INVESTMENT AND ECONOMIC GROWTH IN UGANDA

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A   Thesis

Presented to the School of

Postgraduate Studies and Research

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Kampala, Uganda

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In Partial Fulfillment of the Requirements for the Degree
Master of Arts in Economics

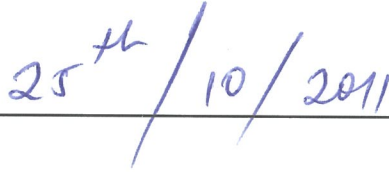_____

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OCTOBER, 2011

DECLARATION A

"I do hereby declare that this thesis is my original work and has never been presented for the award of any degree or any other academic award in any University or Institution of Learning".

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NDUGWA JAMES MAGEZI

25th / 10 / 2011

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DATE

DECLATION B

"I confirm that the work reported in this dissertation was carried out by the candidate under my/our supervision".

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APPROVAL SHEET

This thesis on **"Investment and Economic growth in Uganda"** prepared and submitted by NDUGWA JAMES MAGEZI in partial fulfillment of the requirement for the degree of masters of Arts in Economics has been examined and approved by the panel on oral examination.

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Grade: _____

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DEDICATION

This thesis is dedicated to my late father Livingstone Magezi who continuously supported me financially and morally throughout my education, my mother Nakalanzi Justine, my wife Lillian Namusoke and finally to my children Raymond and Annabelle who have always encouraged me through their prayers, love and support.

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Lastly all omissions and errors are entirely mine.

ABSTRACT

This paper set out to investigate the relationship between Investment and Economic growth in Uganda from 1980 to 2010. The study employed the expost facto research design since it basically examined secondary data; it was also a descriptive-correlation since it was interested in examining the relationship between the independent variables and the dependent variable. The Population of this study were the published reports on the variables of the study from 1980 to 2010. The study targeted annual reports by the Uganda Bureau of Statistics (UBOS), Bank of Uganda (BOU), Ministry of Finance Planning and Economic development and Uganda Investment Authority.

The objectives of this study were; to examine the level of investment in Uganda, determine the level of economic growth in Uganda, and finally it was set to find the relationship between investment and economic growth in the following forms; Public investment and economic growth; Private investment and economic growth, FDI and economic growth from 1980 to 2010. The study found out that the level investment has been increasing since 1980 to 2010 with some seasonal variations. The study also found out that Uganda's level of economic growth has continuously increased with a positive slope. It found out that Public investment does not have a significant effect on the growth of Uganda's economy whereas results show that FDI and private investment have had a significant effect on the growth of Uganda's economy. The above relationships between Public and FDI were compiled using linear regression models and the relationship between Private investment and economic growth was computed using a nonlinear exponential model.

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CHAPTER ONE
THE PROBLEM AND ITS SCOPE

Background of the Study

Many sub Saharan African countries have a very low production capacity due to low entrepreneurship skills, limited capital, few capital equipment and inadequate human capital base, to cope with the increased pressure brought about by globalization and its demand for efficiency. Such countries have come to rely on intensive investment strategy as a mechanism to enhance economic growth and development. However, the effectiveness of this strategy depends, in part on foreign direct investment, private investment and public investment.

Globally, the past three decades have had a primary focus on ways to accelerate the growth rate of national economies, Micheal P. Todaro (1994). Economists and politicians from all nations, rich and poor, capitalistic, socialistic and mixed have worshiped at the shrine of economic growth. At the end of every year, statistics are compiled for all countries of the world showing their relative rates of Gross National Product (GNP) growth. "Growthmanship" has become a way of life. Governments can rise or fall if their economic growth performance ranks high or low on this global scorecard.

Third World development programs are often assessed by the degree to which their national outputs and incomes are growing, in fact for many years the conventional wisdom equated development with the rapidity of national output growth derived from increased investment, Benjamin Higgins (1998).

A focus on the African and Sub-Saharan Africa (SSA), "all of us share a common vision for the future of Africa. We look to the day when prosperity for Africa is built through investment and trade". President G. W. Bush (2003). As reflected in the above statement, a key element in U.S policy towards Africa is the potential benefit from improved commerce and trade through increased investments in developing countries.

The economic challenges facing Africa today are serious. Unlike the period from 1960 to 1973 when economic growth in Sub-Saharan Africa was relatively strong, since 1973 the countries of Sub-Saharan Africa have grown at rates well below other developing countries. There are some signs of improvement, but problems such as HIV/AIDS and the debt burden are constraining African economic growth. According to Vivian C. Jones (2009) the historical pattern of contemporary Africa's economic growth provides insights to help understand Africa's current economic situation and policy options. Between 1960 and 1973, which is the period following independence in most African countries, economic growth was reasonably strong in most African and more so in most Sub Saharan African Countries. The subsequent two decades were, however, a period of stagnation for most African countries. Analysts have cited poor governance, political instability, geographical features, and historical conditions such as colonialism, slow accumulation of both human and physical capital, dependence on single commodity exports, low productivity growth and pressures from high population growth rates as reasons for Africa's economic malaise. After more than a decade of implementing economic reform programmes aimed at improving the overall

economic environment, investment in Africa is yet to show a robust improvement.

Following the end of the apartheid era in South Africa in the early 1990s, the United States sought to increase economic relations with Sub-Saharan Africa. President Clinton instituted several measures that dealt with investment, debt relief and trade. Among these, Congress required the President to develop a trade and development policy for Africa (Vivian C. Jones 2009). In May 2000, Congress approved a new U.S. trade and investment policy for Sub- Saharan Africa in the African Growth and Opportunity Act (AGOA; Title 1, P.L. 106-200). However, U.S trade with and investment in Sub-Saharan Africa have comprised only 1% - 2% of U.S. totals for the world. At the same time, congress directed the Administration to develop and implement a comprehensive trade and development policy for the countries of Africa and a new trade and investment policy for Sub-Saharan Africa which offered trade preferences and other economic benefits to countries in SSA that meet certain criteria, including progress towards a market economy, respect for the rule of law and human and worker rights.

A recent World Bank study finds that SSA has experienced more growth volatility than other regions, resulting in dampened investments and obscuring periods of good performance for some countries. This volatility has been caused by conflict, poor governance and fluctuating world commodity prices. According to the World Bank report 2009, SSA's resilient economic growth performance over the past decade suggests that it may have achieved a milestone in its quest for sustained growth. SSA's economic performance from 1995

to 2005 "reverses the collapse in 1975 – 1985 and the stagnation in 1985 – 1995". This growth has averaged 4.0% between 2000 and 2005 compared with less than 1% during the early 1990's. In 2006, GDP expanded by 5.6% in SSA, followed by 6.2% in 2007, and 5.2% in 2008. During that time, Vivian suggests that this improved economic performance reflects many factors, including better governance, increase trade flows, strong commodity prices, rising aid flows, investments and debt forgiveness.

In the past, Sub-Saharan Africa was given a low priority for foreign investment due to its perceived high risk nature. This perceived risk rating was based on political instability, poor infrastructure and corporations' unfamiliarity with the region. Positive trends in recent years have brought change, a new vigor and a refreshing optimism in the political and economic climate of the region resulting in a changed attitude towards investments and returns on investment in the region.

Historically, Uganda like other colonies in Africa was structured to supply raw materials to European economies. Production and export of such materials was on an increase until 1966 when the country entered into a period of political upheaval that went on until the mid 1980s. This period was characterized by a decline in the performance of the economy which problem was exacerbated by the chasing away of the Asian businessmen in 1972 which led to a continuous decline in investment and decline in volume of exports. However, by the end of the 1980s most parts of the country were stable and a number of collapsed businesses had been re-established and new ones set up (Musinguzi, 2002). This was as result of a couple of political revolutions in Uganda that saw the National Resistance

Movement (NRM) take over power in 1986. The new political leaders came up with macroeconomic reforms backed by donor support to drive the country's economy to prosperity through provision of incentives that could attract all forms of investment. This led to the birth of bodies like Uganda Investment Authority, (UIA) which was established by an Act of Parliament in 2001; Uganda Export Promotion Board (UEPB) in 1996 also by the Act of Parliament; and the Uganda National Bureau of Standards (UNBS), Ministry of finance, planning & Economic Development, the Uganda Manufacturers Association (UMA); and all previously confiscated Asians' properties were returned to their original owners. These acts, together with successful implementation of a number of reforms in the economy such as trade liberalization, foreign exchange liberalization, freeing of the current and capital accounts, privatization, creation of the investment code, import substitution strategies and export promotion strategies were adopted in the initial set up of a favorable investment climate. Other strategies that have come into play overtime include tax holidays to foreign investors, protective tariffs and PAC committees at all levels, decentralization, government credit schemes, and all these intended to spearhead investment.

Having suffered decades of devastating economic policies and instability which left Uganda as one of the world's poorest countries, the country has commenced economic reforms and growth has been robust. In 2008, Uganda recorded 7% growth despite the global downturn and regional instability. (Human Development Report, 2008:45). The country has substantial natural resources, including fertile soils, regular rainfall and sizable mineral deposits of copper and cobalt. The country has largely untapped reserves of both crude oil

and natural gas. While agriculture used to account for 56% of the economy in 1986, it has now been surpassed by the service sector, which accounted for 52% of GDP in 2007 (National budget speech 2007/2008), this has been attributed to the favorable investment climate.

Between 1990 and 2001, the economy grew because of continued investment in the rehabilitation of infrastructure, improved incentives for production and exports, reduced inflation, gradually improved domestic security and the return of exiled Indian-Ugandan entrepreneurs. Using broad sectoral distributions, investment and employment levels for analysis, the data on investment shows that slightly more than half of Ugandan enterprises are medium sized in terms of number of employees. Most firms have between six to twenty workers. Only 9.1% of the firms had in excess of 50 employees, while about 30.2% of firms had between 21 and 50 employees. Furthermore, the largest single categories of firms, about 45% were set up between 1992 and 2001 and were relatively small with investment levels lower than US$0.1 million. Only 3.4% of the enterprises reported investment above US$1.0 million. This aggregate suggests that while the level of investment in Ugandan firms is predominantly low, there was a general increase in both the number of investments and levels of investment after 1992.

Whereas there have been several attempts to transform Uganda's Economy in over two decades through the implementation of structural reforms in Uganda, studies on its progress and impact on the economic performance have tended to focus on general issues of

investment levels, employment creation, revenue generation, financial management and personnel. There has hardly been any major investigation on how investment has affected economic growth using Gross Domestic Product as the economic indicator.

Secondly, the numerous growth and investment reports are usually based on findings of government data agencies like the Uganda Bureau of Statistics (UBOS) and international evaluation bodies like United Nations Development Program (UNDP) and International Monetary Fund (IMF). Their evaluations are largely annual and put into consideration many variables which mean that the studies are wide but not specific. All these studies rarely investigate the relationship between investment (public, private and foreign direct investment) in enhancing economic growth.

Thirdly, in situations where studies have been done, they have focused more on one individual investment strata other than establishing the multiple dimensional study of investment which provides a broad understanding of the subject matter. These issues stimulated the inquiry, and thus, the investigation intends to bridge the above highlighted gaps.

It's upon this background that the researcher intends to find out whether investment has had a significant relationship on Uganda's economic growth through studying the sectoral investment trends in Uganda and its Gross Domestic Product for the past three decades.

