

**FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN UGANDA
(1990-2016)**

BY

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DECLARATION

I, William Wol Wieu Wol, hereby declare that the work contained in this dissertation entitled, "***FOREIGN DIRECT INVESTMENT (FDI) AND ECONOMIC GROWTH OF UGANDA FROM 1990-2016***", with the exception of acknowledged references, ideas and concerns is my original work and it has never been submitted for fulfillment of the requirements for any award of education qualification in any institution of learning.

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APPROVAL

This dissertation by William Wol Wieu Wol entitled **"FOREIGN DIRECT INVESTMENT (FDI) AND ECONOMIC GROWTH OF UGANDA FROM 1990-2016"**, was prepared under my supervision and is now ready for submission.

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Dr. John Mutenyo
(Supervisor)

DEDICATION

I dedicated this research Report to my parents and my family whose gave me the time and resources for my studies.

ACKNOWLEDGMENTS

All praise is to Almighty God, the most Gracious and Merciful, Who bestowed upon me the potential and ability to complete this thesis. I would also like to send and pay my homage, honor and sweet sensation of respect to my loving family whose love, prayers and encouragement kept me steadfast, dedicated and committed. Special thanks goes to my supervisor Dr. John Mutenyo for intellectual guidance, support and encouragement together with his committee who enabled me complete this work successfully.

I cannot forget the tireless efforts of lecturers of KIU for their encouragement and as well as their contributions to shape me to be valuable product of this university. Needless to say that for any errors and omissions which might still be there in this thesis, the researcher is solely responsible for the same.

ACRONYMS

UNCTAD	United Nations Conference on Trade and Development
IMF	International Monetary Fund
UBOS	Uganda Bureau of Statistics
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
UIA	Uganda Investment Authority
OECD	Organization for Economic Co-operation and Development
SMEs	Small and medium scale enterprises

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ABSTRACT

This study examined the impact of the Foreign Direct Investment (FDI) on economic growth in Uganda using time series data from 1990-2016. The specific objectives of the study were: to examine the effect of FDI on Agricultural sector growth, Manufacturing sector growth, Industrial sector growth and Service sector growth in Uganda using Seemingly Unrelated Regression analysis (SUR). This method of analysis allows modeling of the sector growth rates on same set of FDI, Human capital, labour force trade openness and financial sector development. The study tested for stationary variables using augmented dickey fuller tests and corrected for stationary by differencing using one period. The results showed that there is a significantly negative effect of FDI on economic growth in Uganda. Trade openness and Human capital are some of the channels through which FDI inflows impacts on Uganda's economic growth. Trade openness and financial sector development impact on economic growth positively. It was observed that FDI has a positively significant effect on Industrial sector growth implying that FDI inflow into the economy increases the growth rate of the industrial sector but it does not have a significant effect on Agricultural sector growth, manufacturing sector growth, and service sector growth. Other variables like domestic capital, labour force trade openness do not impact on the growth of agricultural sector, trade openness and inflation impacts positively on the growth of the manufacturing sector. In addition only financial sector development was observed to positively impact on the service sector growth, all other factors were insignificant. FDI channeled through trade openness, labour force and financial sector development impacts negatively on the economy. Therefore Uganda should encourage and attract FDI directed to the Industrial sector FDI channeled through human capital and improve on the domestic investments to enable the sector drive the economy. Uganda should focus on transfer of skill, knowledge from the FDI inflows to boost domestic investments, value addition and growth.

CHAPTER ONE

INTRODUCTION

This chapter gives the background to the study, the statement of the problem, purpose of the study, specific objectives, research questions, Research Hypothesis, scope of the study and significance of the study.

1.1 Background of the Study

1.1.2 Historical Perspective

One most important measure in Macroeconomics is the Gross Domestic product (GDP) which measures the total value of goods and services produced in a country. GDP is the national income product accounts which are a body of statistics that enable policy makers to determine whether the economy is contracting or expanding (Sam, 2000). In economics, the concept GDP has been associated with economic growth. Accordingly, economists content that the reasons for country's growth performance lie in the incentives created by policies and institutions (Levie, 2005).

The changing international economic and political environments have led to a renewed interest in the benefits offered by direct foreign investment in most of the developing countries especially enhancing economic growth (Ehimare, 2011). According to Ehimare, the growing interests in foreign direct investment roots from the perceived opportunities derived from utilizing this form of foreign capital injection into the economy to augment domestic savings and further promote economic growth in most developing economies (Aremu, 2005) as cited in (Ehimare, 2011).

Studies that have analyzed the role of foreign direct investment inflows into developing countries indicate that this concern goes far beyond the understanding of foreign direct investment statistics (Francia, 2010). More so, in relation to economic theory, the principal contributions of FDI to developing countries include among others; the financial capital invested by foreign firms, export market access, and

technology spillover that is expected to occur through technology transfer as part of the Foreign Direct Investment package.

There are two main channels through which foreign direct investment may enhance growth. First, that foreign direct investment encourages the adoption of new technology in the production process through capital spillovers. Second, FDI may stimulate knowledge transfers, both in terms of labor and better organizational arrangements (DeMello, 1997). On the other hand it is indicated that FDI promotes economic growth in economies with capital markets and developed financial markets (Boronztein, DeGregorio, & Lee, 1998).

In the view of African continent, foreign direct investment has taken a critical role in the advancement of economic growth. (Anyanwa & Yameogo, 2014) have indicated that for most of the countries, besides being a critical source of long term capital for investment in infrastructure and other development initiatives, foreign direct investment can be a catalyst for economic diversification, helping these economies move beyond overdependence on natural resources.

In Uganda, the changing international/external economic environment, which is characterized by rapid globalization, increase in foreign direct investment (FDI), trade liberalization, and technological development, is creating both opportunities for and risks in achieving development objectives (Gadkarim, 2012). According to the World Bank report (2007), foreign direct investment has become a very important source of external financing for Uganda and an important source of foreign exchange to support the country's recent current account deficits. However, the FDI inflow reduced by 4.1%, from US\$ 1,147 million in 2014 to US\$ 1,100 in 2015. The decline could be attributed to the national elections which were being anticipated in the following year, 2016 (World Investment Report, 2016).

Furthermore, the ambiguity regarding sustaining the relatively improved position of FDI is greater than before the discovery of bulk of oil in the recent years. In this context, examining the rationality, motives, and detailed picture of the achieved level

of FDI is essential. This is necessary for assessing past/current FDI in Uganda as well as anticipating its future.

1.1.2 Theoretical Perspective

The study followed the Two-Gap Model (2GM). This model expands out of the adaptation of Harrod-Domar growth hypothesis to the open economy by including exports, imports, savings, investment and foreign aid (Jhingan, M. L. 1995). This two-gap comprises of the foreign exchange gap and the domestic savings gap. (Chenery, Hollis and W. Strout, 1966) concur that domestic savings and foreign exchange gaps are separate and have independent constraints towards achieving growth in the LDCs. To fill these gaps, (Chenery H. and Strout, 1996), sees its expedients to source for foreign aid in order to achieve economy's target growth rate. He further postulates a fixed relationship between targeted foreign exchange requirement and net export earnings. If the latter fall short of the former, a foreign exchange gap prevails; this can be obviated by foreign aid.

