

**PRIVATE SECTOR INVESTMENT AND ECONOMIC GROWTH IN
UGANDA (1985-2014)**

BY

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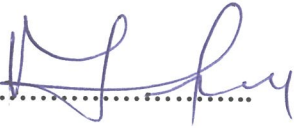
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**A RESEARCH DISSERTATION SUBMITTED TO THE COLLEGE OF ECONOMICS
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UNIVERSITY**

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DECLARATION

I **MOHAMOUD ABDULKADIR DIRIYE** hereby declare that "This dissertation is my original work and has not been presented for a degree or any other academic award in any university or institution of learning".

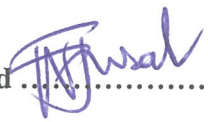
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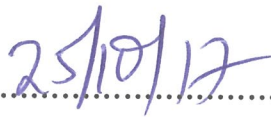
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APPROVAL

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

Name: Dr. James Wokadala

Signed 

Date: 

DEDICATION

I dedicate this research dissertation to my dear parents, and my family, and my colleagues. All this would have not been possible if it were not for your undying support and love that has always been forthcoming, thank you.

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All praise is to Allah Almighty, the most Compassionate/sympathetic and the Merciful, Who bestowed and granted on me the potential and ability to complete this research work. I would also like to send and pay my homage, honor and sweet sensation of respect to my loving and caring parents whose love, prayers and encouragement kept me steadfast, dedicated and enabled me to attain this target and complete my studies successfully. Words are unlimited to pay special thanks to my mama Ugaso Mohamed Hersi who helped me financially during my studies.

I don't have to hesitate to underline the countless and outnumbered thanks to my parents, who sacrificed the little he had in investing my education.

It is a privilege and great pleasure to place on record my sincere thanks to my supervisor, Dr. James Wokadala for his support and skillful guidance throughout my research work and his admired and well-liked thoughtful and professional corrections with respect and patience that led my work to a presentable final.

I cannot forget the tireless efforts of lecturers of KIU for their courage and as well as their contributions to shape me to be valuable product in this university.

Needless to say that for any errors and omissions which might still be there in this thesis, the researcher is solely responsible for the same.

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ABBREVIATIONS AND ACRONYMS

ADF Augmented Dickey- Fuller

AGOA African Growth Opportunity Act

AU African Union

BoU Bank of Uganda

CBR Central Bank Rate

CMA Capital Markets Authority

CRD credit bank

EAC East African Community

EP Export Promotion

EPZ Export Processing Zone

EPZA Export Processing Zone Authority

EXC exchange rate

FDI Foreign Direct Investment

GCF Gross Capital Formation

GDP Gross Domestic Product

HELB Higher Education Loans Board

ICT Information and Communications Technology

IJDO International Jobs and Diaspora Office

IMF International Monetary Fund

INF inflation

IS Import Substitution

MENA Middle East and North Africa

MNEs Multinational Enterprises

MPC Monetary Policy Committee

NARC National Alliance of the Rainbow Coalition

NEPAD New Partnership for African Development

NSE Nairobi Stock Exchange

OECD Organization for Economic Co-operation and Development

OLS Ordinary Least Squares

POP population growth

PRI Private sector investment.

SAPs Structural Adjustment Programmes

SSA Sub Saharan Africa

TR Trade openness

UBOS Uganda bureau of statistics

UIA Uganda Investment Authority

VAR Vector Autoregression

VAT Value Added Tax

ABSTRACT

The study aimed at examining the effect of private sector investment on economic growth in Uganda from the period of 1985 to 2014 using time series data. Specifically, the study examined the causality, the long-run relationship between private sector investment and economic growth and also the impact of private sector investment on GDP growth. The objective was motivated by the fact that the problem statement emphasized that private sector investment has not yielded expected economic growth in Uganda. The study hypothesized that no causality and long-run relationship between private sector investment and economic growth and that there is no significant effect of private sector investment on economic growth in Uganda. The study followed a multiple linear regression analysis which gives best linear unbiased estimates to establish relationships between GDP and the independent variables. Prior to the regression stationarity among variables was tested using ADF and Phillip Perron tests. The test results showed that all the study variables were stationary at level except trade, population and inflation rate that only became stationary after first difference. The granger causality test showed that in Uganda, private sector investment does not granger cause GDP growth. Johansen Co-integration tests showed existence of co-integration among variables. The regression model showed that there is a significantly positive effect of private sector investment ($\beta_1=1.454$) and growth at 5% level, population growth ($\beta_6=-0.874$) showed a negatively significant effect on growth. Inflation rate and exchange rate effects were positively insignificant while trade and gross capital formation effects were insignificantly negative at 5% level. The study concluded there is no causality between economic growth and private sector investment and no a long-run equilibrium relationship between private sector investment in Uganda. The further concluded that private sector investment has a significantly positive effect on economic growth whereas population growth has a significantly negative effect on economic growth. Thus sustained economic growth in Uganda can be achieved through expansion of private sector investment combined with good exchange rates and price legislation. This study therefore recommends that government should enabling economic and political environment to promote privatization in the country.

CHAPTER ONE:

INTRODUCTION

1.0 Introduction

This chapter comprises of the background, problem statement, and purpose of the study, research objective, research questions, hypothesis, scope, Geographical scope, content scope, time scope, and significance of the study and operational definitions of key terms

1.1 Background of the study

1.1.1 Historical perspective

Historically, private investment has gone through a lot of phases worldwide and this began way back in the early 1860s in United States of America. Hale and Long (2012) in 1879-1886, private investors began to flow from neighboring nations to the United states and this forced the government of the America to begin establishing laws regulating private investments. During this period, United Kingdom recorded, the total amount of \$8.304 billion, from private investments with annual average value of \$1.038 billion and average annual growth rate near 15% (Baily 2012). Also in this period, foreign investment came mainly from France, Italy, Spain and India and this expanded to other parts of the world. In Japan, the private investment in 1980s and 1990's was restricted by the nature of economic infrastructure because Japan had no sound legal system, so the investment environment was not ideal and potential foreign investors in Japan lacked confidence. By this time, the average annual growth rate of private investment was not very high. The total value of private investment during this phase in Japan was \$1.753 billion, with annual average amount of \$0.351 billion (Sornarajah, 2004). In China, Technological advancement led to the emergence of better means of transport and communication which in turn led to the movement of private investors beyond their political boundaries to China to tap the investment opportunities there (Pritchard, 1996). In other European countries like Portugal, Spain and France, globalization continued to influence investments as these countries borrowed ideas from neighbours like America. By 1900s investments had continued to spread whereby steadily in that the less developed countries were supported by the developed nations to acquire materials and equipment to extract and utilize the available natural resources for economic development and employment creation (Sacerdoti, 1997). However, the equipment needed the appropriate skills to ensure that less developed

countries were able to utilize to their full potential. As economies expanded, trade grew and exchange of goods and services continued to advance. With the less developed economies possessing plenty of raw materials for industries abroad, private investment was inevitable, as industries from developed economies sought to establish in the less developed countries where raw materials were available (Sornarajah, 2004).

In Sub-Saharan Africa as a region, many countries depend very much on private investment due to its acknowledged advantages as amplified by Asiedu (2001) and Obwona (2004). In fact, it has been argued that the effort by many African countries to improve their business climate stems from the desire to invest. Indeed, one of the pillars on which the New Partnership for Africa's Development (NEPAD) was launched was to increase available capital to US\$64 billion through a combination of reforms, resource mobilization and a conducive environment for investments (Funke & Nsouli, 2003). Also Over the past two decades, African countries have made considerable efforts to improve their investment climate They have liberalized their investment regulations and have offered incentives to foreign investors (UNCTAD, 1998). More importantly, many African countries have initiated economic reforms aimed at increasing the role of the private. In addition, they have taken steps to restore and maintain macroeconomic stability through the devaluation of overvalued national currencies, the reduction of inflation rates and budget deficits. As part of these reforms, African countries have also improved their regulatory frameworks for foreign investments, which are now far more open to investors, permitting profit repatriation and providing tax and other incentives to attract investment. Furthermore, realizing that because of a negative image of Africa as a whole, it may not be sufficient to improve the investment climate and have economic determinants in place to catch investors' attention, many African countries have established investment promotion agencies to change this image as well as facilitate investment in their countries. In the Southern African Development Community (SADC), for example, all 14 member states have established such agencies. Since 1995, Investment Promotion Agencies (IPAs) from 25 African countries had joined the World Association of Investment Promotion Agency (WAIPA) by the year 2007 in order to benefit from an exchange of information on best practices in investment promotion among the member agencies.