Statement of the Problem

It's been noted that numerous studies done in this area basically concentrate on one independent variable at a time and they consider a limited time scope, most often the studies are conducted by semi autonomous bodies like the Uganda Bureau of Statistics (UBOS), Uganda Investment Authority (UIA) and the Ministry of finance, planning and economic development (MOFPED) which may give biased or inaccurate results. This study looks at private, public and Foreign direct investment and their influence on Uganda's economic growth. For decades, Uganda's economy suffered from devastating economic policies and instability, leaving Uganda as one of the world's poorest countries. As a result, the country initiated numerous economic reforms that could enhance economic growth and development through investment, establishment of control systems and watchdog institutions like Uganda Investment Authority which is a one stop centre for all investment bureaucratic proceedings. Despite the several successes scored under the decentralization system of governance in Uganda, a surge of debilitating problems continues to unfold (Jard, 2006; Kakumba, 2003; Francis and James, 2003; Crook, 2003; Kiyaga and Nsubuga, 2001).

The technical progress, capabilities and commitment of investors and already existing investments which are seen as custodians of economic growth have been faced with numerous challenges ranging from political and structural reforms to the recent global financial crisis all of which pose enormous challenges to their initial target of economic growth. The problem is that, whereas an array of control systems (Uganda investment Authority and Uganda Bureau of Standards) among others, were established to generally enhance

investment in Uganda, there is uncertainty of the extent to which they have managed to achieve their objective of promoting investment for economic growth. So the study aims at investigating the extent to which these efforts have performed towards the realization of this dream.

Purpose of the Study

The purpose of this study was to investigate the relationship between investment and economic Growth in Uganda.

Research Objectives

General Objective

To establish the relationship between investment and economic growth in Uganda from 1980 to 2010

Specific Objective

1. To determine the level of public, private and foreign direct investment (FDI) in Uganda from 1980 to 2010.

2. To determine the level of economic growth in Uganda from 1980 to 2010.

3. To establish the relationship between investment and economic growth in the following forms.

3.1   Public investment and economic growth.

3.2   Private investment and economic growth.

3.3   FDI and economic growth.

Research Questions

This research work sought answers to the following questions constructed within the framework of the objectives;

1. What is the level of public, FDI and private investment in Uganda between 1980 and 2010?

2. What is the level of economic growth in Uganda between 1980 and 2010?

3. What is the relationship between investment and economic growth in Uganda basing on the forms below?

3.1   Public investment and economic growth.

3.2   Private investment and economic growth.

3.3   FDI and economic growth.

Hypotheses of the Study

1. There is no relationship between the following forms of investments and economic growth.

   1.1   Public investment and economic growth.

   1.2   Private investment and economic growth.

   1.3   FDI and economic growth.

Scope
Geographical scope

The study covered the whole of Uganda within the investment sector and economic growth because investment policies are macroeconomic and resources have been channeled to cover the entire nation through decentralization and promotion of private investment from grassroot levels. Public investment has been done by government and economic, structural and political reforms have been

designed in such a way that they affect the entire nation. FDI has also been channeled in various sectors within the economy.

Content Scope

The content basically covered investment and its influence on economic growth, determination of the level of Public, FDI and private investment in Uganda, levels of Economic Growth and it will finally establish the relationship between the three investment strata and economic growth.

Theoretical Scope

The study was based on the Harold – domar growth model that was propounded by Harold – domar. "The Harrod – Domar Growth model suggests that, "One of the principle tricks of development necessary for any takeoff is the mobilization of domestic and foreign savings in order to generate sufficient investment to accelerate economic growth. He talks about the two variables, investment and economic growth that are being studied. The study focused on investment as the determinant of economic growth in Uganda. Thus the records that were used in this study were obtained from the Uganda Investment Authority, Private sector foundation and published literature on investment in Uganda was also used. The study embraced the work of investors, entrepreneurship scholars, investment scholars and works of various development economists. It was consistent with investment scholars' thoughts and economic growth as applied to developing countries.

Under investment, the content covered was public, FDI and private investment. Economic growth was measured using growth rates computed using the annual real GDP figures.

Time Scope

The study took eight months from February 2011 to October 2011. It started with choice of area and topic of study in February, then from May to July the researcher developed a proposal, hearing and passing of the proposal was in August, after which data collection, analysis, interpretation and preparation of the first draft of the thesis was done in September, this was followed by defending the thesis in October and within the same month corrections were made and final draft submitted.

The data for this study covered a period of (30) years from 1980 to 2010. This time period was important since time series data was used as an indicator for the variables under study. This provided a wide coverage hence reducing the degree of biasness in the variables under study.

Significance of the Study

This study is justifiable in that, since its macro- economic in nature and quantitatively biased, it will generally benefit very many groups of people and these include the development planners, local and foreign investors, government ministries, watchdog institutions like UIA and UBOS, development economists and researchers. It will benefit these groups in such a way that it will show the investment trends and growth rates for the past 30 years and explanations in their variations. Such information will be important for planning and decision making for government, policy makers, implementers and potential investors. Hence creating an informed source of information to base on in making decisions and creating solutions to macro- economic problems that face Ugandan communities.

Operational definition of key terms

Investment - Investment is the change in the capital stock which bears a direct relationship to total national income or output as expressed by the capital output ratio.

Public investment -Total government expenditure on public utilities.

FDI - Investments whose source of funding is different from the country in which it is being invested.

Private investment –Investments whose source of funding is originating not from government sources but from the hands of individuals, groups, families or organizations which are of domestic origin.

Economic Growth - It is the persistent and sustainable quantitative increase in the county's per capita output or income resulting from increased flow of resources in the investment sector followed by an increase in its labor force, consumption, capital and volume of trade.

Development -It is the quantitative and qualitative increase in the volume of goods and services that are produced within a given country.

Gross Domestic Product - The total monetary value of goods and services that are produced by nationals from within a given country over a given period of time.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Concepts, Opinions, Ideas from Authors/ Experts

Investment

In economics it refers to the purchase of a physical asset, such as a firm's acquisition of a plant, equipment or inventory, or an individual's purchase of a new home. Herbert B. Mayo (1997).

Charles P. Jones (1977) defines investment as the commitment of funds to one or more assets that will be held over some future time period. He suggests that there are two broad categories of investors: individual investors and institutional investors. The latter group consisting of bank trust departments, pension funds, mutual funds, insurance companies.

Rowstow (1960) defines investment as the change in the capital stock which bears a direct relationship to total national income or output as expressed by the capital output ratio. It can take the form of public, private and FDI.

Todaro (1994) defines investment as the part of national income or national expenditure devoted to the production of capital goods over a given period of time. Gross investment is the total expenditure on new capital goods, and net investment is the addition to capital goods produced in excess of those that wear out and need to be replaced. All the definitions embrace the fact that investment creates value addition to capital stock which can be through public policies through pubic investments, private investments and FDI which are the three major investment strata.

Public investment

Standard Keynesian theory suggests that public spending has a larger impact on GDP than the transfers or to the level of autonomous taxes, because part of the higher disposable income from a tax cut or transfers increase is saved, while public investment affect aggregate demand directly. Theoretically, public investment has a great short-term multiplying effect upon the aggregate demand and a long-term multiplying effect upon the aggregate offer, especially when they determine the decrease of the transaction costs. There are other studies that explain poor response of the economy to increasing public investment, because of an inefficient use of public funds.

The researches confirm the existence of two different approaches of the government spending impact upon the domestic output. According to the Keynesian model elaborated by Bernstein for the USA economy in 2009, the public spending has a higher multiplying effect and lead to permanent increase of the GDP. On the contrary, in a neo-Keynesian model, such as the one which has been elaborated by Smets and Wouters, the multiplier decreases to 0.4 after 4 years and it tends to zero. In that model, the shocks of the fiscal policy are only temporary, resulting in an adjustment of the interest rate, of the prices and of the wages, thus decreasing the private investments, consumption and determining the return of the output to its initial level. Blanchard and Perotti (2002) estimated that in USA a fiscal stimulus of 1% of GDP has been found to increase GDP by about 1%. Moreover, Perotti (2005) estimated the existence of lower multipliers for the European economies, by using the methodology which has also been proposed in 2002. The panel type studies have seldom identified the decreased fiscal multipliers and, in

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some cases, even negative multipliers, such as Hemming, Kell, and Mahfouz (2002).

A study made by H.M Treasury (2003), the multiplier of the public spending is less than one in all the European countries which have been included in the analysis; (0.3 in the Great Britain, 0.4 in Germany and 0.5 in Italy, France and Spain). Cogan et al (2009) estimated the impact of the increase in the public spending aimed at the fiscal stimulating packages implemented by the Euro area countries. According to them, an increase in government spending in 2009 and 2010 lead to GDP increase between 0.04% and 0.37% in 2011 and a GDP decrease between -0.11% and -0.18% in 2011. They estimated the existence of a lower multiplier than the one estimated by Romer and Bernstein. For example, the increase of the public spending by 1% in 2010 would lead to an increase of the GDP between 0.5 - 0.6 % during the next year, in other words the state's additional spending will not generate additional private spending, but they will result in a decrease of consumption and of investments. According to Veg Carlos et. al (2009), the multiplier of the public spending is 0.7 for the developing economies and 0.36 for the developing countries. Moreover, the increase of the public spending by 1% leads to increase of the GDP by 1.06 % in the case of the economies which have a fixed rate of exchange and by only 0.11 % for those which have a flexible rate of exchange. Nallari & Engozogo (2010) estimated a multiplier of the government spending of 0.39 for USA, which is very close to that for the G7 countries.

Foreign Direct Investment
Foreign direct investment is net inflows of investment to acquire a lasting management interest in an enterprise operating in an economy

other than that of the investor (World Bank, 2003). The Balance of Payments Manual (1993) defines foreign direct investment as "The category of international investment that reflects the objective of obtaining a lasting interest by a resident entity in one economy in an enterprise resident in another economy.

Neo-classical researchers regard FDI and international capital flows as closing the savings gap in developing countries. (Chenery and Bruno, 1962). We expect capital to flow from capital rich to capital poor countries, as is suggested by developments in the Hecksker-Ohlin approach to trade by Mundell (1957), because capital is scarce in developing countries which should lead to profitable investment opportunities for capital in developing countries.

Private Investment

The Uganda Business Inquiry (UBI) Survey conducted by the Uganda Bureau of Statistics and the private sector investment surveys conducted by Bank of Uganda for 2001/2002 and 2002/2003 periods whose investigation builds on earlier work by Reinikka and Svensson (2001) and Gauthier (2001) suggest that the main factors that encourage or constrain private investment at the micro level in Uganda were not limited to capacity utilization, nature and source of investment finance, public capital and role of risk.

In regard these issues, the study finds that turnover; profit and credit are significant determinants of private level investment. Using broad sectoral distributions, investment and employment levels for analysis, the data shows that slightly more than half of Ugandan enterprises are medium sized in terms of the number of employees. Most firms had 6 to 20 workers. Only 9.1% of the firms had in excess of 50 employees, while about 30.2% of firms had between 21 and 50

employees. Furthermore, the largest single categories of firms, about 45 percent were set up between 1992 and 2001 and were relatively small with investment levels lower than US$ 0.1 million. Only 3.4% of the enterprises reported investment above US$ 1.0 million. This suggests that while the level of investment in Ugandan firms is predominantly low, there was a general increase in both the number of investments and the levels of investment after 1992.