However, foreign aid eliminates foreign exchange gap by allowing new investment project, importing plant and machineries, technical assistance and intermediate goods. In the long-run, the foreign aid required equals the difference between increase in investment and savings increase caused by increasing income (Gersovitz, M. 1982). The elimination of savings gap brings about sustained growth rate. The vital issue is how beneficial or detrimental foreign aid is to the growth of LDCs. Appropriate utilization of foreign aid enhances rapid growth of a recipient country. This reflects through increase in investment level at a faster rate than it could otherwise have been, if the source of investible funds were to be domestic savings of the recipient country. Also, the size of the rate of investment increases depending on the assumed savings function.

1.1.3 Conceptual Perspective

The dependent variable in this study is Gross Domestic Product (GDP). GDP is defined as an aggregate measure of production equal to the sum of the gross values added of all resident institutional units engaged in production (plus any taxes, and minus any subsidies, on products not included in the value of their outputs). The

sum of the final uses of goods and services (all uses except intermediate consumption) measured in purchasers' prices, less the value of imports of goods and services, or the sum of primary incomes distributed by resident producer units (OECD, 2002).

In this research, Gross Domestic Product is conceptualized as the market value of all final goods and services produced in a country in a given period of time. Market value implies that goods and services are valued at market prices.

A number of definitions have been advanced to bring forward the meaning of FDI. In the view of US Bureau of Economic Analysis (BEA, 2009), foreign direct investment includes the ownership of 10 percent or more of a United States' business.

According to (IMF, 2001) and (OECD, 1996), direct investments reflect a lasting interest by a resident entity of one economy (direct investor) in an enterprise that is residential in another economy (the direct investment enterprise). FDI on the other hand refers to the act of acquiring assets outside one's home country. These assets may be financial, such as bonds, bank deposits, real estate and equity shares, or they may involve the ownership of a means of production, such as factories and land (Eatwell, et al., 2001).

1.1.4 Contextual Perspective

The study purely utilized secondary data. It aimed at assessing the relationship between Foreign Direct Investment and GDP of Uganda as defined by the period from 1990 to 2016. Uganda is one of the east African countries that heavily rely on agriculture for its exports, its industrial and manufacturing sector is weak and this has potentially constrained economic growth. The study therefore sought the effect of FDI on each of the sectors i.e. Agricultural, Manufacturing, Industrial and Service sectors and Economy as a whole. In general for many years the country is characterized by economic and political instability a fact that could deter foreign investment especially when combined with the underdeveloped nature of physical infrastructure and inadequate qualified and efficient manpower. It has been noted

that privatization and the opportunities created by the government for foreign investors in the lucrative and expanding oil, telecommunications, and banking sectors contributed towards the growth of the country.

1.2 Statement of the Problem

After a very impressive period of nearly twenty years, economic growth in Uganda has been decelerating. During the 20 year period from 1990 to 2010, the economy was growing at an average of 7 percent per annum. It then slowed down to an average of 4.5 percent per annum during the period of 2014 to 2017; this recent decline is due to a combination of both internal and external factors (UBOS, 2017). Yet Uganda has been consistently attracting the highest foreign direct investment (FDI) in East Africa and the Red Sea region reaching a record level of USD1.2 billion in 2012, though the FDI flows declined to USD541 million in 2016 (UNCTAD, 2017). But Uganda gained one place compared to the previous year, after having already gained 27 places between 2015 and 2016 in doing business most importantly in terms of electricity connection and cross-border trade (World Bank, 2017).

For the case of Uganda, FDI is assumed to have contributed towards her average growth rate of 5percent for the last 20 years. It has been a great concern among economists about how FDI affects economic growth of the host country's economy (Iqbal, et al., 2014) but no clear consensus has been reached. This study attempts to examine whether the reduction in FDI inflows in Uganda is consequently responsible for the slow growth rate of the economy and its impact on Agricultural sector growth, Manufacturing sector growth, Industrial sector growth and the Service sector growth.

1.3 Purpose of the Study

The main purpose of the study was to examine the effect of foreign direct investment on GDP growth rate of Uganda, using a time series for a period between 1990 and 2016.

1.4 Research Objective

To analyze the effect of Foreign Direct Investment (FDI) on Uganda's Economic Growth

1.5 Specific Objectives

1. To examine the effect of FDI on Uganda's Agricultural Sector growth;
2. To establish the effect of FDI on the Manufacturing Sector growth,
3. To determine the effect of FDI on the Industrial Sector growth
4. To examine the effect of FDI on Uganda's Service Sector growth;

1.6 Research Questions

1. What is the effect of FDI on Agricultural Sector growth?
2. What is the effect of FDI on Manufacturing Sector growth?
3. What is the effect of FDI on Industrial Sector growth?
4. What is the effect of FDI on Service Sector growth?

1.7 Research Hypothesis

H₀₁: There is no relationship between Foreign Direct Investment and Agricultural Sector growth rate in Uganda.

H₀₂: There is no significant relationship between Foreign Direct Investment and Manufacturing growth rate in Uganda.

H₀₃: There is no significant relationship between Foreign Direct Investment and Industrial Sector growth rate in Uganda.

H₀₄: There is no significant relationship between Foreign Direct Investment and Service Sector growth rate in Uganda.

1.8 Scope

1.8.1 Geographical Scope

This study utilized secondary data on foreign direct investment and GDP growth rate of Uganda. This study was conducted in Uganda using time series data from 1990-2016.

1.8.2 Content Scope

The study examined the relationship between GDP growth rate as the dependent variable and explanatory variables which included; net foreign direct investment

(FDI) inflow, labour force, domestic capital, financial sector development, openness to trade, and rate of inflation.

1.8.3 Theoretical Scope

This study was motivated by the endogenous growth model developed by (Romer's, 1986). It emerged to fill the gaps that existed in the neoclassical growth model which includes the mechanism to overcome the diminishing return to capital accumulation and how to explain the long-run growth. In this model, technological progress stem from the activity of individuals or firms. Endogenous growth economists believe that improvement in productivity can be linked to faster pace of innovation and extra investment in human capital, research and development (R&D). In this theory therefore, FDI can affect long-term economic growth through importation of better technology and if it can lead to increase in productivity of local firms as local investors attempt to imitate advanced technologies from foreign firms.

1.8.4 Time Scope

The study used a time series data of 26 years period that is from 1990 to 2016.

1.9 Significance of the Study

The government of Uganda emphasizes the role of private sector as a way to achieve MDGs and economic growth. Consequently, policies have been formulated and lots of resources have been sacrificed in an attempt to create suitable environment to both domestic and foreign investors. Currently, there is increased international capital inflow to Uganda mostly in form of FDI, unfortunately its impact on economic growth has not been widely assessed for policy purpose. Previous studies such as (Mutenyo *et al*; 2012, Maxwell, 2012), among others have concentrated on aggregate economic growth. Different from past studies, this study attempts to dis-aggregate the GDP growth rate into sectoral growth rates. It is assumed that FDI to developing countries does not enter into all sectors but specific ones. Accordingly there is need to un-earth those sectors where FDI has greater impact so as to design appropriate policies to encourage its inflow into those sectors.

Economic theory suggests that host countries are likely to benefit from increased FDI inflow in several ways for instance, through the positive spillovers to domestics

firms that arise from better technology, new process and new products, better management and marketing skills and human capital development. These benefits are expected to enhance domestic firms' productivity ultimately increasing economic growth. Theoretically however, for FDI to stimulate economic growth, it is necessary that either FDI has positive spillover effects to domestic firms or it is more efficient than domestic firms or both. This study attempted to examine the impact of FDI on; Agriculture, manufacturing and service sectors on Uganda's economic growth which were not well elaborated by previous studies.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

In this chapter, the theory that underpins the study is presented. The chapter also contains the conceptual framework, a review of related literature and summary of gaps.