The Ugandan history of investment can be traced back to the year 1900s, when the British arrived as they were being attracted by the country's natural resources. Real fixed investment in Uganda grew gradually from the 1950s and reached a peak during the mid-1970s. However, a rather rapid decline set in, to a point at which real fixed investment in 1988 was once again at the level prevailing during the late 1950s and early 1960s. By 2000, the United Nations Millennium Summit through its leaders placed development and investments at the heart of the global agenda by adopting the Millennium Development Goals (MDGs). The Government of Uganda is a signatory to this and the Poverty Eradication Action Plan (PEAP), which is also the Country's Poverty Reduction Strategy Paper (PRSP), is Uganda's national development framework and medium term planning tool to achieve the MDGs. By embracing the millennium campaign, Uganda committed herself to eradicating extreme poverty and hunger, achieve universal primary education, promote gender equality and empower women, reduce child mortality, improve maternal health, combat HIV/AIDS, malaria and other diseases, ensure environmental sustainability and develop a global partnership for development, all by the year 2015. All investments in the country from year 2000 have targeted the achievement of this MDGs but because investments keep on fluctuating, achieving these goals has not been easy. Key among the MDG-responsive objectives to be invested in Uganda were; improving the quantity and strengthening the quality of human resource with focus on health, education and skills development; emphasizing the quality of education and the moral aspect of education, as well as rehabilitation of referral hospitals and extending services nearer to the people. Motivation of health staff was also prioritized in the plan. The proposed investment in health was anticipated to significantly improve the health indicators- notably the maternal mortality rate, under five mortality rate and life expectancy, the national development plan I for 2010/2011, 2014/15 and the national development plan for 2015/2016 and 2019/2020. This are intended to enhance the development avenues for the country in the development initiatives.

Today, 15 years later, as Uganda ends the Millennium Development Goals era and embarks on a journey to developing and implementing the sustainable development goals, Uganda's performance has been quite impressive, even in comparison with some of her East African counterparts. Indeed, the Uganda Poverty Status Report on (PEAP) (November 2014) states that 19.7% Ugandans were poor in 2012/13 down from 33.8% in 1999/2000.

Uganda Vision 2040 builds on the progress that has been made in addressing the strategic bottlenecks that have constrained Uganda's socio-economic development since her independence, including; ideological disorientation, weak private sector, underdeveloped human resources, inadequate infrastructure, small market, lack of industrialization, underdeveloped services sector, under-development of agriculture, and poor democracy, among others. The implementation of Vision 2040 will depend on the actions and measures that we undertake as Government, private sector, civil society and as individuals through short and medium-term National Development Plans. Therefore, the commitment and dedication of all Ugandans towards its realization is of paramount importance. The national development plan for Uganda is also intended to accelerate growth of the country for enhancing economic growth. Vision 2040 is conceptualized on harnessing strategic opportunities by strengthening the relevant fundamentals capable of maximizing returns to the economy. The identified opportunities in this Vision include; oil and gas, tourism, minerals, ICT business, abundant labour force, geographical location and trade, water resources, industrialization, and agriculture Uganda Vision, 2040.

1.1.2 Theoretical Perspective

The study is premised on the theory of neo-classical approach by Jorgenson (1983). The theory was out of the desire to address the shortcomings of the Harrod-Domar formulation of (1939, 1946) that highlights the importance of determining of the rate of investment which is necessary to achieve a certain rate of economic growth and Their model also shows the possibility of increasing the rate of growth, by either reducing a factor (capital/income) or increase the rate of investment (savings/income). Thus Jorgensen model is based on the theory of optimal capital allocation. The essentials of a theory of optimal capital accumulation that meets this basic objective are the following: The firm maximizes the utility of a consumption stream subject to a production function relating the flow of output to flows of labor and capital services. The firm supplies capital services to itself through the acquisition of investment goods; the rate of change in the flow of capital services is proportional to the rate of acquisition of investment goods less the rate of replacement of previously acquired investment goods. The results of the productive process are transformed into a stream of consumption under a fixed set of prices for output, labor services, investment goods, and consumption goods.

1.1.3 Conceptual Perspective

Tokman (2015) defines the private sector investment as comprising firms with limited ownership (i.e. self-employed) that utilize unpaid family members, domestic servants, less educated employees, and have less than five workers (including the owner). Loayza (2014) views the sector as a set of economic units that do not comply totally or partially with government regulations.

Coen and Eisher (2015), defined private sector investment as capital formation, the acquisition or creation of resources to be used in production. According to them, private investment includes the acquisition of human and intangible capital as well as physical capital. Private investment can also be defined as an investment which is invested by individuals or group of individuals and it plays its own role in the economic growth and employment creation within a state (Arrighi & Giovanni, 2014).

Nick (2015) define private sector Investment as the policy, institutional, and behavioral environment, both present and expected, that influences the returns and risks, associated with investment". According to Nick (2015), key determinants of private investment include economic and political stability, rule of law, infrastructure, approaches to regulations and taxes, functioning of labor and finance markets etc. The climate of private investment in Uganda over the years has been described as unfavorable and unstable.

Private sector Investment also refers to the ventures that is made by a company or individual in a country and yet it is not financed by government of that home country (Feenstra, 2013). According to Maqbool, Maaida and Sofia (2010), in the process of investigating the economic performance of a country, one of the key determinants of economic growth and job creation is investment. Moreover, most of the countries that grow rapidly invest a considerable fraction of their Gross Domestic Product (GDP). In contrast, countries that develop slowly are those that invest slowly in their economies and remain poor (Solow, 2013). Private sector investments will focus on Foreign direct investments and domestic private investments.

Foreign direct investment is a phenomenon resulting from globalization, which involves the integration of the domestic economic system with global markets. It is accomplished through

opening up of the local economic sector as well as domestic capital for foreign investors to establish business, within the economy (Alfaro & Charlton, 2009).

Domestic private investments refer to an investment climate that is coupled with investments done by the private organizations and persons within the boundaries of a country. The focus of domestic investments is the level of business generation activities done by the nationals in the country.

According to Easterly and Rebelo (2009) defined economic growth as the total market value of all final goods and services produced annually within the boundaries of the country whether by national or foreigner-supplied resources. Dele (2007) argued that economic growth is the increase in the level on goods and services of a country within a fixed period of time, in this case economic growth will be measured in term of Gross Domestic Product expressed in the percentage change. Economic growth is measured by an increase in gross domestic product, or GDP, which is defined as the combined value of all goods and services produced within a country in a year. Many forces contribute to economic growth; unfortunately, no one is 100% clear about what these forces are or how to put them into motion. If this information was known, the economy, spurred by these forces, could grow at a constant rate unencumbered by recessions and stagnation (Barro, 2007).

Barro (2007) contend economic growth involves the category of physical capital includes the plant and equipment used by firms and also things like roads (also called infrastructure). Again, greater physical capital implies more output. Physical capital can affect productivity in two ways: (1) an increase in the quantity of physical capital (for example, more computers of the same quality) (2) an increase in the quality of physical capital (same number of computers but the computers are faster, and so on). Human capital and physical capital accumulation are similar: In both cases, investment now pays off in longer-term productivity in the future.

Trade is the exchange of goods and services for monetary considerations. Trade involves a focus on aspects of operations whether within the country or exports to other countries and imports to the country (Baro, 2007).

1.1.4 Contextual perspective

Private investment in Uganda in 2014/2015 was valued at \$1,216,128,000. Findings from Uganda Investment Authority indicate that Over the past 30 years, this value has varied between \$1,189 in 2013 and \$ 789 in 1958 when Uganda was about to get her independence. Due to a peaceful political environment, the statistics from Uganda investment authority indicate that in 2011/2012, the country received 1.7 billion dollars of investment from the private sector. The part of external sources, the private sector received lower funding through foreign direct investments, which is estimated to have declined from US\$ 1.1 billion to US\$ 0.8 billion between FY 2014/15 and FY 2015/16, and from remittances that decreased from US\$ 1.3 billion to an estimated US\$ 1.2 billion over the same period. In addition, Uganda realized lower than usual receipts from export of goods and services, due to a combined effect of low demand and low commodity prices. Under these circumstances, private investments are estimated to have reached levels that are far lower than had been anticipated. (UIA Abstract, 2013/2014. If this can be compared to the early years before Uganda attained her Independence, the sub-period of 1950-1960 was a transitional period to independence and it included years of intensified economic activity because the Europeans regime realized that the independence of Uganda was imminent. This meant that private investors were scared away because of the political environment then. This was a period when uncertainties about political and economic policies of Uganda diminished and this was coupled with unfavorable climatic conditions, uncertainty about political change affected economic activities and subsequently investment declined over the sub-period. The average ratio of investment to GDP fell to 22.2 percent from 32.1 percent of GDP over the preceding sub-period (Bank of Uganda, 2015).