Economic growth

Economic growth is the steady process by which the productive capacity of the economy is increased over time to bring about rising levels of national income.

According to Lipsey (2001), economic growth is the increase in potential output due to changes in factor supplies. That is in labor and capital and in the productivity of factors (output per unit of factor input). The removal of a serious recessionary gap might cause a once and for all increase in real GDP by, at the very most, 5%.

Economic growth occurs either when society acquires more resources or society discovers ways of using available resources more efficiently. For economic growth to increase, the standards of living, the rate of growth must exceed the rate of population increase. Economic growth is generally defined as an increase in real GDP per capita (Karl: 2003).

Economic growth is defined as the increase in the productive capacity of a nation. It occurs when there is an increase in per capita real GDP. It is measured by the rate of change in per capita real GDP per year (Miller: 1999).

Economic growth refers to a process of steady increase in the quantity and quality of goods and services the economy can produce.

The basic equation is simple, the more we can produce, the more we can consume whether it be private goods, social or leisure (Bernanke et al: 2003).

Kindleberger (1975) points out that economic growth implies the persistent and sustainable quantitative increase in the county's per capita output or income followed by an increase in its labor force, consumption, capital and volume of trade.

Economic growth can be traced to a variety of factors, but by and large, investments that improve the quality of existing physical and human resources, that increase the quantity of these same productive resources, and that raise the productivity of all or specific resources through invention, innovation, and technological progress have been and will continue to be primary factors in stimulating economic growth in any society, Todaro (1994).

Theoretical perspective

The theory that will be evoked for this study is, The Harrod – Domar Growth model (1956) which suggests that, "One of the principle tricks of development necessary for any takeoff is the mobilization of domestic and foreign savings in order to generate sufficient investment to accelerate economic growth". The economic mechanism by which more investment leads to more growth can be described in terms of the Harrod - Domar growth model.

According to Todaro (1994), every economy must save a certain proportion of its national income, if only to replace worn out or impaired capital goods (buildings, equipment and materials). However, in order to grow, new investments representing net additions to the capital stock are necessary. It assumes that there is some direct economic relationship between the size of total capital

stock, (K) and total (GNP); hence it follows that any net additions to the capital stock in the form of new investments will bring about corresponding increases in the flow of National output, GNP.

The model defines the capital output ratio as k and assumes further that the national saving ratio is a fixed proportion of national output and that total new investment is determined by the level of total savings, we can construct the following simple model of economic growth.

$$\frac{\text{Change in } Y}{Y} = \frac{s}{k}$$

This is a simplified version of the famous Harrod - Domar equation in their theory of economic growth, which states that the rate of growth of GNP (change in Y/Y) is determined jointly by the national saving ratio (s) and the national capital output (k) More specifically, it says that the growth rate of National income will be directly or related to the saving ratio i.e., the more an economy is able to save and invest out of a given GNP, the greater will be the growth of that GNP and inversely or negatively related to the economy's capital output ratio (i.e., the higher k is, the lower will be the rate of GNP growth).

The economic logic in this theory is that, in order to grow, economies must save and invest a certain proportion of their GNP, the more they can save and invest, the faster they can grow.

FDI and Economic growth

The inflow of FDI increased rapidly during the last two decades in almost every region of the world. A number of empirical studies on the role of FDI in host countries suggest that FDI is an important source of capital, complements domestic private investment and is usually associated with new job opportunities and enhancement of

technology transfer and boosts overall economic growth in host countries, Chowdhury and Mavrotas (2006).

The consensus seems to be that there is a positive correlation between FDI inflows and economic growth, provided that the receiving countries have reached a minimum level of education, technological and/or infrastructural development, Hansen and Rand, (2006).

According to Todaro (1994) a country's international financial situation as reflected in its balance of payments and its level of monetary reserves depends not only on its current account balance but also on its balance on capital account (its net flow or outflow of private and public financial resources). Because almost all non oil exporting developing nations incur deficits on their current account balance, a continuous net inflow of foreign financial resources represents an important ingredient in their long run growth and development strategies.

The international flow of financial resources takes two main forms: Private foreign investment, mostly foreign direct investment by large multinational corporations with headquarters in the developed nations along with flows of financial capital by private international banks and public development assistance, from both individual national governments and multinational donor agencies.

According to Higgins (1998), foreign investment in underdeveloped countries is the one real hope for abolishing poverty. Others, mostly in newly independent countries, see it as the chief instrument of "economic imperialism", the device by which the former colonial powers wish to retain control over the economies of the former colonies. Even in advanced countries, however, there are scholars who urge that the developing countries are better off without

foreign investment and some go as far as to maintain that the developing countries not only should forget about new foreign investment but should expropriate the foreign investments they already have.

Gordon (1962) shows that the cost of servicing a foreign debt exceeds new net capital inflow. He further says that foreign direct investment may slow down the development of domestic cadres of managers, scientists and technicians. Hence, he believes that LDCs would do better to proceed on their own. However we are confronted here with a question of fact;

The relationship of cost of debt service to net capital inflow is not the only element involved in appraising the contribution of foreign direct investment nor even that plus the impact on long run supply of skills. The question here is whether in the developed countries, like US, the railways and the canals could have been built at all, at the time they were constructed without British capital and high level skills. The debt uncured was serviced out of the much higher level of income which the imported capital and skills helped to produce. The question cannot, unfortunately, be answered with precision; no one can say what would have happened to the rate of economic growth in the United States or anywhere else if no foreign investments had taken place.

The literature on foreign direct investment (FDI) and economic growth generally points to a positive FDI-growth relationship.

In theory, economic growth may induce FDI inflow, and FDI may also stimulate economic growth. The existing analysis focuses on South and Southeast Asia, where growth of FDI has been the most pronounced. Using Granger causality tests, the study finds substantial variation in the FDI-growth relationship across countries. Further

analyses, based on regression techniques, reveal that FDI-to-growth causality is strengthened by the presence of greater trade openness, more limited rule of law, lower receipts of aid and lower income level of the host country. Growth-to-FDI causality, on the other hand, is reinforced by greater political rights and more limited rule of law.

Empirically, the positive effect of host country economic growth on FDI inflow has been confirmed by various studies, (Veugelers, 1991; Barrell and Pain, 1996; Grosse and Trevino, 1996; Taylor and Sarno, 1999; Trevino et al., 2002). The effects of FDI on subsequent economic growth has been shown to be both positive (Dunning, 1993; Borensztein et al., 1998; De Mello, 1999; Ericsson and Irandoust, 2000; Trevino and Upadhyaya, 2003) and negative (Moran, 1998). Generally, the positive growth effects of FDI have been more likely when FDI is drawn into competitive markets, whereas negative effects on growth have been more likely when FDI is drawn into heavily protected industries (Encarnation and Wells, 1986). Overall, though, FDI turns out to be associated with greater domestic investment, not smaller. Moreover, this positive association between FDI and domestic investment tends to be greater than that between foreign portfolio investment and domestic investment (Bosworth and Collins, 1999). Blomström and Kokko (1997) reviewed the empirical evidence on host country effects of foreign direct investment. They conclude that Multinational companies, (MNC) play an important role in productivity and export growth in their host countries, but that the exact nature of the impact of FDI varies between industries and countries, depending on country characteristics and the policy environment.

Alfaro (2003) in an empirical analysis using cross-country data for the period 1981-1999 suggests that total FDI exerts an ambiguous effect on growth. From the results, foreign direct investments in the

primary sector tend to have a negative effect on growth, while investment in manufacturing a positive one. Evidence from the service sector is ambiguous.

In principle, economic growth may include FDI inflow when FDI is seeking consumer markets, or when growth leads to greater economies of scale and, hence increased cost efficiency.

On the other hand, FDI may affect economic growth, through its impact on capital stock, technology transfer, skill acquisition, or market competition. FDI and economic growth may also exhibit a negative relationship, particularly if the inflow of FDI leads to increased monopolization of local industries, thus compromising efficiency and growth dynamics. However, very few studies attempt to directly test for causality between FDI and growth. Two studies that do so include Basu, Chakraborty and Reagle (2003), and Trevino and Upadhyaya (2003). Both find that FDI to growth causality is more likely to exist in more open economies. In addition, an earlier study by Ericsson and Irandoust (2000) explores causal relationship between FDI and total factor productivity growth and found the two to have a causal relationship in a long run.

Many policy makers and academicians contend that foreign direct investment (FDI) can have important positive effects on a host country's development effort, in addition to the direct capital financing it supplies, FDI can be a source of valuable technology and knowhow while fostering linkages with local firms, which can jump start an economy (Alfaro, 2003).

Hanson (2001) argues that evidence that FDI generates positive spillovers for host countries is weak. In a review of micro data on spillovers from foreign owned to domestically- owned firms, Gorg and Greenwood (2002) conclude that the effects are mostly negative.

Lipsey (2002) takes a more favorable view from reviewing the micro literature and argues that there is evidence of positive effects.

The theoretical work of Findlay (1978) Wang and Bloomstronm (1992) shows the importance of FDI as a conduit for transferring technology, relates to foreign investment, inflows to manufacturing or service sectors rather than to the primary sector and in addition, FDI's potential to create linkages to domestic firms.

Hirschman (1958: 109) emphasizes that not all sectors have the same potential to absorb foreign technology or to create linkages with the rest of the economy. He noted for example, linkages are weak in agriculture and mining." He warned that in the absence of linkages, foreign investments could have limited effect on growth. "The grudge against what has become known as the 'enclave' type of development," he wrote, "is due to this ability of primary products from mines, wells, and plantations to slip out of a country without leaving much of a trace in the rest of the economy

Balasubramanayam et al (1996) found that in developing countries pursuing outward oriented trade policies, FDI flows were associated with faster growth than in those developing countries that pursued inward oriented trade policies.

Findlay (1978) argues that FDI increases the rate of technical progress in host countries through a "contagion" or knowledge diffusion effect from the more advanced technologies in parent countries. Wang and Blomstrom (1992) suggest that contagion can take the form of imitation of processes or organization, innovations and increased competition can push other firms to adopt new technologies and modernize.

Other results find little support for FDI having an exogenous positive effect on economic growth, anchoring previous work by

Borensztein, De Gregorio, Lee (1998) and Carkovic and Levin (2002) and Alfaro et al (2003), however these results are robust to the inclusion of other growth determinants, such as human capital measures, domestic financial development, and institutional quality. However, the evidence does suggest that not all forms of FDI have the same effects on economic growth.

According to the *Uganda's economic and financial overview 2007/08,* foreign direct investment in Uganda was $946 million during the fiscal year 2007/2008 compared to $695 million in 2006/07. FDI inflows have increased in recent years owing to a number of factors, including the privatization of various sectors such as the telecommunication sector, large infrastructure, projects such as the Bujagali dam in Jinja, and exploration and development by various foreign oil companies in the western districts. A number of specific policies have also boosted FDI in Uganda, such as the macroeconomic stability, investment promotion efforts and the return of confiscated land belonging to Asian-Ugandans.

Public Investment and economic growth

According to the World Bank (1994), public capital represents the 'wheels' if not the engine of economic activity. Input output tables show, for example, that telecommunication, electricity and water are used in the production process of nearly every sector, while transport is an input for every commodity. However, the World Bank (1994, p. 19) also concludes that "infrastructure investment is not sufficient on its own to generate sustained increases in economic growth.