2.1 Theoretical Review

2.1.1 The Two-Gap Model (2GM)

This model expands out of the adaptation of Harrod-Domar growth hypothesis to the open economy by planners interested in exports, imports, savings, investment and foreign aid. This two-gap model comprises of the foreign exchange gap and the domestic savings gap. Hollis and others concur that domestic savings and foreign exchange gaps are separate and have independent constraints towards achieving growth in the LDCs. To fill these gaps, Chenery said it's expedient to source for foreign aid in order to achieve economy's target growth rate. He further postulates a fixed relationship between targeted foreign exchange requirement and net export earnings. If the latter fall short of the former, a foreign exchange gap prevails, which can be obviated by foreign aid (Chenery, *et al.*, 1966).

Foreign aid eliminates foreign exchange gap by allowing new investment project, importing plant and machineries, technical assistance and intermediate goods. In the long-run, the foreign aid required equals the difference between increase in investment and savings increase caused by increasing income. The elimination of savings gap brings about sustained growth rate. The vital issue is how beneficial or detrimental foreign aid is to the growth of LDCs. Appropriate utilization of foreign aid enhances rapid growth of a debtor country. This reflects through increase in investment level at a faster rate than it could otherwise have been, if the source of investible funds were to be domestic savings of the recipient country. Also, the size of the rate of investment increases depending on the assumed savings function (Chenery, *et al.*, 1996). On the other hand, foreign loan could be detrimental if it is

spent on unproductive investment like political campaign, buying and maintenance of luxuries cars, houses etc. at the expenses of necessities and consumption not likely to raise enough funds for debt servicing.

2.1.2 Endogenous Growth Theory

According to Romer (1994:31) "Endogenous growth embraces a diverse body of theoretical and empirical work. The empirical work does not settle for measuring growth accounting residual that grows at different rates in different countries. It tries instead to uncover the private and public sector choices that cause the rate of growth of the residual to vary across countries."

The endogenous growth theory has sparked and retained the interest of social scientists since the publication of Romer's article in 1986. This interest is witnessed by the spurt of research papers during the late 1980s and 1990s. Two mainstreams of endogenous growth theories have emerged, namely those focused on technological change and those mainly concerned with human capital.

It is in this avenue where the endogenous growth theory reduces the limitations of the neoclassical growth model by allowing increasing returns to scale through endogenous technological progress linked to human capital accumulation. Even though Arrow and Uzawa pioneered such work in the 1960s (Arrow, 1962; Uzawa, 1965), it was not until the 1990s that diverse ideas have been expressed into formal models in the neoclassical tradition. Endogenous growth economists also stress the need for government and private sector institutions and markets, which nurture innovation and provide incentives for individuals to be inventive. There is also a central role for knowledge as a determinant of economic growth. Triggered by Romer's, 1986 and Lucas's, 1988) seminal work studies within this framework highlighted three significant sources of growth: new knowledge (Romer, 1990; Grossman and Helpman, 1991), innovation (Aghion, *et al.*, 1992) and public infrastructure (Barro, 1990). As a result, and in contrast to the neoclassic counterpart, policies are deemed to play a substantial and permanent role in advancing growth on a long run basis. As a result, convergence would not occur

under the endogenous growth framework, mainly due to the fact that there are increasing returns to scale. In order to expand the utility of this framework, additional variables are included as inputs in the production process.

The focus in this paper was the inclusion of foreign direct investment, labour force domestic capital, financial sector development, trade openness, inflation rate, and their effects were analyzed by incorporating them as endogenous variables in the production function (see Barro, 1990; Hsieh and Lai, 1994; Anaman, 2004 for examples). This is done under the notion that economic growth is best described by an endogenous growth model (Barro, 1990).

2.2 Empirical Literature Review

In analyzing whether FDI stimulates economic growth in Sub-Saharan Africa, Mutenyo *et al.* (2016), using dynamic panel model finds that FDI has no direct effect on Economic growth but an indirect positive effect via human capital development and financial development.

There have been many arguments stating that inflows of FDI improve the economic growth, and consequently enhances employment opportunities. FDI provides technological advances (increasing GDP) and widens the scope for domestic markets hence increasing employment (Mehra, 2013). The literature that has been reviewed by many authors indicates that FDI has a positive relationship with economic growth (GDP). A study on the impact of foreign direct investment on employment and GDP using multiple regression analysis concluded that a positive relationship exists between FDI and GDP but not necessarily between FDI and employment (Mehra, 2013).

Odongo (2012) used Vector Autoregressive Model to investigate the impact of foreign direct investments on economic growth using annual data from 1970-2010 in Uganda. He observed that FDI has a direct impact on economic growth and indirectly through domestic investment and exports (trade openness). Thus FDI stimulates domestic investments and Uganda's capacity to produce for exports

thereby generating export-led growth; the channels through which FDI impacts economic growth.

Mutenyo (2012) assessed the impact of Foreign Direct Investment (FDI) on economic growth in 31 sub-Saharan African countries motivated by an endogenous growth model in which FDI is considered as one of the major determinants of growth finds that FDI has no direct impact on economic growth of the selected sample of SSA countries, but it has indirect impact on growth via human capital development, financial development while attempting to uncover the channels through which FDI impacts on growth.

The study of Oladipo O. S. (2010) examined the determinants of FDI, the causal relationship among factors affecting economic growth in Nigeria, including the formal investigation of the export-led and FDI-led growth hypotheses in Nigeria for the period between 1970 and 2005. The findings confirm that foreign direct investment leads to economic growth and government consumption expenditure, openness to international trade and human capital are complementary to economic growth.

The study examining the effects of the foreign direct investment (FDI) on economic growth in Vietnam using the panel data model across Vietnam's sixty-one provinces in 1995-2006 shows that there was a strong and positive effect of FDI on economic growth in Vietnam as a channel of increasing the stock of capital. FDI didn't impact on economic growth through Human capital and trade in Vietnam (Thu and Tubtimtong, 2010)

Using data from 69 countries over 1970–1989, Wang and Wong (2009) finds A positive relationship between FDI and economic growth under two economic conditions, that is; a sufficient level of human capital and well-developed financial markets. However, FDI promotes productivity growth only when the host country reaches a threshold level of human capital; and FDI promotes capital growth only when a certain level of financial development is achieved. The results suggest that

human capital is the major factor linking FDI and productivity growth and financial depth is the major factor linking FDI and capital growth.

Darrat (1999) argues that the benefits of higher levels of financial development could be realized in the short run, though in the long run, as the economy becomes mature, the positive effect somewhat disappears. An increase in FDI also lowers the short-term productivity level but raises the long-term rate of productivity growth of Chinese manufacturing firms (Liu, 2008).

Lensink and Morrissey (2006); used a panel data and instrumental variable techniques and found that FDI has a positive impact on growth but their findings were condition on the level of human capital development in the host country. However, Adeolu (2007) reveals that human capital are not FDI inducing.

Nguyen Phi Lan (2006) tested the relationship between economic growth and FDI by generalized method of moments (GMM) in a simultaneous equation model. Based on panel data set for sixty one provinces of Vietnam over the 1996-2003 periods, the paper reflected that FDI had a positive and statistically significant impact on economic growth. Moreover, exports, growth of labour, learning by doing and human capital also helped increase economic growth in Vietnam.