According to the Central Bank, lending rates in commercial banks have increased from about 21% in January 2015 to 25% in February 2016. This is due to contractionary monetary policies that were implemented by the Central Bank to control inflation. Treasury bill rate increased from 11% to 19% in the same period. With inflationary pressures currently falling, the BoU's relaxation of monetary policy is required amid concerns over weak economic activity. By lowering its policy rate, the BoU may reverse these trends (BOU, 2015)

1.2 Problem Statement

In 2011, the Ugandan economy declined from economic growth (GDP) growth of over 6% the previous year to 4.1%. Over the course of the year, inflation averaged 18.8%, up from 4.1% in 2010, the exchange rate depreciated by 6.2% against the US dollar (USD), and the trade deficit increased from 9.6% to 10.8% of GDP, African outlook (2012).

Uganda economic growth (GDP) it has been facing problems and still characterized by a low levels of real GDP growth rate, this is due to low performance private sector investment and other factors which may also influenced economic growth, such as macroeconomic performance and poor infrastructure, the labor force, low growth of the nation's stock of the capital, low technological improvements, world bank (2012).

Since then privatization became part of the economic recovery program that was launched to bring this change aimed at generating economic growth. Though Uganda's macroeconomic performance remains impressive, outcries heightened poverty and human suffering remains and the standard of living of the majority of the people is very low (UBOS, 2014). Uganda remains of lower developing countries in the world (IMF, 2005). The real GDP growth rate of Uganda (2.8%) is lower than that of Tanzania (6.4%) and Kenya (4.6%) in 2012 (World Bank)

In 2013, Uganda saw the consolidation of macroeconomic stability and a gradual recovery of economic growth in which Real GDP growth in 2013 reached 5.6% compared to the 2.8% growth in 2012, this was mainly due to under execution of externally financed private investment and depressed exports as demand from trading partners stalled. Also, the economic growth in Uganda keep up escalating in the financial year in 2014 extended to 5.9% from 5.6% in 2013 and it is forecasting to improve in this year 2015, owing to the government's resolve to improve the fiscal space through domestic revenue mobilization efforts, scaled up private investment and a recovery in private investment (UBOS, 2014).

This study trial the effect of private sector investment on growth and recovery of economy in Uganda and examine the long ran relationship between private sector investment and economic growth.

1.3 Purpose of the study

To establish the effect of private sector investments on economic growth in Uganda from 1985-2014

1.4 specific Objectives

- i) Determine if there is a causal relationship between Private sector investment and economic growth in Uganda
- ii) To find out where long-run relationship exist between private sector investment and economic growth in Uganda
- iii) To establish the effect of private sector investment on economic growth in Uganda

1.5 Hypothesis

H₁: There is no significant causal relationship between private sector investments and economic growth in Uganda

H₂: There is no long-run relationship between private sector investment and economic growth in Uganda

H₃: Private sector investment does not have significant effect on economic growth in Uganda

1.6 Scope of the study

1.6.1 Content scope

This study was examined private sector investment as independent variable and economic growth as the dependent variable.

1.8 Significance of the study

A number of studies on investment especially in developing countries have been carried out. Nevertheless, empirical evidences on the role of private investment on growth have been limited in Uganda, the presence of little empirical analysis in this context makes this study vital to show the role of the private investment in the economy and to help the policy formulation incentive provision to the sector.

Moreover, analysis of the role of private investment in Uganda is of interest both from a policy and academic point of view. Thus in due course, as policy is concerned, if private investment does have a markedly stronger impact on growth, it would further underscore the need to rationalize public investment, as well as provide additional support for the privatization of state-owned activities.

The study is also an important addition to the existing literature on the effects of private investment on economic growth

CHAPTER TWO:

LITREATURE REVIEW

2.0 Introduction

This chapter is concerned with review of information that different authors have advanced on the topic in regard to study objectives, it therefore looks at the concepts theoretical review, theoretical frame work empirical studies and research gap

2.1 Concepts, opinions and ideas

2.1.1. Private Sector Investment

A private sector investment is the process of investing in a commodity that is not traded publicly. In many cases, this refers to a private business that has a limited number of shareholders, but the term can also be used to describe many other scenarios. For example, if an investor purchased a collection of valuables from another person, this would qualify as well. Another popular area for this type of investment is within the healthcare, regulation, and education fields to improve the standard of living for a certain region. The type of private sector investment that consumers are often most familiar with involves businesses that are looking to expand. If the company is not large enough to be traded publicly, but it needs an influx of money to remain profitable, it can hand pick investors who can help meet its needs (World Bank, 2014).

Private sector investments in Uganda seem to be motivated by expected returns relative to perceived risk and uncertainty, which in turn are shaped by both external and internal factors. Many of the critical components of a supportive agribusiness environment are identical to those that apply to other sectors of the economy. These encompass access to markets and natural resources, good infrastructure, and a stable macro-economic and political environment. Recently, the upwards trend of food prices has increased interest of the private sector in the agricultural sector, which anticipates higher returns to their investment (Eduardo and Christian, 2011). However, beyond these elements, there are factors that are specific to the agribusiness sector such as risk management and supply chain coordination, specialized infrastructure and support services related to compliance to international food safety and standards, as detailed in section. Business climate assessments show most SSA countries to be at the tail end of the environment

assessments, suggesting the need for more public sector reforms to foster competitiveness of their economies.

Similarly, Mutenyo, Asmah, & Kalio, (2010) pointed out that private investment performs well and less likely connected with corruption and other related factors and precisely robust economic growth can be achieved through promoting and encouraging domestic private investment and increasing its share in the total investment rates. Thus, it requires greatest effort to mobilize domestic resources and more effort needs to create conducive environments for the development of domestic private investments. Since nowadays main challenges facing developing countries, particularly low-income countries in the process of economic growth is that the way to promote investment rates domestically, in essence with the inadequate role played by FDI in the economy.

In the region of East Africa, where effort needs to increase domestic private investment rates, realizing its significant impact to achieve robust economic growth. Moreover, there is ongoing policy debate on the performance of private sector in the region following liberalization policy starting in the 1980s and 1990s; accordingly, this analysis contributes input for designing appropriate policy on the development of domestic private sectors through identifying potential factors that correlates with it fluctuation of international commodity prices affects the domestic economy. In the export of items in the economy almost 20% of revenue is from coffee exports and where the destiny to international markets mainly in Europe (financial crises occurred next to US) affects the economy undesirably (Evarist, 2010). Domestic saving shows an improvement from 8.40 to 10.62 % of GDP, which is believed to finance investment projects domestically. Progress shows in the per capita GNI and on average from 843.75 to 1244 US dollar and moved from low-income to lower-middle income trade index show an improvement on average from 95.98 from the year 2000- 2007 to 110.43 after the year 2007 while taking (2000 =100) as the base year. Total debt service as a percentage of export declines and external debt stock declines as well, but still there exists a high external public debt thus, the economy of Uganda experiences home grown problems and externally interlinked factors on the performances of the macroeconomic environment.

In evaluating the impact of FDI on domestic private investment in SSA countries, the question arises whether FDI crowds in (stimulates) or crowds out (displaces)³ domestic private investment. Although this is an important issue, empirical findings on the impact of FDI on domestic private investment is mixed. If FDI crowds out domestic private investment, the coefficient of FDI will be negative and statistically significant (Ssewanyana, 2009) who find evidence for crowding out in Poland). If FDI crowds in domestic private investment, then the coefficient of FDI will be positive and statistically significantly find FDI to crowds in domestic investment in South Korea). It may be the case that FDI and domestic private investment are effectively independent. Agosin and Machado (2005) find no significant effect of FDI on domestic private investment for countries in Africa, Asia and Latin America over 1971-2000, although there seems to be crowding out of domestic investment by FDI in Latin America in some sub-periods.