There is a broad consensus among economists and politicians that public infrastructure investment is an important aspect of a competitive location policy. Often it is argued that infrastructure

lowers fixed costs, attracts factors of production and investment thereby raising production, Haughwout (2002). This does not necessarily imply a higher growth at national level, however, since production in other regions might go down.

A somewhat different reason why public capital may affect economic growth is suggested by the new economists like Krugman (1991), Holtz Eakin and lovely (1996), Venables (1996) and Fujita et al (1999), who considers transport costs as a central determinant of the location and scale of economic activity and the pattern of trade.

According to Keynes, increasing public investment is one of the best solutions to economic recovery, since it causes strong effects upon the economic drive. However according to recent studies, public investment expenditure generate less effect in the short term, due to the lags associated with the achievement of new project, but a larger long term impact by stimulating potential GDP. The standard Keynesian theory suggests that public spending has a large impact on the GDP than the transfer or to the level of autonomous taxes, because part of the higher disposable income from a tax cut or transfers increase is saved, while public investment affect aggregate demand directly.

Theoretically, increasing public investment has a larger short-run impact on aggregate demand and a larger long-run multiplier effect on aggregate supply. Therefore, the multiplier of the public investment is considered to be lowered on a short term as a result of the temporal lags induced by the implementation of the new projects and its considered higher on a long term as a result of the increase of the potential GDP Ratto et al (2005). According to Romp and Dehaan

(2005), the impact of the public investments is not linear, being generally lower in the developed economies and higher in the developing economies.

Lutfi and Randall (1997) applied several pooled specifications of a standard investment model to a panel of developing economies and their study finds that public investment in infrastructure is widely believed to exert a positive impact on economic growth directly but also indirectly by promoting private investment.

A glance at the literature shows that there are two major approaches to analyzing the effect of public investment on economic growth, the first is based on the neoclassical production function in which public capital enters as a separate input and on the productivity measures derived from the production function. The results of (Aschauer 1989) and (Munnell 1990) from the U.S annual and state level data respectively indicate that public nonmilitary investment spending, particularly on core infrastructure, has a substantial influence on growth of economies. Furthermore, the analyses by (Aschauer 1990) from data on industrial countries and (Cashin 1995) from cross country data provide some support in favour of earlier results. However, studies following those initial articles, such as (Tatom 1991), (Holtz 1994), and (Evans and Karras 1994) have found that public investment has a negligible impact on economic growth.

Khan and Reinhart (1990) and Khan and Kumar (1997) found that for developing countries, although public investment contributes to the productive performance of economies, private investment has more influence on economic growth. Overall, the empirical studies using the "growth accounting" approach, while somewhat mixed; indicate that public capital investments contribute to economic

productivity although they are not the major source of the economy wide variations in productivity.

Studies by (Greene and Villanueva 1991) for a panel of developing countries, found out that public investment aids economic growth through stimulation of private investment. Blejer and Khan (1984) and Oshikoya (1994) all presented evidence that public infrastructure (represented by the expected public investment) has a positive impact on growth of economies while none infrastructural investment has a negative impact on economic growth. Meanwhile, (Wai and Wong 1982) and (Nazmi and Ramirez 1997) found that public investment crowds out private investment if they compete for the same resources and this has not aided economic growth since such resources are either used or exported in raw form. However, they further suggest that if public infrastructure investment is complementary to private investment, the rate of return to private sector investments will increase which will ignite more private capital investments, consequently leading to economic prosperity.

According to previous studies, the relationship between public capital and economic growth suggests that that there is evidence for a reverse causality, hence, not only might public investment stimulate growth, higher growth also often leads to higher demand for infrastructure, (Abuka and Keneth 1997) studied firm level investment trends, Musinguzi (2003) studied public investment and economic growth, however it's been noted that numerous studies done in this area basically concentrate on one independent variable at a time and they consider a limited time scope, this study looks at private, public

and Foreign direct investment and their influence on Uganda's Economic growth.

Private investment and economic growth

Uganda's economy is a mixed economy and private sector plays a dominant role in terms of development potential (World Bank, 1991). Uganda has implemented an ambitious programme of economic liberalization (IMF, 2003) with reforms targeted at restoring macroeconomic stability and fiscal discipline, while improving the investment climate. The introduction of the investment code (1991) and institutional initiatives further improved the investment climate in Uganda. These economic reforms have led to improved both local and foreign investor confidence in Uganda. Previous studies have found a positive relationship between private investment and economic growth, causality on both sides between private investment and public investment (Alexander 2000).

A number of studies have been done on macroeconomic indicators and economic growth, among which Obwona, (1998) studied FDI and economic growth. (Musinguzi 2003) studied public investment and economic growth,

Basing on the above related studies done in the field of investment and economic growth the following gaps were identified. There exists a contextual gap since in situations where similar studies have been done; they have focused more on one individual investment strata other than establishing the multiple dimensional study of investment which provides a broad understanding of the subject matter. It further shows that temporal gap exists since similar studies done look at only one or five years, but this study will study investment and economic growth in Uganda over a period of 30 years.

CHAPTER THREE

METHODOLOGY

Research Design

The research design that was adopted is *expost facto*. This is a French word meaning existing facts; this is so because data concerning variables in this study was basically secondary. I also used some descriptive correlation techniques since the study was interested in establishing the relationship between investment and economic growth. The study undertook a detailed analysis of investment and economic growth in Uganda, which largely suits a quantitative research approach, but with some elements of qualitative research approaches.

The choice of the design was based on the nature of the research that intended to examine and analyze in depth and systematically the extent to which investment has contributed to economic growth in Uganda.

The design was appropriate since the research concerned two particular institutions which are investment and economic growth operating in a specific geographical area Uganda where fieldwork was conducted.

According to (Nsigo 2005: 77), "research exposes the operational reality of organizations and allows one to bring out the strengths and weaknesses of such organizations and enhance one's chances of engaging or suggesting remedial action for such organizations."

On the whole, the study was quantitatively biased though qualitative techniques were not fully ignored (Mugenda and Mugenda 1994).

Pearson's correlation coefficients were computed and after the variables were regressed to establish the effect of each independent variable on the dependent variable.

Research Population

The populations investigated were records on investment and economic growth. It focused on the three distinct resource investment channels. It was on these focus areas that the relationship between investment and economic growth was based. The three investment channels that were studied are public, private and foreign direct investment. Their contribution towards promoting economic growth were evaluated in terms of their inherent institutional capacity to enhance growth of Uganda's economy; their influence on economic growth components like macro-economic stability, social economic institutional frame works and how far they have helped to integrate and strengthen the economic potential of Uganda.

The researcher visited organizations which are partners in investment to capture the required information. These included UBOS, UIA, PSF, Ministry of Internal Affairs, Ministry of Public Services and BOU. Their records on investment, economic growth, GDP were studied and data used in the study.

Target population

Given the focus and scope of study highlighted above, the study population was drawn from all the computed annual real GDP growth rates, annual investments, investors and control agencies in Uganda over a period of 30 years.

The study generally enlisted three different types of investors. First are the private investors who have been enhanced

with privatization of Uganda's economy. The second group was public investment which is basically financed by government and foreign direct investment which is important in capital and technological transfer.

Sample Size

Records used were drawn from 1980 up to 2010 which covers a period of 30 years and these were obtained from the major semi autonomous bodies that publish such records in the country.

Sampling Procedure

This study adopted cluster random sampling technique; the population was divided into clusters of 30 years and a random sample of published data on investment and growth rates from 1980 to 2010 was selected. All observations in this range were selected and utilized in the analysis.

Research Instrument

Time series data for this study was collected from secondary sources. Such data was recorded in the record sheets which were designed to suit the data required to attain the stated objectives of this study. The study utilized documents/records review; this is because of their efficiency and effectiveness to solicit reliable and valid data (Maicibi and Kaahwa, 2004).

Document review

This involved the collection, study and analysis of existing written facts. Documents that were reviewed include official institutional publications, semi autonomous body's reports, statistics

and figures, annual budget reports, development reports, publications from international agencies like IMF, World Bank, UN, PAC reports, Published articles in journals, and news paper articles.

Data gathering procedures
Before data gathering

Upon accomplishment of defending and acceptance of the research proposal, the researcher obtained an introductory letter from the School of Postgraduate Studies, Research and Evaluation centre of Kampala International University, seeking for permission to allow him get access to their libraries.

During data gathering

Due to the busy schedule of organizations, the researcher, through the office of administrators, scheduled appointments to allow him make use of their resource centers. The researcher availed himself to give necessary explanation on some questions where need was. The researcher made use of secondary data by reviewing relevant text books, journals, periodicals, manuals, dissertations, and publications.

After data gathering

On obtaining the required data, the researcher edited, categorized and entered it into Epi - data. This data was then exported to STATA for analysis.

Data Analysis

After collecting data, it was organized in tables and presented in form of line and scatter diagrams. This was followed by its analysis and interpretation in line with the statistics set to capture the research

objectives. This involved scrutinizing, categorizing, tabulating, analyzing and interpretation of information in such a way that it addressed the initial objectives of the study.

A couple of statistical analysis tools were employed among which regression analysis, Percentage distributions were used to determine the level of investment in relation to real GDP Growth rate.

At bi variate level, public investment, private investment and FDI was regressed and correlated with the respective growth rates, the respective simple linear models were fit using the simple linear regression model below.

$$y = \alpha + \beta 1x1 + \Sigma_i$$

The Pearson's correlation coefficient was computed to determine the strength of the relationship, where r^2 is the coefficient of determination.

Ethical considerations

The principles underlying research ethics are paramount and concern issues such as confidentiality, honesty and respect for individual rights. Welmer, Kruger and Mitchell (2000:201) identify consent, right of privacy, protection from harm and deception as ethical problems that require serious consideration by researchers.

Ethical standards in this study were assured. Organs from which data was collected were informed in writing about the objectives of the study and requested to participate.

Use of officially published data by reputable local and international agencies, voluntary participation of organizations, guaranteeing confidentiality on information collected and reporting study findings basing on the data collected and analyzed using appropriate techniques were all put into consideration.

Limitations of the Study

Difficulty in accessing organizations due to their busy schedules, however, the researcher used multiple skills like, re-arranging appointments.

The data required was very scattered so it required extensive reading and comparison from various publications. As a result data collected from different sources, at times presented different figures on the same variable over the same time period.

Private investment sometimes comprises both domestic private investment and foreign private direct investment, this posed another limitation since it was difficult to distinguish between portfolio investment. This was minimized by concentrating on private domestic investment.

Secondary data was used and this had its own short comings like problems of retrieval, display of author subjectivity, limitation of its accessibility, which may have lead to incomplete information. However the researcher tried to minimize the bias by considering 30 years which was quite a long period of time and through comparing the data published by different organizations at different time periods. In view of the above threats to validity, the researcher claims an allowable 5% margin of error at 0.05 level of significance.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

Public, FDI and private investment in Uganda from 1980 – 2010

The first objective in this study was to establish the level of investment in Uganda from 1980 to 2010. According to the data collected, the composition of investment in Uganda appears to have altered significantly due to macroeconomic developments over the last three decades.