The paper of Vu, Noy and Gangnes (2006) estimated the impact of FDI on growth using the sectoral data for FDI inflows to China and Vietnam. The results proved that FDI had statistically significant positive effects on economic growth operating directly and through labor productivity in both countries. However, the effect was not equally distributed across sectors. In both countries, manufacturing seemed to be the only sector to significantly benefit from FDI inflows, with an additional positive impact for FDI on the oil and gas sector in Vietnam. Other sectors appeared to gain very little growth benefit from sector-specific FDI.

Vu *et al.*, (2006) studied sector-specific FDI inflows for both China over the period 1985-2002 and Vietnam over the period 1990-2002 Using an augmented production

function specification and regression methodology and concluded that FDI has positive and direct impact on economic growth as well as an indirect effect through its impact on labor productivity. In a similar sectoral investigation, they found that the manufacturing sector appears to gain more than other sectors from sector-specific FDI.

Li and Liu (2005) applied both single equation and simultaneous equation system techniques to investigate endogenous relationship between FDI and economic growth. Based on a panel of data for 84 countries over the period 1970-1999, they found positive effect of FDI on economic growth through its interaction with human capital in developing countries, but a negative effect of FDI on economic growth via its interaction with the technology gap.

However contrary to these findings, (Carkovic, et al; 2004) find out that while most of the studies reveal a positive relationship between FDI and GDP, the results are dissimilar. They indicate that FDI inflows do not exert an independent influence on economic growth. (Stohldreier, 2009) found similar findings to (Carkovic et al; 2004). In the analysis of panel data based on a regression model including values for all Chinese provinces in the time period of 1985-2005, even though theory suggests positive effects of FDI inflows on economic growth, empirical assessment found no positive but slightly negative and highly significant relation between the two components(Stohldreier, 2009).

Another study on the co-integration and the causal relationship between Foreign Direct Investment and economic output (GDP) in both short run and long run of Bangladesh, Pakistan and India from 1972-2008 reveals that there is no co-integration between FDI and GDP in both short run and long run in Bangladesh and India. However co-integration was found between FDI and GDP in Pakistan.

Using estimators for heterogeneous panel data, a bi-directional causality was found between FDI/GDP ratio and the level of GDP. FDI was found to have long lasting

impact on the level of GDP, while GDP had no long run impact on FDI/GDP ratio. This implies that FDI has impact on growth (Hansen & Rand, 2004).

Alfaro (2003) in his paper on the role of Foreign Direct Investment in promoting growth in the main economic sectors (primary, manufacturing and services) has indicated that FDI inflows into the different sectors of the economy namely the primary, manufacturing and services exert different effects on economic growth. FDI inflows into the primary sector tend to have a negative effect on growth, whereas FDI inflows in the manufacturing sector a positive one. As evidenced effect of foreign investments in the service sector is ambiguous.

Bengoa *et al.* (2003) estimated the relationship between FDI and economic growth using panel data for eighteen Latin American countries over the period 1970-1999. They showed that FDI has positive and significant impact on economic growth in the host countries. However, in their other studies, Bengoa et al. (2003) found that the benefit to the host country requires adequate human capital, political and economic stability and liberalized market environment.

The role of FDI in the growth process as a diffuser of technology has been supported in the early literature such as Solow (1956) and Romer (1993) who emphasized the role of FDI in technology diffusion and its link to economic growth. Grossman and Helpman (1991) provided a comprehensive discussion on the models that links externalities associated with liberal trade policies leading to higher levels of growth.

In an excellent survey De Mello (1997) identified two channels through which FDI promotes growth. It does so first, by encouraging the adoption of new technology in the production processes and second by encouraging acquisition of skills and new management practices conducive to growth (Saggi, 2002).

While there are ample intuitive reasons to believe that FDI has positive economic growth impact on the host countries, the empirical evidence is mixed. At the

macroeconomic level, studies using aggregate FDI flows for a broad cross-section of countries, generally find a positive role for FDI in generating economic growth especially in particular environments (Carkovic and Levine 2002). These environments include among others achieving a threshold level of human capital, income level, a well-functioning capital market and openness to international trade. For example, Borensztein *et al.*, (1998), using a cross-country regression framework find that in order for FDI to have a beneficial impact on growth the country must have attained a sufficiently high level of development, especially as it relates to the accumulation of human capital. Similarly, Xu (2000) finds that FDI brings technology and it translates into higher economic growth only when the host country has a minimum threshold level of human capital.

Alfaro *et al* (2006), Durham (2004), and Hermes and Lensink (2003) find that countries with well-developed financial markets gain significantly from FDI in terms of economic growth. However, Khawar (2005) using cross-country data for over two decades finds that, FDI has a significant and positive relationship with real income per capita irrespective of any human capital requirements. Bhagwati (1978) and Balasubramanyam *et al.*, (1996) stressed that trade openness is crucial for obtaining the growth effects from FDI.

The effect of financial depth on growth can be either positive or negative, depending on whether it reduces or increases capital flight. The preponderance of evidence suggests a causal relationship running from financial development to economic growth. Levine et al. (2000), in a cross-country study, finds a strong positive relation between financial intermediary development and long-run economic growth, demonstrating that the level of financial development is a good predictor of growth. In a related work, Beck et al. (2000) also observes a robust and positive link between financial intermediaries and both real per capita GDP growth and total factor productivity. The finance–growth link has also been revealed in event studies of financial liberalization on growth and investment (Bekaert *et al.*, 2005; Graff 2003) and in industry analysis (Rajan and Zingales 1998).

The emerging literature on foreign direct investment (FDI) now stipulates that FDI's positive impact on growth depends on absorptive capacities. Prime among these capacities is financial development. Mohammed and Ali (2003) in the context of the Arab countries whose financial system is predominantly bank-based finds that FDI has a favorable effect on growth if interacted with financial variables at a given threshold level of development.

2.3 Research Gap

No recent literature has reported on the contribution of FDI inflow to the growth of the different sectors in an economy. In an attempt to fill this gap; this research explores the effect of FDI on the different sectors, i.e. Agricultural, industrial, manufacturing, and service sectors and the channels through which FDI contributes to positive growth by adopting a Cobb-Douglas production model. This study examined the impact of FDI on the different sector's growth with the aim of bringing more insight on previous studies that sight contradicting relationship between FDI and GDP.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter presented theoretical framework, conceptual framework, and measurement of variables, model specification, data source, data analysis procedure and ethical considerations.