Mutenyo, Asman and Kalio (2010) investigates the impact of domestic private investment in SSA and find that FDI crowds out domestic investment in the sampled countries. Bosworth and Collins (1999) also examine the impact of capital inflows for recipient countries in panel set of 23 industrialized countries and 62 LDCs. The study reveals that FDI complement (crowd in) domestic investment but when the model controlled for other variables such as the accelerator term in the developing countries, it found FDI to crowd out domestic investment. Kumar and Pradhan (2002) analyze the relationship among FDI, growth and domestic investment for a sample of 107 LDCs and use gross fixed capital formation as percentage of GDP as a proxy for domestic investment. Their study provides empirical evidence that FDI affects domestic investments in a dynamic manner with a negative initial effect and a subsequent positive effect for panel data as well as for most of countries individually.

Foreign direct investment is a phenomenon resulting from globalization, which involves the integration of the domestic economic system with global markets. It is accomplished through opening up of the local economic sector as well as domestic capital for foreign investors to establish business, within the economy (Alfaro & Charlton, 2009).

MoFPED (2009) Commercial bank lending to the primary agricultural sector is small, accounting for less than ten percent of total commercial bank credit in a number of SSA countries. However, such lending has also shown a general upward trend in absolute terms. The players in the sector include a number of large foreign and African enterprises. Private investments in the agriculture sector are mainly directed towards high-value crops and non-traditional products such as cut flowers destined for markets in industrialized countries. Fruit and vegetable exports, especially from East Africa, are experiencing relatively high growth. Activities linked to agricultural production are also attracting FDI, including food processing, transport and marketing. The study notes the recent wave of interest in purchasing farmland in some SSA countries, primarily driven by the need of investor countries to ensure their long-term food and biofuel supply, and agro-climatic conditions in host countries. These deals are a potential source of increased investments in the sector, but to date, most have not resulted in actual investment. Another recent development is the proliferation of private agribusiness investment funds targeting African agriculture. Similar to the case of land purchases, most of the funds have recently been set up and are still in the fundraising stage of their development (Le Suruga, 2013).

Private sector growth has been impressive since liberalization, but Uganda's economy remains dominated by small firms that usually employ fewer than five people, making it difficult to absorb the growing number of graduates and exacerbating the youth unemployment problem. In addition, although the private sector has played a significant role in areas such as education and health services, it has not been prominent in other sectors that require significant investments, such as energy, and even in sectors in which the private sector is active, the impact of its activities on employment creation has been limited. Enlarging the role of the private sector calls for more active participation of the government under private-public partnership arrangements World Bank. (2014).

Global foreign direct investment (FDI) inflows fell by 16 per cent in 2014 to \$1.23 trillion; down from \$1.47 trillion in 2013. Table 1 below shows the growth rates of Global Gross Domestic Product (GDP) and FDI, plus FDI values over the period of 2008-2014. The decline is mostly

explained by the fragility of the global economy, policy uncertainty for investors and elevated geopolitical risks (World Investment report 2015 - Over view).

New investments were also offset by some large divestments. The decline in FDI flows was in contrast to macroeconomic variables such as Gross Domestic Product (GDP), trade, gross fixed capital formation and employment, which all grew. The report reveals that Global FDI inflows are expected to grow by 11 per cent to \$1.4 trillion in 2015. Flows could increase further to \$1.5 trillion and \$1.7 trillion in 2016 and 2017, respectively. However, a number of economic and political risks, including ongoing uncertainties in the Eurozone, potential spillovers from geopolitical tensions and persistent vulnerabilities in emerging economies, may disrupt the projected recovery (UIA, 2014/15).

Uganda is the second best investment location which registered US\$ 1,147 million there-by accounting for 25 percent of all the EAC FDI value in 2014. All the EAC countries registered increases in FDI values. Burundi registered the greatest percentage increase (357 percent) from US\$ 7 million in 2013 to US\$ 32 million in 2014. It was followed by Kenya with a 96percent increase.

UIA Abstract (2014/15) contend that the foreign Direct Investment inflows amounted to US \$ 894.2 million in 2011. In the year 2012 FDI inflows increased by US\$ 311.2 million, from US\$ 894.2 million registered in 2011 to US\$ 1,205.4 million. The increased inflow was mainly on account of direct equity capital and borrowings from affiliated enterprises (companies which have branches in various nations producing the same product).

Foreign Direct Investment (FDI) transactions during 2013 declined by US\$109.3 million to US\$1,096.1 million from the amount of US\$1,205.4 million which had been registered in 2012. (UIA Abstract, 2014/15) contend that the decrease in FDI in 2013 inflows was mainly on account of lower disbursement of foreign borrowings from affiliated enterprises. (Source: Private Sector Investment Survey report, 2014). The levels of FDI inflows were consistently high, above US \$ 1,000 million from 2012 to 2014 and this was due to the newly confirmed vast mineral resources and nascent oil sector which was registering commercial findings of oil.

The total amount of planned investments in 2014/15 was US\$ 1,407 million. The amount of planned investment increased from US \$ 1,125 million in FY 2012/2013 to US \$ 2,059 million in FY 2013/2014. However, it later declined to US \$ 1,406 million in 2014/2015. One of the causes for this situation was that there was the entry of a huge project, the mineral beneficiation project integrated with the production of sulphuric acid and energy worth US \$ 620,000,000, in 2013/14. Financial year 2014/2015 did not register any huge project of that magnitude (UIA Abstract, 2014/15).

The Construction sector registered the biggest amount of planned investment value (US\$ 466.8 million) and this represented 33 percent of all the planned investments in 2014/15. Financial year 2014/15 registered an actual investment value of US \$ 456,109,937 representing a realization rate of 36 percent, as compared to the actual investment of US\$ 187,391,312 in 2013/14 which represented 9 percent realization rate. The actual investment value increased by 171 percent, from US\$ 187,394,312 in 2013/14 to US\$ 456,109,937 in 2014/15. This is a good indicator of investor confidence and an improving environment. In 2014/2015 China contributed the largest amount of FDI planned Investment (US \$ 528.9 million) and this accounted for 56 percent of all the FDI planned investment in financial year 2014/15 (UIA Abstract, 2014/15)

2.1.2. Economic growth

Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. It can be measured in nominal or real terms, the latter of which is adjusted for inflation. Traditionally, aggregate economic growth is measured in terms of gross national product (GNP) or gross domestic product (GDP), although alternative metrics are sometimes used. Barro, R. J. (1991).

During FY 2015/16, the Ugandan economy faced a number of developments with anticipated challenges for economic management. This included the staging of a national election, and a slowing global economy and subsequent declining commodity prices. The latter developments were associated with policy adjustment in China and structural impediments to growth in big emerging market economies such as Brazil. During the year, the Ugandan authorities also commenced the implementation of a new NDP, which necessitated some adjustments in strategy.

With such developments, some degree of macro volatility was inevitable, not least due to the uncertainties surrounding the elections, given the experiences from the 2011 elections, when inflation rose to a two decade-high. Uganda's economic policy makers focused on managing these volatilities (Bank of Uganda. 2009).

Bevan and Muhumuza (2013) argued monetary policy coped well with what was anticipated. By September 2015, the Shilling had depreciated against the dollar by more than 40 percent, compared to the year before. This change in the Ugandan currency had not been experienced since the fore market was liberalized in 1994. The rate of inflation also went up to reach 8.5 percent by December 2015, with the expectation at that time that it would rise further, particularly because of the effect of the depreciating Shilling. To avoid inflation becoming embedded, the Bank of Uganda raised its policy rate by six percentage points over 12 months to October 2015. Interest rates on government securities and for lending to the private sector increased rapidly as the financial market re-adjusted to the tighter liquidity conditions.