Between 1986/87 and 1991/92, public investment was equivalent to an annual average of 7.6% of GDP while private investment was 8.5% of GDP. In the last 12 years, private investment increased to 11.9% of GDP during the first four years (1993/94 to 1996/97) and has since stagnated at this level. Nonetheless, the decline in public sector investment during the last 7 years (1997/98 to 2004/05) to an average of 4.1% of GDP implies that private investment is now nearly three times the level of public investment. Part of the decline in public investment can be attributed to government's privatization policy. However, the decline in total fixed capital formation as a share of GDP over the last eight years from an average of 17.2% between 1993/94 to 1996/97 to an average of 15.9% for the period 1997/98 to 2004/05 suggests that there are other reasons in addition to the role of privatization during this period that explain the general slowdown in total investment.

TABLE 1

PRIVATE, FOREIGN AND PUBLIC INVESTMENT IN UGANDA 1980 -2010 AS A PERCENTAGE OF GDP IN BILLION US DOLLARS

YEARS	PRIVATE	PUBLIC	FDI
1980	0.394	0.245	0.32
1981	0.485	0.358	0.19
1982	0.321	0.244	0.09
1983	0.356	0.267	-0.02
1984	0.3	0.178	-0.05
1985	0.271	0.159	-0.11
1986	0.266	0.274	0.012
1987	0.469	0.55	0.05
1988	0.451	0.486	0.07
1989	0.394	0.355	-0.03
1990	0.358	0.266	-0.14
1991	0.143	0.0899	0.03
1992	0.218	0.118	0.1
1993	0.263	0.158	1.7
1994	0.459	0.191	2.21
1995	0.681	0.245	2.11
1996	0.688	0.282	2
1997	0.673	0.288	2.79
1998	0.769	0.329	3.19
1999	0.732	0.27	2.34
2000	0.805	0.26	2.59
2001	0.783	0.222	2.59
2002	0.945	0.23	2.99
2003	0.991	0.251	3.19
2004	1.284	0.309	3.49
2005	2.578	0.432	4.22
2006	2.012	0.57	6.49
2007	3.301	0.62	6.66
2008	4.469	1.094	5.05
2009	3.782	0.854	3.76
2010	2.893	1.08	3.44

Source; Uganda Bureau of statistics abstract (2009), IMF, UIA

FIGURE 1

TRENDS IN PRIVATE, PUBLIC AND FOREIGN DIRECT
INVESTMENT OF UGANDA 1980-2010
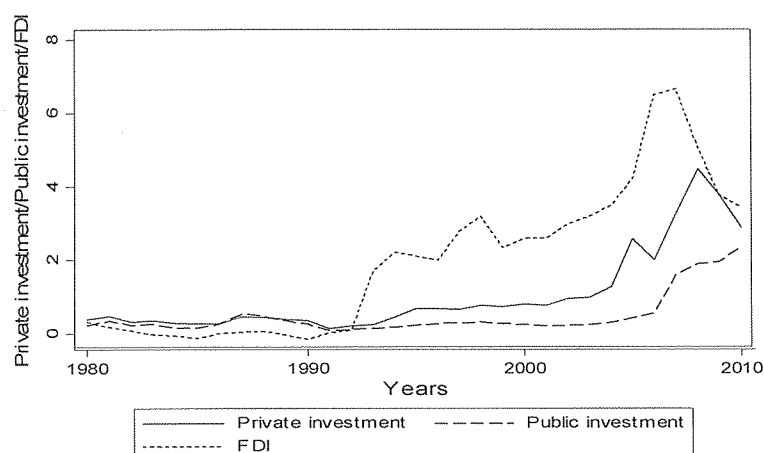
Source; Data compiled from UBOS, IMF and UIA Reports

It is evident from the line graph that investment levels in all forms were very low in the early 1980s. This is explained by the guerrilla war, which erupted after the controversial elections of 1980.

In 1984 alone, there was a four-fold increase in public-sector wages, bank credit to government increased by 70% and money supply increased by 127%. The IMF then withdrew its stand-by programme which led to a further decline; this is in line with (Kayizi 1999). He found out that 1986 marked a steep deterioration in economic performance in Uganda. Foreign exchange controls were tightened in 1985 as arms purchases competed with consumer imports. The looting and general insecurity that accompanied the fall of Obote II in 1985 led to shortages of consumer goods and petrol and the economy as a whole went into a serious downward spiral.

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On assuming power in January 1986, the NRM went through an initial period of indecisiveness as it tried to define an economic policy that would attract external support. However, it was towards the end of the 1980s that the reform process began to create an impact. The National Resistance Movement made the equivalent of a policy turn by embarking on an Economic Recovery Programme (ERP) in May 1987, with support from the World Bank and the IMF. It subsequently began implementing economic policies designed to restore price stability and sustainable balance of payments, improved capacity utilization, rehabilitation of infrastructures, restoration of producer incentives through proper price policies, improvement in resource mobilization and allocation in the public sector (Kayizzi, 1999).

These policies produced positive results. The reform programme remained more or less intact in the following decade which led to economic stability, growing investment levels, resumption in growth and maintenance of a sustainable balance of payments position. By mid 1990 FDI had attained a steady growth and its level was higher than both public and private investment which was also steadily growing but at a rate that was lower (background to the budget 1990).

Uganda has very low per capita income, but has attracted increasing amounts of foreign investment, having had very low levels of FDI from the early 1980's all through up to early 1990's. It has attracted increasing amounts of foreign investment and it has accounted for about 40% of gross fixed capital formation in the last six years. It has been disinvesting abroad and supporting high net inflows.

During the last decade, Uganda has managed to maintain an impressive annual growth rate of 6.4% or 3.3% in per capita terms.

Private investment has increased, much of it by domestic investors, but with a substantial inflow of foreign investment. This is in line with (Bigsten and Kayizzi 1991). They found out that the increased flow of FDI is a result of the government policies like privatization, liberalization and tax policies. The principal investors in Uganda have been developed countries, led by the UK, the principal African investors have been South Africa, Mauritius and Kenya. South African investment was about 10% of the total from 1996/7 to 2000/1, although it has now fallen back. In stocks, South Africa is still almost 10%, with Mauritius and Kenya about 5% each. The principal South African firms are in breweries, telecommunications and banking, including South African Breweries, MTN, Stanbic Bank, with Kenya important in breweries, banking and chemicals (Sewanyana, 2006).

LINEAR REGRESSION MODEL SHOWING TOTAL INVESTMENT OVER TIME

A linear regression model was carried out to establish the linear relationship between total investments over time. In the analysis the data was first put under a number of diagnostic tests, using Epi - data and STATA, the model tested here is the linear regression model which appears as follows.

$INV = b_0 + b_1 X + U_i$

Where

INV = Total investment

X = Time

b_0 – Total investment irrespective of change over time.

b_1 – Coefficient on time

U_i – Error term

TABLE 2. TOTAL INVESTMENTS OF UGANDA IN BILLION US DOLLAR FROM 1980-2010

YEARS	REAL GDP GROWTH RATE	TOTAL INVESTMENT
1980	-3.392	0.565
1981	3.859	0.548
1982	8.205	0.334
1983	4.899	0.247
1984	-3	0.128
1985	-3	0.049
1986	0.946	0.286
1987	4	0.6
1988	8.294	0.556
1989	6.403	0.325
1990	6	0.126
1991	1.778	0.1199
1992	2.78	0.218
1993	8.242	1.858
1994	6.427	2.401
1995	11.293	2.355
1996	9.102	2.282
1997	5.472	3.078
1998	3.801	3.519
1999	8.159	2.61
2000	5.437	2.85
2001	5.184	2.812
2002	8.733	3.22
2003	6.473	3.441
2004	6.807	3.799
2005	6.333	4.652
2006	10.68	7.06
2007	8.412	7.28
2008	8.709	6.144
2009	7.181	4.614
2010	5.769	4.52

Source; Uganda Bureau of statistics abstract (2009), IMF, UIA

The results obtained from the analysis are presented in table 3.

Table 3. Total investment over time in Uganda from 1980 to 2010

Variables Regressed	Adjusted R^2	F-value	Sig.	Interpretation
Investment and time	0.26	10.2	0.003	Significantly positive effect
Coefficients	**Beta**	**T**	**Sig.**	
(Constant)	3.44	3.98	.000	Significant
Time (X)	0.602	3.19	.003	Significant

Source; Data compiled from UBOS, IMF and UIA Reports

The linear regression results in Table 2 above indicate that time has a significant effect on investment (F=10.20, sig. =0.003). The results indicate that time explains 26.03% of variations in investment (Adjusted R^2 =0.260). The coefficients section of this table indicates the extent to which the explanatory variable explains the explained variable and this is indicated by Beta values. For example, if the explanatory variable increased by one unit it implies that the explained variable would increase by 0.602 hence investment has significantly been increasing over time.

Table 4. Multiple regression model between investment and economic growth

Variables Regressed	Adjusted R^2	F-value	Sig.
Investment and economic growth	0.2765	4.82	0.0081
Coefficients	**Beta**	**T**	**Sig.**
(Constant)	2.292263		
Private investment	-2.079692	-1.36	0.184
Public investment	6.500096	1.26	0.217
FDI	1.521454	2.93	0.007

Source; Data compiled from UBOS, IMF and UIA Reports

Multiple linear regression results show that without any form of investment in Uganda's real GDP growth rate would be 2.292263, a unit change in private investment changes the real GDP growth rate by -2.079692, a unit change in public investment affects real GDP growth rate by 6.500096 and finally a unit change in foreign direct investment changes real GDP growth rate by 1.521454.

In general the (sig. = 0.0081) this means that investment has a significant effect on real GDP growth rate, however, a look at the individual investment strata its evident that using this model private and public investment are not significant since (sig. = 0.184 and sig.= 0.217) respectively. These results however are subject to wrong model specification and this explains why a non linear model was considered in establishing the relationship between private investment and real

GDP growth rates. However the model shows that FDI is the only significant variable in the study.

Level of economic growth in Uganda between 1980 and 2010

The researcher's second objective was to find out the level of economic growth in Uganda from 1980 to 2010. Uganda has experienced unprecedented, rapid and uninterrupted growth for the past two decades. This is a remarkable achievement for a landlocked country that is constrained by a number of factors. This period of uninterrupted growth has brought Uganda's living standards closer to the average of sub-Saharan Africa.

Investment (at 23.4 % of gross domestic product (GDP)), especially private investment (18.5% of GDP), is high by African standards.

Total factor productivity (TFP) growth contributed most of the GDP growth in the 1990s. Apart from policy and prices, other macro factors that may have driven TFP growth in Uganda include quality of growth, rising hi-tech products in both exports and imports, increasing number of firms that export, rural-urban migration and diversification within and out of agriculture (World Bank, 2007). Half of GDP growth over 1990-2005 can be attributed to services, industry and agriculture which have a quarter each. Services have replaced agriculture as the most important sector, from 35% in 1990/91 to 46.4% in 2008/09, while the industry share rose from 13% to 24.2% during the same period (Sewanyana, 1999).