3.1 Theoretical Framework

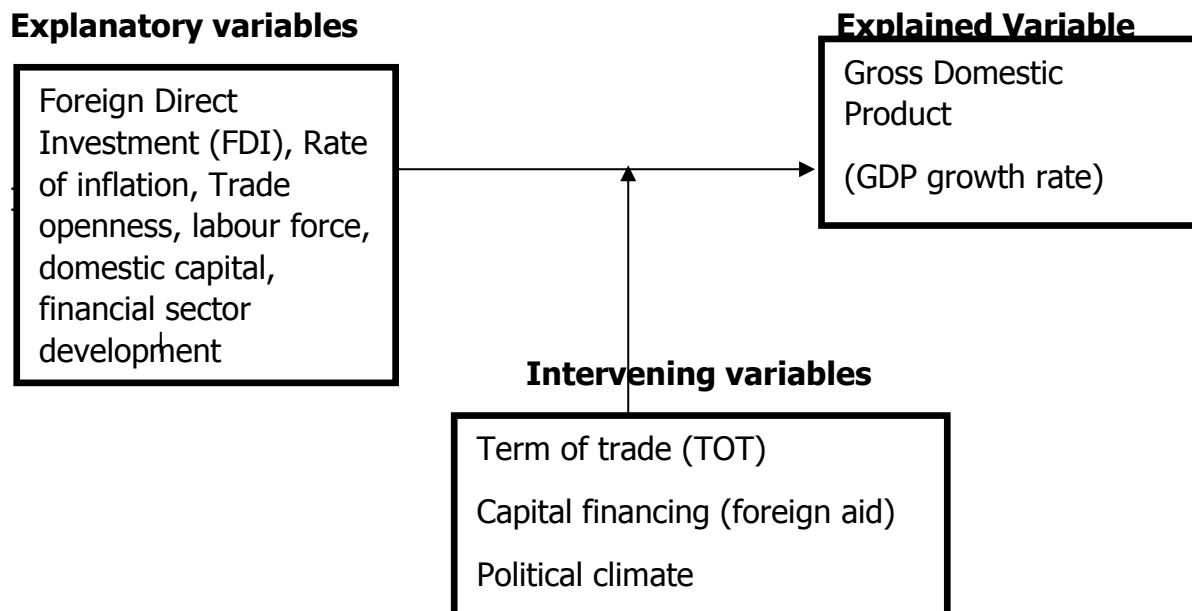
Neoclassical theory suggests that FDI contributes to economic growth of a host country in two ways; directly through capital factor accumulation and indirectly via improvements in total factor productivity. The direct effect of capital accumulation, leads to increased industrial output, manufactured exports, employment generation and tax revenue to the host country. These revenues in turn could be used for infrastructural development that further enhances growth. The indirect effects are generally referred to as spillover effects, which occur in different forms such as technological transfer, introduction of new commodities and new efficient production techniques, better managerial skills, and new markets. Further benefits may accrue from forward and backward linkages between FDI and domestic firms (Alfaro et al., 2009). However, the effectiveness of FDI on economic growth is said to depend on the initial conditions of the host country such as, the level of financial development, education, infrastructure, the technological gap in host country among others. For instance, Borensztien *et al.*, (1998) estimate the threshold level of human capital to be 0.52. FDI may also lead to development of the financial sector and human capital development in institutions of higher learning which further encourages more capital inflow and economic growth. These channels are expressed as interactions with FDI and are aimed at investigating any complementarity with FDI. For instance the interaction between FDI and education measures the complementarity between FDI and human capital. That is, FDI contributes to economic growth through human capital development. Similarly, the interaction between FDI and financial development captures the role of FDI on growth through financial markets and tests

the importance of financial development in enhancing the positive externalities that can be linked to FDI inflows, (Baharumshah and Almasaied, 2009).

The endogenous growth model which was propounded by Romer’s (1986) emerged to fill the gaps that existed in the neoclassical growth model which includes the mechanism to overcome the diminishing return to capital accumulation and how to explain the long-run growth. In this model, technological progress stem from the activity of individuals or firms. Endogenous growth economists believe that improvement in productivity can be linked to faster pace of innovation and extra investment in human capital, research and development (R&D). In this theory therefore, FDI can affect long-term economic growth if it can provoke increase in productivity of local firms or investors as they imitate advanced technologies from foreign firms. In order to expand the utility of this framework, additional variables were included as inputs in the production function.

3.2 Conceptual Framework

Figure 3.2 Conceptual Framework



Source: Extracted by Researcher, 2018

The framework indicates that the model consists of two variables; the explanatory variable is FDI while the explained variable is GDP. The model suggests that GDP depends on FDI.

3.3 Model Specification

The key starting point in both exogenous growth and endogenous growth models is the aggregate production for the economy. Usually, a Cobb-Douglas function is set forth as the functional form and additional variables are introduced such as, but not limited to: foreign direct investment, inflation rate, fiscal deficit, and growth rate of population. The development and use of this approach is well documented in the literature (see, for example, Mankiw, et. al., 1992; Hsieh and Lai, 1995; Barro, 1990; Anaman, 2004). This approach will be utilized to examine the impact of foreign direct investment on GDP growth including other variables.

Consider an aggregate production function of the form:

$$Y_t = \alpha_0 K_t^{\alpha_1} L_t^{\alpha_2} \dots\dots\dots(1)$$

Where: Y , K and L denote GDP, capital formation and labor respectively and t represents year, while α_0 measures the technical change per period when input factors are held constant.

Following Borensztein *et al.*, (1998), Carkovic and Levine (2002), and Alfaro *et al.* (2003), this looks at the direct effect of the different types of FDI on economic growth using regressions for the time period 1990-2016. The neoclassical theory suggests that the effect of FDI on the economy is through interaction of developed financial sector and human capital, following equation 1, variables such as foreign direct investment, domestic capital, financial sector development, trade openness, inflation and the interactions of FDI with human capital and financial sector development were introduced and Therefore transformed into a linear equation by getting the logarithmic function into a natural logarithmic function to make it a linear function subsequently leading to equations 2,3,4,5, and 6.

Modeling the independent variables under study endogenously gives;

$$\ln Y_t = \ln \alpha_0 + \alpha_1 \ln K_t + \alpha_2 \ln \Delta L_t + \alpha_3 \ln FDI_t + \alpha_4 \ln \Delta FSD_t + \alpha_5 \ln \Delta OPEN_t + \alpha_6 \ln \Delta INFL_t + \alpha_7 \ln \Delta FDIL_t + \alpha_8 \ln \Delta FDIFSD_t \dots \dots \dots (2)$$

Where:

Y_t = Growth rate of Real Gross domestic product.

α_0 = Constant

K_t = Capital formation

L_t = Labour force (human capital)

$INFL_t$ = Annual rate of inflation.

FSD_t = Financial sector development

$OPEN_t$ = Openness to international trade

FDI_t = Foreign direct investment

To test the effect foreign investment on growth rate of different sectors, we specify the following equations:

$$\ln \Delta AGR_t = \ln \alpha_0 + \alpha_1 \ln K_t + \alpha_2 \ln \Delta L_t + \alpha_3 \ln FDI_t + \alpha_4 \ln \Delta FSD_t + \alpha_5 \ln \Delta OPEN_t + \alpha_6 \ln \Delta INFL_t + \alpha_7 \ln \Delta FDIL_t + \alpha_8 \ln \Delta FDIFSD_t \dots \dots \dots (3)$$

Where: AGR_t corresponds to the Agricultural sector growth rate

$$\ln \Delta MANF_t = \ln \alpha_0 + \alpha_1 \ln K_t + \alpha_2 \ln \Delta L_t + \alpha_3 \ln FDI_t + \alpha_4 \ln \Delta FSD_t + \alpha_5 \ln \Delta OPEN_t + \alpha_6 \ln \Delta INFL_t + \alpha_7 \ln \Delta FDIL_t + \alpha_8 \ln \Delta FDIFSD_t \dots \dots \dots (4)$$

Where: $MANF_t$ corresponds to the Manufacturing sector growth rate

$$\ln \Delta INDUS_t = \ln \alpha_0 + \alpha_1 \ln K_t + \alpha_2 \ln \Delta L_t + \alpha_3 \ln FDI_t + \alpha_4 \ln \Delta FSD_t + \alpha_5 \ln \Delta OPEN_t + \alpha_6 \ln \Delta INFL_t + \alpha_7 \ln \Delta FDIL_t + \alpha_8 \ln \Delta FDIFSD_t \dots \dots \dots (5)$$