Collier and Reinikka (2011) argued that Uganda's external position remained weak, largely due to the impact of the weak global economy; the associated sustained decline in global commodity prices; and the uncertainties related to an election year. The impact of reduced cost of oil imports lowered the goods trade deficit, but this was more than offset by the increased volume of imports required to support construction. Meanwhile, the declining global incomes and commodity prices also reduced the value of total exports receipts, which led to a widening of the trade deficit, increasing from an estimated value of 8.5 percent of GDP during FY 2014/15 to 9.3 percent. With the additional negative impact of the decline in services, income and transfers, the external current account is estimated to have reached a value of 9.6 percent of GDP during FY 2015/16

According to figures released by the Ministry of Finance in May 2016, fiscal revenues and expenditures remained largely on target throughout the year. The anticipated fiscal expansion materialized, with the deficit remaining at high levels, at an estimated value of around 6.4 percent of GDP, which is only slightly lower than the originally expected value of 6.6 percent of GDP. Prudent fiscal management by the authorities was complemented by good performance in the area of revenue collection, for which the value reached 13.9 percent of GDP, compared to the

budgeted level of 13.6 percent. With construction of two large energy projects taking off, the execution of the development budget was much better than in previous years, recording a small shortfall from the budget of 0.5 percentage points of GDP. Therefore, even though there was overspending in the recurrent budget, largely due to expenditure on election and security related measures, total expenditure is expected to have reached 22.1 percent of GDP, the level that was planned for in the budget. The estimated growth is also more than half a percentage point lower than the forecast in the previous World Bank Economic Update. This was the result of a stronger than anticipated impact of macroeconomic volatilities on private sector activities during the year. The main driver of growth was public investments, which however represents a smaller share of the economy where services account for close to half (Dijkstra & Van Donge, 2014).

With macro-fiscal uncertainties related to elections now dissipating, the economic outlook is positive, with the rate of growth projected to reach approximately 5.9 percent in FY 2016/17, and to remain on an upward trajectory into the near future. The weak global economy will continue to affect economic activity in Uganda, as it has done during FY 2015/16. However, from this perspective, the economy will also benefit from the low energy prices, particularly if investors take advantage of the associated low cost of imported inputs. In addition, growth will also be driven by an intensification of investments by the private sector in the post-election period, particularly in oil-related activities. Yet the predominant driver of growth will be an increase in the economic activities of the construction sector, with this growth driven by Uganda's significant investments in public infrastructure projects. The stimulus effects from this large public investment program will offset those of a weak external sector on the Ugandan economy, with carry-through to FY 2017/18, when the rate of economic growth is expected to increase to above 6 percent EPRC (Economic Policy Research Centre, 2015).

The Ugandan economy is estimated to have grown at a rate of 4.6 percent during FY 2015/16, which was much slower than the projected rate of 5.8 percent. With the take-off of a number of the energy projects boosting public investment, the slower than anticipated growth can be attributed to the adverse impact of both domestic and external volatilities. The tightening of monetary policy was necessary to address inflation pressures, but raised the cost of credit, which affected private consumption and investment. Fiscal policy was implemented well, keeping overall expenditure within the budgeted levels, even though there were reallocations of funds to

recurrent expenditures, mainly on account of election-related pressures (Kappel and Steiner, 2013).

In FY 2014/15, the rate of growth was 5.0 percent per annum. This growth rate sustained the momentum achieved after the economic growth rate had increased to 5.2 percent in FY 2013/14, from 3.6 percent recorded in FY 2012/13, according to the Uganda Bureau of Statistic (UBOS)'s revised GDP series. This recovery was mainly driven by a growth in consumption, since there was a deceleration in the rate of growth of gross investments over this period. To a certain extent, the economy stabilized, with the rate of inflation declining from 23.5 percent in FY 2011/12 to 3.0 percent in FY 2014/15, even though increasing food prices and currency depreciation began to exert an influence towards the end of the year. It was also challenging for policymakers to manage the impact of the unpredictable global environment, with Uganda's external current account deficit increasing from a value of around 7.8 percent of GDP in FY 2012/13 to 9.6 percent in FY 2014/15. In addition, Uganda's economy operated in the context of significant regional political challenges, mainly due to the unrest in neighboring South Sudan and the Democratic Republic of Congo and to isolated terrorist incidents in Kenya.

Bank of Uganda (2016) argued that during FY 2015/16, Uganda recorded a rate of growth of 4.6 percent (preliminary estimate) as a result of both domestic and external uncertainties. This was lower than 5.4 percent, the rate which had been forecast in our previous economic update released September 2015, with the largest shortfall in growth coming from private investments. On the basis of revised data from the Uganda Bureau of Statistics this rate is lower than 5.0 percent recorded for FY 2014/15.

The services sector remains the main driver of growth, accounting for an estimated 52 percent of all economic activities. However, increased construction activities also significantly boosted the contribution of the industrial sector. During FY 2015/16, the services sector grew by 6.6 percent, with the bulk of this growth driven by activity in the information and technology sub-sectors. The rate of growth of the construction sector, increased to approximately 5.7 percent, more than doubling the rate recorded in FY 2014/15, when the sector grew by a mere 2.5 percent. This development is largely attributed to the take-off of large public construction works. With a deceleration in the rate of growth of all other subsectors, particularly manufacturing, the overall

rate of growth of the industrial sector during the year was significantly lower than in the corresponding period in the previous year (Economic Policy Research Centre, 2015).

The agricultural sector grew at a rate of 3.2 percent during the year, after benefitting from favorable weather conditions, particularly during the first half of the year. This is a higher rate of growth than the rate of 2.3 percent recorded during the corresponding period in FY 2014/15. The impact of low commodity prices at the international market, the sector's performance during the year was better than might have been expected. This is because the average global prices for Uganda's major export commodities, particularly coffee, tea, maize and fish, were generally lower than in the corresponding period in the previous year (Bevan & Muhumuza. 2013).

2.1.3. Theoretical Review

This study makes use of Neo-classical Theory because this Theory is importance of private sector investment expansion as a key factor in promoting economic growth has been much emphasized among advocates of private investment oriented policies. Private sector expansion raises factor productivity and leads to economic growth by giving rise to various benefits such as more efficient use of resources and adoption of technological innovations, resulting from gross capital information, export, greater capacity utilization and gains of scale effects associated with large international markets. The Neo-classical Theory was formulated by economists such as Jorgenson (1983) and Harrod-Domar formulation of (1939, 1946) among others to explain the variations in economic growth among developed countries. Their model also shows the possibility of increasing the rate of growth, by either reducing a factor (capital/income) or increase the rate of investment (savings/income). Thus Jorgensen model is based on the theory of optional capital allocation (Jorgenson ,1983).

Endogenous growth model assumes that growth depends on savings and investment in human capital on the one hand and investment in research and development on the other (Mattana, 2014). In addition, it is argued that the free market leads to less than optimal level of capital accumulation in human capital, research and development. Therefore, the government may improve the efficiency of resource allocation through investment in human capital and encouraging private investment in high-tech industries.

There exists significant relationship between and private investment and economic growth. Those that emphasize the financing side of expenditure draw attention to private investment crowding-out government expenditure. When it is assumed that private investment has higher productivity than economic growth.

Those that stressed expenditure showed that private investment crowd in public expenditures since this will tend to enhance the absorptive capacity of the economy and the profitability of private investment. However, it has been hypothesized that the response of private investors depends on the stage of the economy's business cycle, the availability of financing and the level of public investment. The nature of capital markets in developing countries limits the financing of private investment to the use of retained profits, bank credit and foreign borrowing. There is no doubt that the public sector investment crowd-outs private investment if it uses physical and financial resources that would otherwise be available to private sectors. Alternatively, the same condition obtains if the government sector produces marketable output that competes with private output. Similarly, the financing of public sector investment either through taxes, debt issuances or inflation will reduce the resources available to the private sector or hence dampen private sector activities (Chibber and Dailami, 2010).

Khan (2004) examined the impact of fiscal and monetary policies on private investment in Pakistan. Private investment in aggregate as well as investment in manufacturing and agriculture sector was estimated. The study concluded that market conditions appear to have a strong influence on private investment in general, while changes in output had minor impact. Khan and Khan (2007) investigated the determinants of private investment in Pakistan. The results showed that real GDP had positive but insignificant impact on private investment while public investment had negative but insignificant impact on private investment. According Ahmed and Qayyum (2007) there was long run relationship between private fixed investment, public consumption and development expenditure and market activities. The relationship between public investment and private investment was positive.