FIGURE 2

A LINE GRAPH SHOWING THE LEVEL OF ECONOMIC GROWTH
FROM 1980 TO 2010
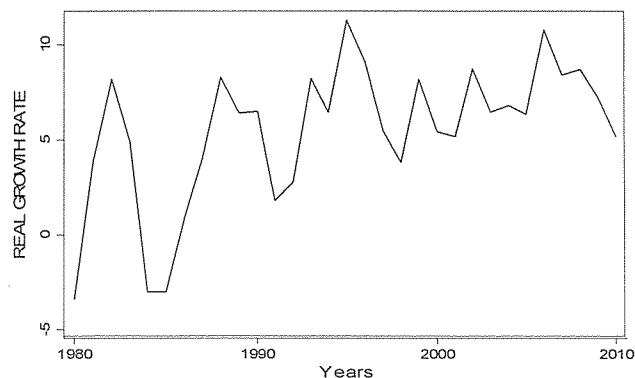
Source; Data compiled from UBOS, IMF and UIA Reports

Uganda's economic growth indicators show a declining trend between 1970 and 1980, then a short-lived improvement with a big decline again in 1985-1986 and inflows of investment.

The declining growth rates were because of the erratic domestic policies and external shocks brought about by Amin's regime. Obote's return to power at the beginning of the 1980s marked a reversal of the earlier emphasis on controls and nationalization. He encouraged investment, market-based policies were re-adopted, hence leading to a robust improvement in the growth rate. However, the regime failed to establish a viable political coalition to ensure longevity hence the decline from 1983 to 1986.

The National Resistance Movement (NRM) government has had the longest spate in power of any regime since independence. The period has seen some of the most far-reaching political and economic changes in the country. Beginning in 1987 with the launch of an

economic reform programme supported by the World Bank and the IMF, the economy experienced robust growth rates and by the mid 1990s, which averaged 10%, the economy experienced the highest growth rate. During this period, it experienced one of the highest rates of per capita income growth averaging 3.2% for the decade. From 1999, Uganda's average annual rate of economic growth started to slow down averaging 2% in per capita terms and much of this slow down is explained by sharply deteriorating terms of trade. Berthélemy and Söderling (1998) have investigated periods of high growth in Uganda and their findings are in line with this analysis. They look at the period 1987-1996. Per capita income growth was being caused by either capital accumulation or productivity growth.

The reason for the rapid productivity growth was attributed to improved utilization of existing capacities. This was made possible by the return of peace and by the gradual reduction in market distortions, return of Indians, political stability and increased Gross national savings.

TABLE 5. Regression Analysis of real GDP growth rate over time in Uganda from 1980 to 2010

Variables Regressed	Adjusted R^2	F-value	Sig.	Interpretation
Growth rate and Time	0.2814	12.75	0.0013	Significant positive effect
Coefficients	**Beta**	**T**	**Sig.**	
(Constant)	1.853484	0.121	0.121	Significant
Time (X)	.2258629	3.57	0.001	Significant

Source; Data compiled from UBOS, IMF and UIA Reports

Since the scatter in appendix and line graphs in figure 2 estimate a linear kind of model, it was estimated from the above table that;

Y　　=　　1.853484　　+　　0.2258629x

Where Y　　=　　Growth rate

　　X　　=　　Time

Implying that irrespective of variations in time, Uganda's economy would grow by 1.853484 and a unit change in time affects growth rate by 0.225

This means the economy has had a positive growth rate over the years which have been attributed to political stability, population increase, improvement in education levels and government policies of attracting foreign investors. The Linear regression results in Table 5 indicate that time has a significant effect on real growth rate (F=10.20, sig. =0.001). The results indicate that time explains 28.14% of the variations in economic growth (Adjusted R^2 =0.26). The coefficients section of this table indicates the extent to which time explains growth rates and this is indicated by Beta values. For example, if time increased by one unit it implies that investment would increase by .22. Hence, real GDP growth rate has been significantly increasing over time.

Establishing the relationship between investment and economic growth in the following forms

The third objective was to establish the relationship between each of the three investment strata in this study and economic growth.

TABLE 6. PRIVATE, FDI, PUBLIC INVESTMENT AND GDP IN BILLION US DOLLARS OF UGANDA 1980-2010

Years	Real GDP Growth Rate	Private Investment	Public Investment	FDI
1980	-3.392	0.394	0.245	0.32
1981	3.859	0.485	0.358	0.19
1982	8.205	0.321	0.244	0.09
1983	4.899	0.356	0.267	-0.02
1984	-3	0.3	0.178	-0.05
1985	-3	0.271	0.159	-0.11
1986	0.946	0.266	0.274	0.012
1987	4	0.469	0.55	0.05
1988	8.294	0.451	0.486	0.07
1989	6.403	0.394	0.355	-0.03
1990	6	0.358	0.266	-0.14
1991	1.778	0.143	0.0899	0.03
1992	2.78	0.218	0.118	0.1
1993	8.242	0.263	0.158	1.7
1994	6.427	0.459	0.191	2.21
1995	11.293	0.681	0.245	2.11
1996	9.102	0.688	0.282	2
1997	5.472	0.673	0.288	2.79
1998	3.801	0.769	0.329	3.19
1999	8.159	0.732	0.27	2.34
2000	5.437	0.805	0.26	2.59
2001	5.184	0.783	0.222	2.59
2002	8.733	0.945	0.23	2.99
2003	6.473	0.991	0.251	3.19
2004	6.807	1.284	0.309	3.49
2005	6.333	2.578	0.432	4.22
2006	10.68	2.012	0.57	6.49
2007	8.412	3.301	0.62	6.66
2008	8.709	4.469	1.094	5.05
2009	7.181	3.782	0.854	3.76
2010	5.769	2.893	1.08	3.44

Source; Uganda Bureau of Statistics abstract (2009), IMF, UIA

Public investment and economic growth

Public investment and real GDP were correlated. A table of results below was obtained and under this objective a null hypothesis that there is no relationship between public investment and economic growth in Uganda was tested.

TABLE 7

Pearson's Linear Correlation Coefficient Test results for Public investment and economic growth (GDP)

Variables Correlated	r-value	Sig-Value	Interpretation	Decision on Ho
Public investment and economic growth	0.2472	0.180	Positive but Not Significant	Accepted

Source; Data compiled from UBOS, IMF and UIA Reports

The results in Table 7 indicate that public investment does not have a significant correlation with real growth rates in Uganda from 1980 to 2010 (sig. >0.05). Results also indicate that public investment is positively correlated with real Growth rates in Uganda from 1980 to 2010 (r-value>0). This implies that an increase in public investment leads to an increase in real GDP Growth rates as per this study.

Real GDP was regressed against public investment to find the effect of public investment on real GDP. From table 8, the P (sig) value is 0.180 > 0.05 and the t value is 1.37 < 2.045 the critical value.

TABLE 8

Regression analysis between public investment and real growth rates in Uganda: 1980- 2010

Variables regressed	Adjusted R^2	F-value	Sig.	Interpretation	Decision on Ho
Public investment and Real growth rates	0.2819	1.89	0.18	No Significant effect	Accepted
Coefficients	Beta	T			
(Constant)	4.262549	3.89	0.001	S	
Public investment	3.246745	1.37	0.180	Not Significant	Accepted

Source; Data compiled from UBOS, IMF and UIA Reports

The linear regression results in Table 6 above indicate public investment does not have a significant effect on Real GDP growth rates (F=1.89, sig. =0.180> 0.05). The results indicate that public investment account for 28.19% of the variations in real GDP growth rates. (Adjusted R^2 =0.28). The coefficients section of this table indicates the extent to which the explanatory variable (public investment explains the explained variable real GDP growth rates) and this is indicated by Beta values. From table 8, if the explanatory variable which is public investment increased by one unit it implies that the explained variable which is real GDP growth rates increases by 3.24.

Private investment and economic growth

Private investment and real GDP were correlated; and a table of results below was obtained. Under this objective, a null hypothesis that there is no relationship between private investment and economic growth in Uganda was tested. A scatter plot representing private investment and real GDP growth rates portrays a nonlinear trend.

Figure 3

Private investment and economic growth: 1980- 2010
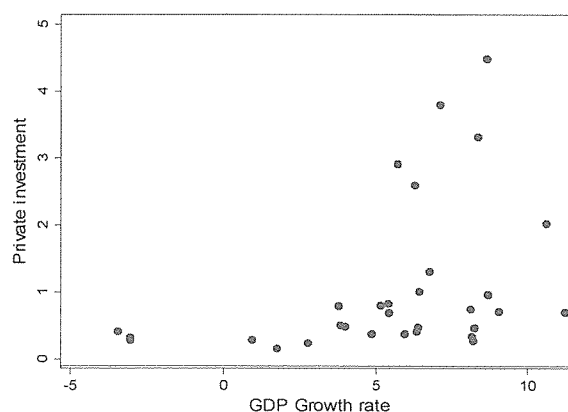
Source; Data compiled from UBOS, IMF and UIA Reports

The plot in figure 3 portrays an exponential trend, as a result a private investment and real GDP growth rate were correlated and 3-parameter asymptotic regression model was estimated to portray how private investment affects real GDP growth rates.

TABLE 9

Pearson's Linear Correlation Coefficient Test results for

Private investment and economic growth (GDP) OF UGANDA

1980-2010

Variables correlated	r-value	Sig-Value	Interpretation	Decision on Ho
rivate investment and economic growth	0.376	0.0052	Positive and Significant	Rejected

Source; Data compiled from UBOS, IMF and UIA Reports

The results in Table 9 indicate that the private investment has a significant correlation with real GDP growth rates in Uganda from (r=0.376 sig. 0.005<0.05). Results also indicate that private investment is positive and significantly correlated with real GDP growth rates.

To obtain the extent to which private investment affects real GDP growth rate, the two variables were regressed and results obtained are shown in table 8.

TABLE 10

Regression analysis between private investment and real GDP growth rates in Uganda: 1980 to 2010

Variables Regressed	Adjusted R^2	F-value	Sig.	Interpretation	Decision on Ho
Private investment and real GDP Growth rates	0.264	6.39	0.005	Positive and significant	Rejected
Coefficients	**Beta**	**T**			
(Constant)	7.86	6.67	0.000	Positive and significant	Rejected
Private investment	.0489	-2.14	0.005	Positive and significant	Rejected

Source; Data compiled from UBOS, IMF and UIA Reports

A 3-parameter asymptotic regression model was estimated to portray how private investment affects real GDP growth rates and results from the analysis are presented in table 10 above. It indicates that (F=6.39, sig. =0.0052 < 0.05). The results show that private investment account for 26.43% of the variations in real GDP growth rates. (Adjusted R^2 =0.26.43).

The coefficients section of this table indicates the extent to which Private investment explains real GDP growth rates and this is indicated by Beta values. If private investment increased by one unit, it implies that real GDP growth rates increases by .048975. From the table of results the (sig = is 0.0052 < 0.05 and the t value is 6.67 > 2.045 the critical value.

FDI and economic growth

FDI and real GDP were correlated and under this objective, a null hypothesis that there is no relationship between FDI and economic growth in Uganda from 1980 to 2010 was tested.

A scatter plot of FDI against Real growth rates portrays a linear trend hence a simple linear regression model was fit to establish a relationship between FDI and real GDP.

The scatter portrays linear relationship between real GDP growth rate and FDI and hence a simple linear regression model was estimated to portray how FDI affects real GDP growth rates and results from the analysis are represented in table 12.