Where: $INDUS_t$ corresponds to the Industrial sector growth rate

$$\ln\Delta SERVICE_t = \ln\alpha_0 + \alpha_1 \ln K_t + \alpha_2 \ln\Delta L_t + \alpha_3 \ln FDI_t + \alpha_4 \ln\Delta FSD_t + \alpha_5 \ln\Delta OPEN_t + \alpha_6 \ln\Delta INFL_t + \alpha_7 \ln\Delta FDIL_t + \alpha_8 \ln\Delta FDIFSD_t \dots \dots \dots (6)$$

Where: $SERVICE_t$ corresponds to the Service sector growth rate

3.4 Definition of Variables

3.4.1 Foreign Direct Investment (FDI)

This is the net inflows of investment to acquire a lasting management interest in an enterprise operating in an economy other than that of the investor. It is measured as the ratio of foreign direct investment to real GDP. A positive coefficient is expected based on the assumption that FDI inflows promotes growth.

3.4.2 Trade Openness

This guarantees integration of a country into the world economy, providing ease of importing and exporting. The standard measure of this variable is the ratio of the sum of exports and imports to GDP. Following Yao et al., (2008), Baharumshah and Almasaied, (2009), Hoang *et al.*, (2010), the study used the ratio of exports to GDP. This is mainly because of the export led growth hypothesis (ELGH) which postulates that export expansion is one of the main determinants of growth. It holds that the overall growth of countries can be generated not only by increasing the amounts of labour and capital within the economy, but also by expanding exports (UNCTAD, 2016)

3.4.3 Domestic Capital:

The gross capital formation as a percent of GDP. Capital accumulation encourages investment and growth, therefore a positive relationship is expected.

3.4.4 Human Capital (Labour Force):

Proxied by the percentage of all adults from 15 years and above in the economy. This contributes to growth if high therefore a positive relationship is expected.

3.4.5 Financial Sector Development:

Is measured by the ratio of liquid assets to GDP (M2/GDP). A country with a developed financial sector stimulates growth and therefore a positive relationship is expected.

However, the relationship may be affected by intervening variables like Term of trade (TOT), Industrialization (GDP saving ratio), infrastructure development, political climate etc.

3.4.6 Real GDP Growth Rate:

This is an inflation adjusted measure that reflects the value of all final goods and services produced by an economy in a given year measured in percentages.

3.5 Data Source

By the nature of the variables under investigation, the study use data provided by World Bank's World Development Indicators for the variables in the years between 1990 and 2016.

3.6 Data Analysis

Preliminary econometric tests for time series data characteristics were conducted namely; stationarity test using Augmented Dickey Fuller test was conducted because it is generally accepted that regression equations between two no-stationary series could give "spurious" or meaningless results, Newbold and Granger (1974). Therefore only relationships specified within stationary time series variables can be meaningful. It is found that many time-series variables are stationary only after first or second differencing.

3.7 Ethical Considerations

The researcher treated the results in a generalized manner and is used for academic purposes only.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.0 Introduction

The objective of this research was to examine the effect of FDI on economic growth in Uganda from 1990 to 2016. Based on the theoretical models of the neoclassical and endogenous growth and some empirical analysis models such as Romer (1990), Mankiw, *et al.*, (1992) and Borensztein, Gregorio, and Lee (1998), a model was adopted to examine the effect of FDI on economic growth in Uganda. The econometric model is derived from a production function in which FDI is introduced as an additional input besides labor, human capital and domestic capital.

Table 4.1: Summary Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ln_gdp	27	1.847634	.3493265	1.131402	2.442347
ln_agric	27	3.486909	.3088427	3.124038	4.035603
ln_manuf	27	2.074295	.1891013	1.740466	2.424803
ln_indust	27	2.972914	.254852	2.406945	3.310543
ln_service	27	3.805488	.1602715	3.478158	4.007333
ln_fdi	26	.8609059	1.1747	-3.506558	1.868721
ln_labour	27	3.880706	.0139771	3.864931	3.908015
LN_CAPT	27	2.959037	.2547512	2.407	3.332
LN_FSD	27	2.742519	.3406539	1.988	3.131
LN_OPENNESS	27	2.524074	.3221646	1.96	3.001
ln_inflat	23	2.207997	.9014054	.8754687	3.808882

Source: STATA output (2016)

The number of observation of all the variables were 27 except Foreign direct investment and inflation that had missing values. The variables were further tested for stationarity using the ADF test, the nonstationary variables were differenced onces, log of the variables were also obtained which reduced the number of some variables to 17. The foreign direct investment showed a minimum of -3.5 and a maximum value of 1.868 implying that a unit change in FDI reduces GDP by atleast 3.5 times and increases GDP by at most 1.868.

The service sector growth rate had the highest mean of 3.805, followed by the agricultural sector growth, trailed by the manufacturing sector growth rate. Overall the growth rate of the economy was on average 1.847.

The growth of the labour force was the highest among the independent variables with a mean of 3.88, followed by domestic capital formation and trailed by the growth of the foreign direct investment with a mean of 0.861. This implies that there is a lot to be done in attracting foreign direct investment in Uganda.

4.1 Augmented Dickey-Fuller Unit Root Test

H_0 : Nonstationary series (unit root)

H_a : stationary series (no unit root)

If $t_{cal} < t_{tau}$ we reject the null hypothesis that there is a unit root, otherwise accept the null hypothesis.

Table 4.2: Augmented Dickey-Fuller Results

Variable	Z(t) value	Z(critical)	P-value	EXO
GDP	-7.760	-3.580	0.000	C,T
AGRIC	-1.478	-3.576	0.8364	C,T
MANUF	-5.039	-3.592	0.0002	C,T
INDUST	-3.725	3.584	0.0207	C,T
FDI	-5.303	-3.600	0.001	C,T
HC	0.315	-3.600	0.9963	C,T
LF	-1.170	-3.576	0.9164	C,T
DI	-3.275	-3.576	0.0705	C,T
FSD	-2.666	-3.576	0.2503	C,T
OPEN	-4.086	-3.576	0.0066	C,T
INFLAT	-3.148	-3.588	0.0953	C,T

*ADF tests with constant and level of significance is 5%

*EXO stands for exogenous variables in the model with C=constant, T=trend

Source: STATA Output (2016)

Variables such as; GDP, Manufacturing sector growth rate, industrial growth rate, FDI, Trade openness were stationary. The order of integration of non-stationary variables is one at 5% level

4.2 Econometric Estimation

The methodology used in this study was the Seemingly Unrelated Regression (SUR) technique. This SUR technique was adopted to allow unobserved factors to affect GDP growth, agricultural sector growth rate, manufacturing growth rate, industrial sector growth rate and Service Sector at the same time. SUR is commonly used in the literature of economic growth (See also Barro, 1997 and Lee 1993). The model estimated the regressions of GDP growth, Agricultural growth, Manufacturing growth, Industrial sector growth and Service Sector growth simultaneously.