According to the theory of Neo-classical model of theory increase in private sector investment would led to economies of scale, increase of employment and technological progress in export industries, thus, leading to a rise in productivity implying a fall in capital coefficient, ultimately

resulting in a rise in natural rate of economic growth. The rise in productivity results in fall of costs of production in export industries thus, providing a comparative cost advantage in international trade and it is in this way the process of virtuous cycle and cumulative circular causation operates in Neo-classical model. This model also stipulates that their other factors that can affect economic growth either positively other than just private sector investment and among them are; Exchange rate, gross capital formation, inflation, population growth, credit finance, Trade, among other (Agasha, 2009)

It is generally agreed in the literature that investment stimulates growth within a market economy; as a result, private sector investment no doubt remains the engine of growth with the public sector providing the enabling environment. Theoretically, the neo-classical approach to investment founded by Jorgenson (1963) was mainly spurred by the desire to address the shortcomings of the Harrod – Domar formulation. The Harrod – Domar Model (1939, 1946) highlights the importance of determining the rate of investment (S/Y), which is necessary to achieve a certain rate of economic growth. Their model also shows the possibility of increasing the rate of growth, by either reducing a factor (capital/income) or increase the rate of investment (savings/income). Thus Jorgensen model is based on the theory of optional capital allocation. Solow's model of economic growth assumes that the relationship between per capita income and the rate of economic growth is negative (crafts and Toniolo, 1996). The justification is that countries with low per capita income have a weak capital formation and therefore, investment will achieve growing returns contrary to the countries with high per capita incomes. This leads to the conclusion that developing countries are able to converge in income with developed countries if they succeed in increasing domestic and foreign investment.

Meanwhile, endogenous growth model assumes that growth depends on savings and investment in human capital on the one hand (Lucas, 1988) and investment in research and development on the other (Mattana, 2004) In addition, it is argued that the free market leads to less than optimal level of capital accumulation in human capital, research and development. Therefore, the government may improve the efficiency of resource allocation through investment in human capital and encouraging private investment in high-tech industries. There exists significant relationship between public investment and private investment. Those that emphasize the financing side of expenditure draw attention to private investment crowding-out government

expenditure. When it is assumed that private investment has higher productivity than public investment, a negative effect on growth is deduced. Those that stressed expenditure showed that private investment crowd – in public expenditures since this will tend to enhance the absorptive capacity of the economy and the profitability of private investment. However, it has been hypothesized that the response of private investors depends on the stage of the economy's business cycle, the availability of financing and the level of public investment. The nature of capital markets in developing countries limits the financing of private investment to the use of retained profits, bank credit and foreign borrowing. There is no doubt that the public sector investment crowd-outs private investment if it uses physical and financial resources that would otherwise be available to private sectors. Alternatively, the same condition obtains if the government sector produces marketable output that competes with private output. Similarly, the financing of public sector investment either through taxes, debt issuances or inflation will reduce the resources available to the private sector or hence dampen private sector activities (Chibber and Dailami, 1990).

In this study the method of vector autoregressive model (VAR) is adopted to estimate the effects of economic growth on gross capital formation and Private sector investment, inflation, population growth, credit finance, Exchange rate, Trade. The use of this methodology let us recognize the cumulative effects taking into account the dynamic response between economic growth and the other variables (Pereira and Hu 2000).

2.1.4. Empirical Literature

Most growth studies began their framework of analysis with the most influential works of Solow (1956 and 1957) in economic growth theory, which ignored the role of any capital formation to economic growth and took technical productivity as the only source of economic growth. In this analysis technical progress was explained outside the model and considered as manna from heaven. Following this work there have been various studies by different researchers that attempted to trace the possible source of a growth of nation. In these studies, a variable that is taken as a determinant of growth in one study is considered as a controlling variable in another study.

Most of these growth analyses tried to show the relative contribution of various factors of production to the growth process. Cross country analysis and time series were used in all

attempts to show possible sources of growth. Usually, growth related analyses are undertaken by using cross section and panel data evidence. Such data sets are criticized for taking samples of various countries differing widely in social, political and institutional characteristics on a common surface.

Since the reappearance of growth theory in economic literature following Solow's pioneering work, various, empirical and theoretical studies relating investment to economic growth have been conducted. These studies show the different role of aggregate investment in the long run growth and convergence across countries (Morgan, 1969), Barro, (2010), Barro and Sala-i-Martin, 2012. Mankiw, Romer and Weil, 2012, De Long and Summers, 2010, Levine and Renelt, 2012, Collier and Gunning, 1997 and Barro and Lee, 1994) are some to mention. De Long and Summers (2014), Levine and Renelt (2010), Collier and Gunning (2009) and Barro and Lee (2014) found that investment to GDP ratio has a strong influence of income growth.

The good performance of economies, which were governed by the state led economics in post war Europe and other socialist countries motivated most LDCs in Africa and Latin America to implement similar types of policy to public sector investment in 1950s. These LDCs invested scarce capital of their economy in large and medium scale industries, farming, mining, trade etc. However, excessive involvement of the public sector in every sector of the economy caused great crisis to these economies. Consequently, there have been frequent calls towards private investment especially since late 1970s. Following the structural Adjustment Program of the International Monetary fund and the world bank for newly liberalized market economies of LDCs most of these countries adopted privatization and private sector led growth as an alternative development strategy to boost economic growth. In this regard, the role of the state is limited to the formulation of policies and infrastructure investments like road, communication and energy whose service are essential since they tend to generate positive externalities for the private sector.

It is now widely accepted that the expansion of private investment should be the main impetus for economic growth, allowing public investment resources gradually to focus on social areas including alleviation of poverty and the upgrading of social capital and services (Chiber and Dailami, 1990).

Empirical studies addressing the impact of private investment on economic growth in developing countries started to appear in economic literature following the 1980s and 1990s structural adjustment program. The robustness of investment to GDP ratio in explaining economic growth and economic policy through investment variables led most studies to focus their analysis from economic policy towards explaining cross-country differences in investment level Mankiw et al (2009) using the augmented Solow model, which includes accumulation of human as well as physical capital in the growth regression found that 80% of the cross country growth variation in the model is explained by these variables. That is international variation in per capita income can well be explained using just these three variables.

In addressing the role of private and public investment in the economic growth process for 24 Latin American and Asian countries using a cross section sample, Khan and Reinhart (2010) found that private investment and public investment have a different effect on the long run rates of economic growth. Furthermore, they identified that private investment plays a much larger and more important role in the growth process than does public investment. In contrast, public investment has no statistically significant effect on growth. However, the problem in this analysis was the quality of the methodology employed. The causal correlation between dependent variables and the independent variables was not addressed properly. The causality runs directly from private investment to economic growth. The correlation between private and public investment may cause public investment to contribute indirectly to GDP growth by providing the necessary infrastructure like roads, electricity, telecommunication and schools.

Although Coutinho and Gallo (2011), Serven and Solimano (2014) came to a similar conclusion, they have used a relatively small sample size and limited time period. Ram (2009) extended Khan and Reinhart's (2010) work by 17 estimating their growth models to cover a considerably larger cross sectional sample and by including data for the 1970's and 1980's.

For the 1970's, like Khan and Reinhart (2010), private investment appears vastly more productive than public investment. For the 1980's however, public investment seems more productive than private investment in most cases. In this study considering the overall (average) picture for the two decades, productivity of some component of investment seems fairly similar, but the public investment parameter is slightly larger.

Another similar study, which tried to show the role of the private investment in economic growth, is that of Ghura (1997) for Cameroon. He used more than three decades data to test the hypothesis and employed modern econometric tools of time series to avoid any spurious correlation. He found that private investment plays a crucial role in output expansion. The analysis established a significant robust causal linkage between private investment and economic growth implying that increases in private investment ratio boost economic growth. An increase in the private investment ratio by one percentage point raises economic growth by about 1.4 percentage points; this impact is larger than that of an increase in government investment.

Ghali (1998) also attempted to address this issue in the neoclassical growth framework. He employed a Co-Integrated Vector Autoregressive model to account for potential endogeneity and non-stationarity problems. Results suggest that private investment contrary to public investment has stimulated economic growth in Tunisia over the period from 1963-93.

Badawi (2009) by using the same methodology as Ghali (1998) for Sudan found a positive contribution of private and public investment to economic growth. The impact of private investment was found to be more pronounced than that of public sector investment.

Khan and Kumar (2010) using pooled time series cross section data, which has a relatively larger number of country coverage (95 developing countries including Ethiopia) and a long time period (1970-1990) came up with similar positive contribution of private investment to economic growth. Their result reveals that there is a substantial difference in impact of private and public investment on economic growth. Private investment had a much larger impact compared to public investment especially during the 1980s. This relationship holds even when other determinants of per capita growth are taken into account such as population and technical change, human capital enrollment ratio (secondary) and fiscal balance. Button and Sumlinshi (2000) confirmed Khan and Kumar's (1997) results and found an even larger coefficient for private investment and smaller coefficient for public investment.

