI stock has a positive effect on the growth rate.