Table 4.3: Seemingly Unrelated Regression (SUR) Of GDP

Seemingly unrelated regression

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
lngdp	17	9	.1098138	0.8908	138.69	0.0000

lngdp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
lngdp					
LNCAPT	-.6653546	.2837707	-2.34	0.019	-1.221535 - .1091743
DlnLabour	-105.5429	18.62225	-5.67	0.000	-142.0418 -69.04394
lnfdi	-34.90073	11.17093	-3.12	0.002	-56.79535 -13.00611
Dlnfsd	1.115436	.3505959	3.18	0.001	.4282803 1.802591
Dopenness	2.204661	.2970706	7.42	0.000	1.622413 2.786909
DlnInflat	.4014688	.0532163	7.54	0.000	.2971667 .5057708
fdilabour	7.871363	2.788134	2.82	0.005	2.406721 13.336
fdicapital	3.173024	.4657181	6.81	0.000	2.260233 4.085814
fdiopenness	-1.877302	.3417538	-5.49	0.000	-2.547127 -1.207477
_cons	3.473561	.799519	4.34	0.000	1.906532 5.040589

Source: STATA Output (2016)

Table 4.3 above presents the estimation results of the effect of FDI inflow on economic growth in Uganda. The results show the effect of the original factors on economic growth. It shows that FDI, labor force, and Domestic capital were negatively significant at 5% and 10% level. FDI directing is detrimental to economic

growth depending on its nature and the state of the domestic firms. This is possible in the long run especially when the foreign investors repatriate profits to their countries and fail to pay taxes and also failure to transfer skills and technology to the host country. The quality and productivity of the labor force is not contributing positively to the growth of the economy and domestic capital is not channeled to the priority sectors for positive growth of the economy. According to the endogenous growth theory, FDI can affect long-term economic growth if it can provoke increase in productivity of local firms or investors as they imitate advanced technologies from foreign firms but it was not the case due to possible crowd out effect of the local firms by the foreign firms in the country. However, trade openness and financial sector development or deepening positively affects growth which is similar to findings by Adeolu (2007). This suggests that trade openness and financial sector development increases the growth rate of Uganda's economy. When FDI is channeled through labour force and domestic capital, the rate of economic growth increases but when channeled through trade openness it showed a negatively significant impact on growth at 5% level.

The results tend to support other researchers like Carkovic and Levine (2004), Stohldreier (2009) who recorded indirect impact of FDI on growth independently though it contravenes Lensink and Morrissey (2006) finding. The Table above indicates that all the variables included in the model were significant at 1% level with an R-Square of 0.8908 which implies that 89.08% changes in the GDP of Uganda is explained the independent variables in the model. Only about 10% represents factors excluded from the model.

Agricultural Sector Growth and the Independent variables under study

Table 4.4: Seemingly Unrelated Regression Results for Agricultural Sector

Seemingly unrelated regression

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
DlnAgric	17	9	.0540504	0.3274	8.28	0.5067

DlnAgric	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
DlnAgric					
LNCAPT	.0327675	.1396721	0.23	0.815	-.2409847 .3065197
DlnLabour	6.190217	9.165878	0.68	0.499	-11.77457 24.15501
lnfdi	.6973709	5.498337	0.13	0.899	-10.07917 11.47391
Dlnfsd	.0492033	.1725634	0.29	0.776	-.2890148 .3874215
Dopenness	.2665591	.1462183	1.82	0.068	-.0200235 .5531417
DlnInflat	.0353619	.0261931	1.35	0.177	-.0159756 .0866994
fdilabour	-.2358149	1.372321	-0.17	0.864	-2.925514 2.453884
fdicapital	.1849267	.2292267	0.81	0.420	-.2643494 .6342027
fdiopinness	-.1358178	.1682114	-0.81	0.419	-.4655061 .1938704
_cons	-.1291339	.3935236	-0.33	0.743	-.900426 .6421582

Source: STATA Output (2016)

In order to investigate the effect of FDI on Agricultural sector growth rate, all the factors and interaction terms were included in the model. The result in Table 4.4 shows that the variables were statistically insignificant (p-value of 0.5067>0.05) suggesting that these variables were not important determinants of Agricultural sector growth. This finding contradicts with Alfaro (2003) in his paper on the role of Foreign Direct Investment in promoting Agricultural sector which was negative. When FDI is channeled through labour force, Domestic capital, and financial sector development and trade openness no significant relationship was indicated. This means that FDI attracted in Uganda does not yet have a significant effect on the Agricultural sector probably its spillover effect on capital gains, value addition in financial sector, technology and skill transfer on labour force is still inadequate and cannot yet significantly add value to the sector. On the other hand, trade openness directly contributes positively to the growth of the agricultural sector significantly at

10 percent level especially through export earnings as seen most of the Uganda's exports are predominantly agricultural products like coffee, cotton, fish, and flowers among others.

Finally the model above indicated that the factors included in the regression account for only 32.7percent of the changes in the growth rate of agricultural sector. Implying that the factors are insignificant in determining the growth rate of the sector.

Manufacturing Sector Growth and the Independent variables under study

Table 4.5: Seemingly Unrelated Regression Results for Manufacturing Sector

Seemingly unrelated regression

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
DlnManuft	17	9	.0401551	0.6435	30.68	0.0003

DlnManuft	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
DlnManuft					
LNCAPT	.0811559	.103765	0.78	0.434	-.1222198 .2845316
DlnLabour	-5.685132	6.809504	-0.83	0.404	-19.03152 7.661251
lnfdi	5.512369	4.084819	1.35	0.177	-2.493729 13.51847
Dlnfsd	-.1410152	.1282007	-1.10	0.271	-.3922839 .1102535
Dopenness	.2357834	.1086283	2.17	0.030	.0228758 .448691
DlnInflat	.032967	.0194593	1.69	0.090	-.0051726 .0711067
fdilabour	-1.410331	1.019523	-1.38	0.167	-3.40856 .5878972
fdicapital	.0747275	.1702968	0.44	0.661	-.2590482 .4085032
fdiopopenness	-.1085238	.1249674	-0.87	0.385	-.3534555 .1364078
_cons	-.1664135	.2923561	-0.57	0.569	-.739421 .406594

Source: STATA Output (2016)

Table 4.5 indicates that FDI, domestic capital, labour force, financial sector development have no significant effect on the Manufacturing sector even when interacted. However, trade openness and inflation rate have a positively significant

impact on growth of Uganda’s manufacturing sector. The study result contravenes the finding by (Alvaro, 2003) who concluded that the effect of FDI on the manufacturing sector was positive. This implies that trade openness and inflation rate effect on the manufacturing sector positively. The finding supports the results of Li and Liu (2005) who applied both single equation and simultaneous equation system techniques to investigate endogenous relationship between FDI and economic growth using panel data and found a positive effect through its interaction with human capital.

The table indicates that that the model was significant at 1% level with an R-Square value of 0.6435 implying that 64.35% of the changes in the manufacturing sector were explained by the factors included in the model.