FIGURE 4

A SCATTER PLOT SHOWING RELATIONSHIP BETWEEN FDI AND REAL GDP GROWTH RATES OF UGANDA 1980-2010
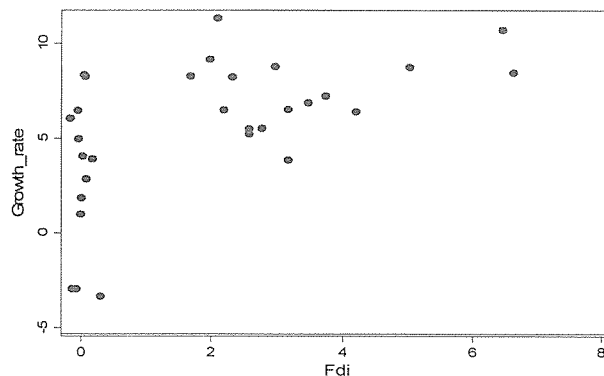
Source; Data compiled from UBOS, IMF and UIA Reports

TABLE 11

Pearson's Linear Correlation Coefficient Test results for FDI and economic growth (GDP)

Variables Correlated	r-value	Sig – Value	Interpretation	Decision on Ho
FDI and economic growth	0.55	0.002	Positive and significant	Reject

Source; Data compiled from UBOS, IMF and UIA Reports

The results in Table 9 indicate that the FDI has a significant correlation with real growth rates in Uganda from 1980 to 2010 (sig. <0.05). Results also indicate that FDI is positively correlated with real Growth rates in Uganda from 1980 to 2010 (r-value>0) and the t value is 3.52 > 2.045 the critical value.

TABLE 12

Regression analysis between FDI investment and real growth rates in Uganda from 1980 to 2010

Variables Regressed	Adjusted R^2	F-value	Sig.	Interpretation	Decision on Ho
FDI and real growth rates	0.282	12.38	0.002	Positive and significant	Reject
Coefficients	**Beta**	**T**			
(Constant)	3.46	4.23	0.000	Significant	
FDI	1.04	3.52	0.001	Significant	Reject

Source; Data compiled from UBOS, IMF and UIA Reports

The linear regression results in table 12 above indicate that FDI has a significant effect on real GDP growth rates. (F=12.38, sig =0.0015< 0.05) the results indicate that FDI accounts for 28.19% of the variations in real GDP growth rates.

(Adjusted R^2 =0.28). The coefficients section of this table indicates the extent to which the explanatory variable (FDI) explains the explained variable (real GDP growth rates) and this is indicated by Beta values. From table 12, if FDI increased by one unit it implies that real GDP growth rates increases by 1.04278. From the table of results $F (1, 28) = 12.38 > 4.2$ the critical value. The significance of FDI is explained by the increase in the number of foreign - owned firms reflected in the telecommunication industry, breweries, banking, oil and Privatization.

The principal investors in Uganda have been developed countries, led by the UK. The principal African investors have been South Africa, Mauritius and Kenya. South African investment was about 10% of the total from 1996/7 to 2000/1, although it has now fallen back. In stocks, South Africa is still almost 10%, with Mauritius and Kenya about 5% each (UIA, 2008). Other reasons include government policies of giving tax exceptions, rebates and holidays, the conducive investment climate in Uganda and the readily available market that have attracted foreign investment.

CHAPTER FIVE

FINDINGS, CONCLUSIONS, RECOMMENDATIONS

Findings

The study was done with the purpose of establishing whether there is a significant relationship between investment and economic growth in Uganda from 1980 to 2010. It was basically guided by three specific research objectives that were set to determine the level of investment by studying the level of total investment in Uganda over time. The level of economic growth by studying the real GDP growth rates over time. Relationship between investment and economic growth in the following forms; Public investment and economic growth, Private investment and economic growth, FDI and economic growth.

Level of investment in Uganda

The first objective was to establish the level of investment in Uganda. Findings on this were done by studying time series data on total investment as a percentage of GDP over time. A simple linear regression model to capture the two variables shows that the investment would be (Beta =3.45) as a percentage of GDP irrespective of changes overtime, a unit change over time affects total investment by 0.6015.

On the whole, results show that change over time explains 26.03% of the variations in total investment rates (adjusted R^2 = 0.26). Since the (sig. =0.00), the trend is positive and significant.

The second objective was to establish the level of economic growth by studying the real GDP growth rates over time. Findings on this were done by studying time series data on real GDP growth rate as an indicator of economic growth over time. A simple linear regression model to capture the two variables shows that the real GDP growth would be (Beta =0.2258629) irrespective of changes overtime and a unit change over time affects real GDP growth rates by 1.853484.

On the whole, results show that change over time explains 28.14% of the variations in real GDP growth rates (adjusted R^2 = 0.2603). Since the (sig. =0.0034) and the slope is positive then the trend is positive and significant. The third question was to establish the relationship between investment and economic growth rate in the following forms; Public investment and economic growth, private investment and economic growth, FDI and economic growth.

Results using Pearson's linear correlation coefficient found that public investment is positively related with real GDP growth rate but the relationship is not significant since (r = 0.2472, sig. = 0.1800). Hence the null hypothesis is accepted that there is no relationship between Public investment and real GDP growth rates. This is due to the fact that public enterprises have been mismanaged by civil servants. There has also been embezzlement, mismanagement of public funds and resource misallocation which have all been experienced in Uganda.

Regression analysis results indicated that the level of real GDP growth rates that is not affected by public investment is (Beta = 4.262549) and a unit increase in level of public investment influences real growth rates by 3.246745.

On the whole, the analysis finds out that change in public investment accounts for only 6.11% of the variations in real GDP growth rates. (Adjusted R^2 =0.0611)

Results using Pearson's linear correlation coefficient found that private investment is positively related with real GDP growth rate and the relationship is significant since (r = 0.3765, sig. = 0.0052). Hence the null hypothesis is accepted that there exists a positive relationship between Private investment and real GDP growth rates.

The non-linear regression analysis results indicated that the level of real GDP growth rates that is not affected by private investment is (Beta = 7.86) and a unit increase in level of private investment influences real growth rates by 0.048.

On the whole, the analysis finds out that change in public investment accounts for 26.43% of the variations in real GDP growth rates. (Adjusted R^2 =0.26)

Using Pearson's linear correlation coefficient, it was found out that FDI is positively related with real GDP growth rate and the relationship is significant since (r = 0.55, sig. = 0.002). Hence, the null hypothesis is rejected we conclude that there exists a positive significant relationship between FDI and real GDP growth rates.

Regression analysis results indicated that the level of real GDP growth rates that is not affected by FDI is (Beta = 3.46) and a unit increase in level of FDI influences real growth rates by 1.04.

On the whole, the analysis finds out that change in FDI accounts for 30.67% of the variations in real GDP growth rates (Adjusted R^2 =0.307)

These findings are partly in agreement with the Harold Domar growth model which says that "One of the principle tricks of development necessary for any takeoff is the mobilization of domestic and foreign savings in order to generate sufficient investment to accelerate economic growth." In this study, it has been found to be true for FDI and Private investment. However public investment doesn't agree with Harold - Domar since findings show that increase in Public investment doesn't lead to economic growth.

Conclusions

Level of investment in Uganda from 1980 to 2010

The first objective was to determine the level of investment in Uganda. It was found out that the level of investment in Uganda has been increasing over time since the coefficient on investment is positive (0.60), this significant increase is attributed to the several government policies that have made it possible to attract both domestic and foreign based investment in Uganda, they include privatization, Plan for Modernization of Agriculture, PEAP, and trade liberalization.

Level of economic Growth in Uganda: 1980 - 2010

The second objective aimed at determining the level of economic growth in Uganda. The researcher used real GDP growth rate as a measure of economic growth, it was found out that the level of economic growth has been increasing over time since the gradient of the linear regression model is positive (0.22586). Hence the

relationship was found to be significant and this is in line with Kayizzi (1999) who found out that Uganda has had uninterrupted levels of economic growth over the years.

Relationship between investment and economic growth

This was the last objective of the study and it was analyzed in three sections which include; public investment and economic growth, private investment and economic growth and FDI and economic growth.

Public investment and economic growth

This section of the last objective was set to find out whether there is a significant relationship between public investment and economic growth for which it was hypothesized there is no significant relationship between public investment and economic growth in Uganda. Basing on the findings, the null hypothesis was accepted leading to a conclusion that there is no significant relationship between Public investment and economic growth. The justification to this is revealed by the level of significant value that is greater than 0.05 i.e; (r= 0.2472, sig=0.18).

The same results are supported by the linear regression results which also indicate that public investment has no significant relationship with economic growth. (F=1.89, sig. =0.180). Since F=1.89 < 4.2 critical value, sig. = 0.180>0.05. We accept the null hypothesis at 95% level of confidence that there is no relationship between Public investment and economic growth.

Private investment and economic growth

This section of the last objective was set find out whether there is a significant relationship between Private investment and economic growth for which it was hypothesized there is no significant relationship between Private investment and economic growth in Uganda. Basing on the findings, the null hypothesis was rejected leading to a conclusion that there exists a positive significant relationship between private investment and economic growth. The justification to this is shown by the level of significance value that is less than 0.05 i.e. (r= 0.376, sig=0.005).

The same results are supported by the nonlinear regression results which also indicate that private investment has a significant relationship with economic growth since (F=6.39, sig. =0.024). Since F=6.39 > 4.2 critical value, sig. = 0.024 > 0.05, the researcher rejects the null hypothesis and conclude with 95% level of confidence that there exists a relationship between Public investment and economic growth.

FDI and economic growth

This section of the last objective was set to find out whether there is a significant relationship between FDI and economic growth for which it was hypothesized there is no significant relationship between FDI and economic growth in Uganda. Basing on the findings, the null hypothesis was rejected leading to a conclusion that there exists a positive significant relationship between FDI and economic growth. The justification to this is shown by the level of significance value that is less than 0.05 i.e. (r= 0.55, sig=0.002).

The same results are supported by the linear regression results which also indicate that FDI has a significant relationship with economic growth since (F=12.38, sig. =0.001). Since F=12.38 > 4.2 critical value, (sig. =0.001 < 0.05, hence the null hypothesis that there is no relationship between FDI and economic growth is rejected and a conclusion at 95% level of confidence that there exists a relationship between FDI and economic growth.

Recommendations

The study realized several circumstances demanding government intervention and in particular the Ministry of Finance Planning and Economic development. The growth of an economy depends much on government policies designed to increase production capacity.
The study noticed that the government should adhere to the following principles in order to promote investment that would lead to economic growth.

It should put efficient systems in place that can design public policies, implement, audit and other checks and balances to ensure efficient use of public funds so as to maintain and promote a significant impact on economic growth.

Since the private sector is doing well, it should be promoted through provision of incentives in form of banking institutions, infrastructure, security, markets and education. This would ensure sustainability and hence preventing seasonal variations.

Ensuring a politically secure economy in creating a fertile ground for foreign investment and investors is paramount.

Different figures for the same variable at times gave different results. This was solved by considering figures that were almost similar from different sources.

It's suggested that when such organizations are conducting similar studies, they should endeavor to provide accurate information. This would increase their confidence when publicizing their records and findings from different sources would be the same.

Areas suggested for further research

A study on "The effect of **Public** investment on Private investment in Uganda" should be carried out.

Another study recommended is "The role of **Public sector** in attracting FDI".

And finally "the impact of "**Uganda investment Authority** towards economic development".

"A study on the causal relationship between investment and economic growth".

"Limitations of public investment on enhancing economic growth."

A detailed study on why public investment may have a negative impact on economic growth should be done.