Ramirez and Nazmi (2003) also suggested that both public and private investment positively contribute to economic growth for nine major Latin American countries. Ashipala and Haimbodi (2003) observed that private investment plays a crucial role in long-term stabilization policies in South African countries.

Calamitsis, Basu and Ghura (1999) using data for 1981-1997 for Sub-Saharan Africa found that private investment is large and statistically significant compared to government investment in growth analysis. This result underscores the crucial role played by private investment in boosting growth. Although the magnitude of the impact of private investment declines once other factors influencing growth are taken into account, the coefficient remains statistically significant. The effect of government investment is not robust. In most of the above studies except Ghura (1997), Ghali (1998) and Badawi (2003), the relationship between private investment and growth relationship is analyzed by using a cross section sample.

There are also studies conducted in Ethiopia, which show various determinants of economic growth. Most of them, like others, focused on investigating the macro economic factors of growth.

Another study by Easterly (2002), which used a growth accounting framework, supports the statistically insignificant contribution of capital to economic growth. However, Alemayehu and Befekadu (2002) in their analysis of factors characterizing the Ethiopia economy using a growth accounting framework found that capital has contributed positively to economic growth.

The contrast between the findings of Alemayehu and Befekadu (2002), and Easterly (2002) arose from the authors' assumption for the factor share of human and physical capital (0.65 and 0.35 respectively) based on cross country regression results as a benchmark instead of estimating them empirically (Seid and Berhnu, 2003).

Paterson (2003) used data from 1981 to 2000 to analyse the relationship between growth in real GDP and investment in a simple Harrod-Domar growth model and found a positive connection between investment and GDP growth rate in Ethiopia. The result also suggests that investment from exports and capital inflow is a viable way to promote growth. However, the analysis and the conclusion are based on three explanatory variables (the ratio of investment to GDP, the ratio of export to GDP and the ratio of capital inflow to GDP) for a short period, which exposes the analysis to econometric problem like multicollinearity and endogeneity. Furthermore, the Harrod-Domar model is criticized for its assumption of a fixed coefficient production function, which does not allow for factor substitution and the saving ratio is assumed to be fixed.

Though there exist a vast economic literature, which demonstrates the relationship between private investment and economic growth for groups of developing countries, country specific studies lack in most of these countries including Ethiopia. It is obvious for countries like Ethiopia private investment is good for sustained economic growth. Given this fact, it is useful to investigate the contribution of private investment to economic growth using long time series data and suggest what has to be done for this sector to enhance the country 's development endeavor.

2.3 Research Gaps

There are prevailing studies on private sector investments and economic growth and these previous studies despite existence are not specifically anchored on the Ugandan environment as most are were done in the environment not Uganda but outside developing economies. This study will explore these empirical and theoretical gaps and add a value on the existing literature by exploring the significance of the relationship between private sector investments and economic growth.

This implies that this study addressed both timeframe gap and economic reform problems, as combining both regulated and deregulated eras in a study may cause spurious result. This is because the factors that interplay in market based economy (market forces) does not surface in Ugandan economy.

CHAPTER THREE:

METHODOLOGY

3.0. Introduction

This chapter presented approaches that the researcher used to address the concerns of the hypotheses of the study along with the presentation of all diagnostic tests that were necessary for the process developing regression econometric model. This chapter also discussed statistical procedures that were used in analyzing all the objectives that were stated in the previous chapter.

3.1. Research design

A time series analysis was adopted and there was use of quantitative techniques to analyze secondary data so as to scientifically and critically conclude the research objectives. Secondary data was collected from UBOS, WORLD BANK, BOU and IMF website and some quantification were necessary because of the need to tabulate data so as to arrive at a dependable conclusion. Also, inferences were drawn by fitting the regression model. A correlation analysis was carried out to test for the relationship between the variables using Pearson's Correlation. The source of gross capital formation data was world bank indicators, (2016) while exchange rate and trade data was sourced from Bank of Uganda. On the other hand, GDP growth rate and private sector investment were also sourced from the world bank.

3.2. Model specification

The model intended to establish a relationship between private sector investment and economic growth. This study adopted and modified the model used by the neo-classical and founded by Jorgenson (1983). The study modified the model by highlighting the importance of determining the rate of investment which is necessary to achieve a desired rate of economic growth. The model according to neo-classical approach assumes that investments can be spurred by other factors other than investment like gross capital formation, private sector investment and exchange rate, trade, inflation, credit finance, population growth

literature reviewed and their theories suggests that these variables can contribute in determining the type of effect that private investment has on economic growth therefore in this study the

method of vector autoregressive model (VAR) is adopted to specification and estimate of variables so that now the effects of economic growth on gross capital formation, private sector investment and exchange rate, trade, inflation, credit finance, population growth. The use of this methodology let us recognize the cumulative effects taking into account the dynamic response between economic growth and the other variables (Pereira and Hu 2000).

$$GDP= f (PRI, TR, EXG, INF, CREDIT, POP, GCF), (1)$$

Gross domestic products that represents the total production of period of time is equal function of private sector investment, trade openness, exchange rates, inflation, credit bank, population growth and gross capital formation. I was use this variable in this study but it may increase variables, if it necessary and further research on the future. The above equation can further be expanded with the following regression equation:

$$Y(t) = \alpha + \beta_0 PRI + \beta_1 GCF + \beta_2 EXG + \beta_3 TR + \beta_4 INF + \beta_5 CREDIT + \beta_6 POPGROWTH + \varepsilon_i -----(2)$$

Where;

Y= total production

α_0 = constant

t = The subscript used to represent the time component in the model summarizing the year when the data was collected. $\beta_0\beta_1\beta_2\beta_3\beta_4\beta_5\beta_6$ These regression coefficients representing the causal relationships between the dependent variables and each of the independent variables in the model.

ε =The error term also called the stochastic error term is used to represent all the other variables that may not be directly represented in the model due to the scope but could have an inference on the model.

Table 3.1: Description of the Variables used for the study

Variable	Acronym	Description
Gross Domestic Product	GDP	GDP is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. The GDP is the proxy for economic growth. It is The dependent variable.
Private sector investment	PRI	all for-profit businesses that are not owned or operated by the government. Companies and corporations that are government run are part of what is known as the public sector, while charities and other nonprofit organizations are part of the voluntary sector Ribeiro, M. B., & Teixeira, J. R. (2001). Measures to consider are private foreign direct investment, net (% of GDP)), domestic credit to the private sector (% of GDP).
Gross capital formation	GCF	Capital formation is a term used to describe the net capital accumulation during an accounting period for a particular country, and the term refers to additions of capital stock, such as equipment, tools, transportation assets and electricity. Countries need capital goods to replace the current assets that are used to produce goods and services, Romer, P.M., (1986) measures Gross domestic product (GDP) from the expenditure side is made up of household final consumption expenditure, general government final consumption expenditure, gross capital formation (private and public investment in fixed assets, changes in inventories, and net acquisitions of valuables), and net exports (exports minus imports) of goods and services.
Exchange rate	EXC	The <i>price</i> of a nation's currency in terms of another currency. An <i>exchange rate</i> thus has two components, the domestic currency and a foreign currency, and can be quoted either

		directly or indirectly. ... Also known as a currency quotation, the foreign <i>exchange rate</i> or <i>forex rate</i> Bodnar, G. M., & Gentry, W. M. (1993) the economic indicators used to forecast an exchange rate are the same ones used to determine the overall economic health of a country. The gross domestic product (GDP), consumer price index (CPI), producer price index (PPI), and interest rates are all key determining factors of a country's foreign exchange rates.
Trade	TR	commerce, involves the transfer of goods or services from one person or entity to another, often in exchange for money. A network that allows <i>trade</i> is called a market. The original form of <i>trade</i> , barter, saw the direct exchange of goods and services for other goods and services, Sala-i-Martin, X., (1991). Is the measure of the volume of trade between Uganda and the rest of the world. It will be measured as the sum of exports and imports as a percentage of gross domestic products.
Inflation	INF	measuring number of goods that are representative of the economy are put together into what is referred to as a "market basket." The cost of this basket is then compared over time. This results in a price index, which is the cost of the market basket today as a percentage of the cost of that identical basket in the starting year. Using Consumer Price Index (CPI) and Producer Price Indexes (PPI).
Credit financial	CRD	domestic credit provided by financial sector as a share of GDP measures banking sector depth and financial sector development in terms of size. The data on domestic credit provided by financial sector are taken from the financial sector are taken from the financial corporation survey of the international monetary fund's (IMF) international financial

		statistics or when unavailable from its depository corporation survey. The financial sector includes monetary authorities (central bank) and deposit money banks as well as other financial institutions where data are available.
Population growth	POP	The population growth rate is the rate at which the number of individuals in a population increases in a given time period, expressed as a fraction of the initial population. Specifically, population growth rate refers to the change in population over a unit time period, often expressed as a percentage of the number of individuals in the population at the beginning of that period. Measures of population growth are birth rates, death rates, immigration rates.