Industrial Sector Growth and the independent variables under study

Table 4.6: Seemingly Unrelated Regression Results the Industrial Sector

Seemingly unrelated regression

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
DlnIndust	17	9	.022874	0.8566	101.59	0.0000

DlnIndust	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
DlnIndust					
LNCAPT	-.0796693	.059109	-1.35	0.178	-.1955207 .0361822
DlnLabour	-1.695249	3.878983	-0.44	0.662	-9.297915 5.907417
lnfdi	3.896812	2.326886	1.67	0.094	-.6638013 8.457425
Dlnfsd	-.4196204	.0730285	-5.75	0.000	-.5627537 -.2764871
Dopenness	-.0240165	.0618793	-0.39	0.698	-.1452977 .0972647
DlnInflat	.0009018	.0110849	0.08	0.935	-.0208242 .0226277
fdilabour	-1.010108	.5807636	-1.74	0.082	-2.148384 .128168
fdicapital	.023475	.0970083	0.24	0.809	-.1666578 .2136078
fdiopenness	-.0172137	.0711868	-0.24	0.809	-.1567372 .1223098
_cons	.3025494	.1665385	1.82	0.069	-.02386 .6289588

Source: STATA Output (2016)

The results in the table 4.6 above indicate that FDI has a positively significant effect on industrial sector growth at 10% level. This could be due to the fact that FDI inflow attracted by Uganda leads to value addition on the industrial products hence growth of the sector; financial sector development indicated a negative effect on the sector growth. When FDI is channeled through labour force its impact is negative as well. Other factors like domestic capital, trade openness and inflation all should insignificant effect on industrial sector growth.

The model is statistically significant at 1% level and it shows an R-Square value of 0.8566 implying that 85.66% changes in the growth rate of the industrial sector is explained by the independent variables included in the model.

Service Sector Growth and the Independent variables under study

Table 4.7: Seemingly Unrelated Regression Results for the Service Sector

Seemingly unrelated regression

Equation	Obs	Parms	RMSE	"R-sq"	chi2	P
DlnService	17	9	.0324693	0.5303	19.19	0.0236

DlnService	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
DlnService					
LNCAPT	-.0767103	.0839042	-0.91	0.361	-.2411595 .087739
DlnLabour	-8.932917	5.506155	-1.62	0.105	-19.72478 1.858949
lnfdi	-4.406396	3.302979	-1.33	0.182	-10.88012 2.067323
Dlnfsd	.1783723	.1036629	1.72	0.085	-.0248032 .3815478
Dopenness	-.1313325	.0878367	-1.50	0.135	-.3034893 .0408243
DlnInflat	-.0085596	.0157348	-0.54	0.586	-.0393992 .0222801
fdilabour	1.114103	.8243849	1.35	0.177	-.5016616 2.729868
fdicapital	.009285	.1377018	0.07	0.946	-.2606056 .2791755
fdiopinness	.0291856	.1010485	0.29	0.773	-.1688658 .227237
_cons	.2194765	.2363988	0.93	0.353	-.2438566 .6828095

Source: STATA Output (2016)

The results in the table 4.7 above indicate that FDI, Domestic capital, labour force, trade openness and inflation all do not have any significant effect on the growth of the service sector. However, financial sector development indicated a positively significant impact on the sector growth. This could be due to financial innovations and technological progress through various money transfer services and other financial services which improved household incomes and Small and medium scale enterprises (SMEs). Even though FDI is channeled through labour force, domestic capital, trade openness no significant impact shows up. FDI impact on Service sector growth is insignificant though effect of FDI on industry and service growth was ambiguous according to (Alvaro, 2003). The model is statistically significant at 1% level and it shows an R-Square value of 0.5303 implying that 53.03% changes in the growth rate of the Service sector is explained by the factors in the model. The study findings complement previous research findings like Vu et al. (2006) who noted different impact of FDI on different sectors of the economy.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

The results according to table 4.4 show that FDI does not directly contribute to the growth of the Agriculture Sector of Uganda. On the other hand, trade openness and financial sector development had significantly positive effects on the economic growth of Uganda but when FDI is channeled through trade openness and financial sector development it negatively affects the growth rate. This could be because Uganda has not yet investment enough on her domestic capital and labour force to spur development through the theory.

According to the findings in table 4.5, FDI does not have a significant effect on Manufacturing Sector Growth. Factors like domestic capital, financial sector development, and labour force do not also have any significant effect on the growth of the manufacturing sector where the oil sector also falls but trade openness and mild inflation tends to contribute positively to the growth of the sector. However when FDI is interacted with Trade openness, domestic capital, labour force and financial sector development no significant effect was observed on the sector growth. This implies that if FDI is channeled in a fully developed financial sector, supported by a country's openness to trade and good host of domestic investment then Uganda's economy grow faster.

It was further observed that FDI has a positively significant effect on the growth of industrial sector in Uganda. However, financial sector development directly exerts negative effect on the growth of the sector (See Table 4.6).

The effect of FDI on the Service sector was insignificant whereas the effect of financial sector development was positive. When FDI is channeled through labour force, domestic capital, financial sector development, trade openness no significant effect showed up (See Table 4.7).

In summary the contribution of FDI to the growth rate of major sectors of the economy of Uganda such as Agriculture, Manufacturing, Industry and Services were insignificant but except for Industrial which had a positive growth.

5.2 Conclusions

The first objective was to examine the effect of FDI on Agricultural sector growth, it was found that FDI does not have any significant effect on the growth of the Sector, only Uganda's trade openness was contributing positively to the growth of the sector.

The second objective was to establish the effect of FDI on Manufacturing Sector Growth and the study revealed that FDI does not have a significant effect on the growth rate of the Manufacturing Sector but trade openness of the country contributes positively to the growth of the sector.

The third objective was to determine the effect of FDI on the Industrial Sector and the study showed that FDI a significantly positive effect on the growth of the sector but Financial Sector Development has a negative Effect on the growth of the Sector.

Finally the fourth objective of the study was to examine the effect of FDI on Service Sector growth, it was revealed that there was a statistically insignificant effect of FDI on the Service Sector of Uganda.

Conclusively, the effect of FDI on Agricultural sector, manufacturing sector and Service Sector was insignificant even when channeled through domestic capital, labor force and trade openness its impact does not show up. However the effect of FDI on the industrial sector growth was evidently positive.

5.3 Recommendations

Uganda should design and implement investment policies which attracts FDI to the Agricultural Sector to add value to the Primary exports if the FDI is to contribute to the growth of this sector.

The manufacturing sector should draft laws or policies that attracts FDI in the sector which complements the growth of the local manufacturers and adds value to the local products in order for FDI to contribute to the growth of the sector.

There is need to attract foreign direct investment (FDI) particularly directed to the industrial sector because its spillover effects promotes growth of this sector and this in the long run can transform the entire economy. Investment in the financial sector and improvement in the regional and international trade relations can improve the growth of the economy through financial innovations, technology, and improvement in the quality and quantity of exports.

The FDI attracted in Uganda should impart relevant skills, technology and training to equip the labor force to quickly adopt and tap knowledge from FDI inflow through technological and skills transfers. This is a necessary and sufficient conditions for the service sector to grow.

5.4. Contribution to Knowledge

No recent literature has reported on the contribution of FDI inflow to the growth of the different sectors in an economy. This study examined the effect of FDI on the different sectors, i.e. Agricultural, industrial, manufacturing, and service sectors and the channels through which FDI contributes to positive growth by adopting a Cobb-Douglas production model. This was an effort to bring more insight on previous studies that sighted contradicting relationship between FDI and Economic growth.

5.5 Limitations of the Study

The dataset collected had some missing values for some variables for the period studied. In the process of making the function linear the natural logarithm of negative values were lost which consequently reduced the number of observations and also differencing for non-stationary variables led to the loss of the some observations in some years.

The model used (seeming unrelated regression) was restricted by assumptions of many dependent variables for different or same set of independent variables and allowing other factors not in the model to affect the relationships though equivalent to the OLS estimates.

Data issues such as missing values of some variables, loss of values due to logarithmic transformation especially negative observations and loss of values due to differencing were reported.

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