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APPENDIX 1

TRANSMITTAL LETTER

OFFICE OF THE DEPUTY VICE CHANCELLOR (DVC)

SCHOOL OF POSTGRADUATE STUDIES AND RESEARCH (SPGSR)

Dear Sir/Madam,

RE: INTRODUCTION LETTER FOR MR. NDUGWA JAMES MAGEZI REG. NO. MAE/43141/92/DU TO CONDUCT RESEARCH IN YOUR INSTITUTION

The above mentioned candidate is a bonafide student of Kampala International University pursuing a Master of Arts in Economics.

He is currently conducting a field research entitled, **Investment and economic growth in Uganda from 1980 to 2010.**

Your institution has been identified as a valuable source of information pertaining to his research project. The purpose of this letter then is to request you to avail him with the pertinent information he may need.

Any data shared with him will be used for academic purposes only and shall be kept with utmost confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,

_____

MR. KIBUKA MUHAMED

Coordinator

Economics and Statistics

APPENDIX II

CLEARANCE FROM ETHICS COMMITTEE

Date_____

Candidate's Data

Name_____

Reg.# _____

Course _____

Title of Study

_____

_____

Ethical Review Checklist

The study reviewed considered the following:

____ Physical Safety of Human Subjects

____ Psychological Safety

____ Emotional Security

____ Privacy

____ Written Request for Author of Standardized Instrument

____ Coding of Questionnaires/Anonymity/Confidentiality

____ Permission to Conduct the Study

____ Informed Consent

_____ Citations/Authors Recognized

Results of Ethical Review

_____ Approved

_____ Conditional (to provide the Ethics Committee with corrections)

_____ Disapproved/ Resubmit Proposal

Ethics Committee (Name and Signature)

Chairperson _____

Members _____

OFFICE OF THE COORDINATOR, ECONOMICS
SCHOOL OF POSTGRADUATE STUDIES AND RESEARCH (SPGSR)

June 23, 2011

RE: REQUEST FOR NDUGWA JAMES MAGEZI MAE/431411/92/DU
TO CONDUCT RESEARCH IN YOUR ORGANIZATION

The above mentioned is a bonafide student of Kampala International University pursuing a Masters of Arts in Economics.

He is currently conducting a field research of which the title is **"Investment and Economic Growth in Uganda."**

Your organization has been identified as a valuable source of information pertaining to his research project. The purpose of this letter is to request you to avail him with the pertinent information he may need.

Any information shared with him from your organization shall be treated with utmost confidentiality.

Any assistance rendered to him will be highly appreciated.

Yours truly,

Mr. Kibuuka Muhammad
Coordinator Economics, (SPGSR)

APPENDIX IV

INFORMED CONSENT

I am giving my consent to be part of the research study of Mr. Ndugwa James Magezi that will focus on investment and economic Growth in Uganda from 1980 to 2010

I shall be assured of privacy, anonymity and confidentiality and that I will be given the option to refuse participation and right to withdraw my participation anytime.

I have been informed that the research is voluntary and that the results will be given to me if I ask for it.

Initials:_____

Date_____

APPENDIX V

RESEARCH INSTRUMENT

Record sheet For Investment levels in Uganda from 1980 to 2010   % of GDP (Billion $)

Years	Public investment	Private investment	Foreign Direct investment	Real GDP growth rate
1980				
1981				
1982				
1983				
1984				
1985				
1986				
1987				
1988				
1989				
1990				
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2003				
2004				
2005				
2006				
2007				
2008				
2009				
2010				

APPENDIX VI
Record sheet For Real GDP Growth Rate from 1980 to 2010

Year	Real GDP Growth Rate	Growth rate
1980		
1981		
1982		
1983		
1984		
1985		
1986		
1987		
1988		
1989		
1990		
1991		
1992		
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2004		
2005		
2006		
2007		
2008		
2009		
2010		

Researcher's Curriculum Vitae

Personal Profile

Name	:	Ndugwa James Magezi
Gender	:	Male
Marital Status	:	Married
Nationality	:	Ugandan

Educational Background

Masters of Arts in economics (Kampala International University, 2011)

Bachelor of Science in Economic Planning (Nelson Mandela Metropolitan University, 2007)

UACE (St. Henry's college Kitovu)   (1999)

UCE (St. Henry's college Kitovu)   (1997)

Other Relevant information

Computer literacy

Data analysis (SPSS, STATA, EPI INFO)

Trainer of Trainers certificate

Honesty

Hard working

Languages Spoken: English Luganda, Kiswahiri

APPENDIX VII

DATA ANALYSIS RESULTS

Regression analysis between Total investments over time

regress var6 var7

```
      Source |      SS       df       MS              Number of obs =   31
-------------+------------------------------          F( 1,    29) =   10.20
       Model |  107.844672     1  107.844672          Prob > F     = 0.0034
    Residual |  306.479762    29  10.5682677          R-squared    = 0.2603
-------------+------------------------------          Adj R-squared = 0.2348
       Total |  414.324434    30  13.8108145          Root MSE     = 3.2509
```

```
------------------------------------------------------------------------------
        var6 |    Coef.   Std. Err.     t    P>|t|    [95% Conf. Interval]
-------------+----------------------------------------------------------------
        var7 |  .6015069  .1882969    3.19   0.003   .2163965    .98661
       _cons |  3.443517  .8652687    3.98   0.000   1.673844      5.2
------------------------------------------------------------------------------
```

Growth rate vs years

regress Growth_rate Time_

Source	SS	df	MS		Number of obs	=	31
					F(1, 29)	=	12.75
Model	126.514849	1	126.514849		Prob > F	=	0.0013
Residual	287.76594	29	9.92296344		R-squared	=	0.3054
					AdjR-squared	=	0.2814
Total	414.280789	30	13.8093596		Root MSE	=	3.1501

Growth_rate	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Time_x	.2258629	.063255	3.57	0.001	.0964919	.3552339
_cons	1.853484	1.159483	1.60	0.121	-.5179257	4.224893

Regression analysis between real growth rates (var1), Private inv (var3), Public inv (var4), FDI (var5)

. regress var2 var3 var4 var5

Source	SS	df	MS		Number of obs = 31
-------------+-----------------------------					F(3, 27) = 4.82
Model	144.548902	3	48.1829672		Prob > F = 0.0081
Residual	269.775532	27	9.99168638		R-squared = 0.3489
-------------+-----------------------------					Adj R-squared = 0.2765

```
      Total |  414.324434      30  13.8108145          Root MSE    =
3.161
```

```
      var2 |      Coef.   Std. Err.      t      P>|t|     [95% Conf.
Interval]
```

```
-------------+-----------------------------------------------------
```

```
      var3 |  -2.079692   1.524873   -1.36    0.184    -5.208474
1.04909
```

```
      var4 |   6.500096   5.144225    1.26    0.217    -4.054981
17.05517
```

```
      var5 |   1.521454   .5192498    2.93    0.007     .4560413
2.586867
```

```
     _cons |   2.292263   1.271873    1.80    0.083    -.3174052
4.901932
```

```
-------------------------------------------------------------------
```

Scatter diagram of Public investment and economic growth
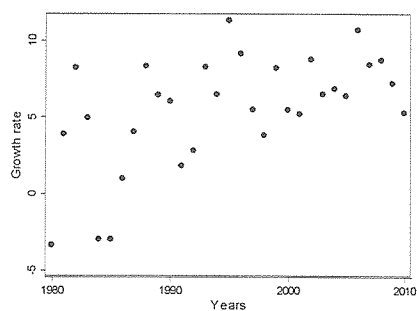

```
      Source |      SS           df       MS    Number of obs= 31
-------------+------------------------------    F( 1,   29) =   1.89
       Model |  25.3176076     1  25.3176076    Prob > F  =  0.18
    Residual |  388.963181    29  13.4125235    R-squared=  0.0611
-------------+------------------------------    Adj R-squared =0.0287
```

Total | 414.280789   30 13.8093596   Root MSE =   3.6623

Growth_rate | Coef.   Std. Err.   t   P>|t| [95% Conf. Interval]

-------------+--

Public_inv~t | 3.246745   2.36315   1.37   0.180   -1.58644   8.079938

      _cons | 4.262549   1.096162   3.89   0.001   2.020645   6.504453

Correlation

| Growth~e Public~t

-------------+-------------------

Growth_rate | 1.0000

Public_inv~t | 0.2472   1.0000
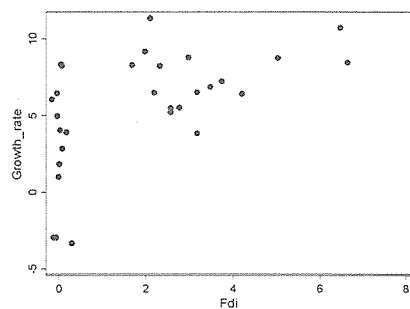
regress Growth_rate Fdi

```
   Source |       SS       df       MS              Number of obs =      30
----------+------------------------------          F( 1,   28) =   12.38
    Model |  127.03073     1  127.03073            Prob > F    =  0.0015
 Residual |  287.209429   28  10.2574796           R-squared   =  0.3067
----------+------------------------------          Adj R-squared = 0.2819
    Total |  414.240159   29  14.2841434              Root MSE =  3.2027
```

```
-------------------------------------------------------------------------

Growth_rate |    Coef.   Std. Err.     t    P>|t|    [95% Conf. Interval]
------------+------------------------------------------------------------

       Fdi |   1.04278   .2963184    3.52   0.001     .4357992
1.64976
      _cons |  3.461961   .8177872    4.23   0.000      1.7868
5.137122

-------------------------------------------------------------------------
```

correlate Growth_rate Fdi
(obs=30)

```
           | Growth~e      Fdi

Growth_rate |   1.0000
Fdi |   0.5538 1.0000
```
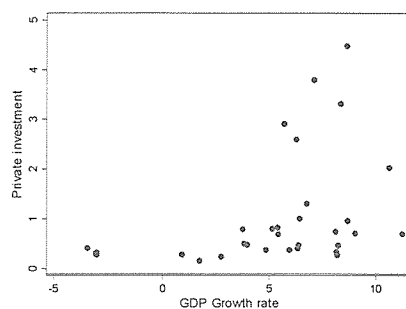
Private investment and economic growth

Correlation between Private and GDP

(obs=31)

```
            |    var6    var2
------------+------------------
       var6 |  1.0000
       var2 |  0.3765  1.0000
```

```
     Source |      SS         df      MS  Number of obs =    31
------------+------------------------------  F( 2,   28) =     6.39
      Model |  129.838485  2   64.9192425  Prob > F =    0.0052
   Residual |  284.485949  28  10.160      R-squared   =    0.3134
------------+------------------------------  Adj R-squared =    0.2643
      Total |  414.324434  30  13.8108145  Root MSE=  3.187509
```

3-parameter asymptotic regression, var1=b0+b1*b2^var2

```
------------------------------------------------------------------------------
       var1 |     Coef.   Std. Err.     t    P>|t|     [95% Conf. Interval]
------------+-----------------------------------------------------------------
-
```

```
    b0 |   7.863144    1.17935     6.67   0.000     5.447356
10.27893
    b1 |  -11.39496   5.326435    -2.14   0.041    -22.30566
-.4842486
    b2 |   .0489759    .091371     0.54   0.596    -.1381891
.236141
--------------------------------------------------------------------------

* Parameter b0 taken as constant term in model & ANOVA table
```