Source: Authors computation

Effect economic growth and the controlled variables

1: The gross capital formation contributes to sustainable economic growth not only on the demand side but also on the supply side, because an important part of these expenditures are dedicated to the renewal of the firms' fixed capital. Having in view that fixed capital is one of the main production factors it is important to quantify its efficiency. Therefore, the efficiency of gross capital formation is strongly influenced by the relative change of domestic demand. Florin (2000). The method can be usually applied in the case of yearly estimation of efficiency of gross capital formation. If we intend to make estimates for periods over one year we consider that the arithmetic mean of yearly values may be used. In order to quantify the level of gross capital formation efficiency during 2000 -2006 for countries of the European Union, in 2007, we appeal to average values of relative changes in domestic demand, gross domestic product and weight of gross capital formation in gross domestic product,

2: Privatization, a method of reallocating assets and functions from the public sector to the private sector, appears to be a factor that could play a serious role in the quest for growth. In recent history, privatization has been adopted by many different political systems and has spread

to every region of the world. The process of privatization can be an effective way to bring about fundamental structural change by formalizing and establishing property rights, which directly create strong individual incentives. A free market economy largely depends on well-defined property rights in which people make individual decisions in their own interest

3: Economists have long known that poorly managed exchange rates can be disastrous for economic growth. Avoiding significant over valuation of the currency is one of the most robust imperatives that can be gleaned from the diverse experience with economic growth around the world, and one that appears to be strongly supported by cross-country statistical evidence. The studies reported in the well-known papers by David Dollar and by Jeffrey Sachs and Andrew Warner on the relationship between outward orientation and economic growth are largely based on indices that capture the degree of overvaluation, Rajan, R. G. (2011).

4: Like many countries, industrialized and developing, one of the most fundamental objectives of macroeconomic policies in world is to sustain high economic growth together with low inflation. Not surprisingly, there has been considerable debate on the existence and nature of the inflation and growth relationship. Some consensus exists, suggesting that macroeconomic stability, specifically defined as low inflation, is positively related to economic growth. Inflation can lead to uncertainty about the future profitability of investment projects (especially when high inflation is also associated with increased price variability). This leads to more conservative investment strategies than would otherwise be the case, ultimately leading to lower levels of investment and economic growth. Inflation may also reduce a country's international competitiveness, by making its exports relatively more expensive, thus impacting on the balance of payments. Moreover, inflation can interact with the tax system to distort borrowing and lending decisions. Firms may have to devote more resources to dealing with the effects of inflation (for example, more vigilant monitoring of their competitors' prices to see if any increases are part of a general inflationary trend in the economy or due to more industry specific causes).

5: While trade integration is often regarded as a principal determinant of economic growth, the empirical evidence for many studies educated that the trade and growth is ambiguous. This paper argues that the effect of trade in dynamic panel estimations depends crucially on the specification of trade. Both from a theoretical as well as an empirical point of view one specification is preferred: the volume of exports and imports as a share of lagged total GDP. For this trade

measure, a positive and highly significant impact on economic growth can be found. The integration of countries into the world economy is often regarded as an important determinant of differences in income and growth across countries. Economic theory has identified the well-known channels through which trade can have an effect on growth. More specifically, trade is believed to promote the efficient allocation of resources, allow a country to realize economies of scale and scope, facilitate the diffusion of knowledge, foster technological progress, and encourage competition both in domestic and international markets that leads to an optimization of the production processes and to the development of new products.

6: According to Baumol, W. J., Litan, R. E., & Schramm, C. J. (2007). The relationship between population growth and economic growth has been a recurrent theme in economic analysis since at least 1798 when Thomas Malthus famously argued that population growth would depress living standards in the long run. The theory was simple: given that there is a fixed quantity of land, population growth will eventually reduce the amount of resources that each individual can consume, ultimately resulting in disease, starvation, and war. The way to avoid such unfortunate outcomes was 'moral restraint' (i.e. refraining from having too many children). He didn't foresee the technological advances that would raise agricultural productivity and reduce the toll of infectious diseases advances that have enabled the world's population to grow from 1 billion in 1798 to 7.4 billion today.

3.3 Data Analysis

3.3.1 Descriptive Analysis

Description of the variables during the data analysis involved a discussion of the descriptive statistics of all these different data variables in the study. Different measures of central tendency and spread of the dataset were used to present a view of the data so that preliminary analysis of its nature were presented before an inference about the general populations for further results were made using the results of the sample data at hand.

3.3.2 Unit Root Tests

In time series analysis, a great deal of attention will be given to stationarity of the variables in order to get rid of the problem of spurious regression. It is often said that most macroeconomic variables follow a random walk model, i.e., exhibiting a unit root behavior. According to

Studenmund (2011), a random walk process can be identified as stationary when its mean and variance are found to be constant across time, and the value of the covariance between the two time periods is dependent on the lag between them and not the actual time of computing the covariance. This study will, therefore, employ the stationarity analysis to test whether the mean and variance of the stochastic term will be constant over time. The Augmented Dickey- Fuller (ADF) test is appropriate.

3.3.3 Time series Analysis

In this study, time series data were used to analyze the relationship between private sector investment and economic growth in Uganda for the period 1985-2014. In econometric analysis, when time series data are used, the preliminary statistical step is to determine the order of integration of each time series used. A time series Y_t is stationary if its probability distribution does not change over time, that is, if the joint distribution of $(Y_{s+1}, Y_{s+2}, \dots, Y_{s+T})$ does not depend on s ; otherwise, Y_t is said to be non-stationary. If the series is not stationary, then inference procedures are invalid. Results derived from the regression models would produce spurious results if non-stationary data is used. Therefore, the first task is to check for the existence of stationary property in the series of private sector investment and economic growth. To check the stationarity of the data the Augmented Dickey-Fuller (ADF) test is applied.

3.3.4 Testing for Stationarity

The assumptions of the Classical regression model necessitate that both the dependent and independent variables be stationary and the errors have a zero mean and finite variance. Non stationary variables results in spurious regression and as Granger and Newbold (2013), argued they are characterized by a high R^2 and a low Durbin-Watson (dw) statistic, t-and F-statistics that appear to be significant, but the results derive no any economic sense (Verbeek,2012). The results “looks good” because the least-squares estimates are not consistent and the customary test of statistical inference do not hold (Enders, 2011).

In addition, a series is said to be integrated and is denoted as $I(d)$, where d is the order of integration. The order of integration refers to the number of unit roots in the series, or the number of differencing operations it takes to make a variable stationary (Takaendesa, 2004). In

particular, as shown in Phillips (2012), the ordinary least squares estimator does not converge in probability as the sample size increases, the t-and F- statistics do not have well-defined.

3.3.5 The Augmented Dickey-Fuller Tests

The ADF tests the null hypothesis that there exists a unit root in the time series (non-stationary time series), which is $H_0: \alpha=0$ against the alternative hypothesis, $H_1: \alpha < 0$, that the time series is stationary (no unit root). A rejection of the null hypothesis under these tests means the series does not have a unit root. Assumptions of the Classical regression model necessitate that both the dependent and independent variables are stationary and the errors have a zero mean and finite variance. Non-stationary variables result in spurious regression and as Granger and Newbold (1974) argued, they are characterized by a high R^2 and a low Durbin-Watson (DW) statistic, t- and F-statistics that appear to be significant, but the results derive no any economic sense (Verbeek, 2000: 281). The results "looks good" because the least-squares estimates are not consistent and the customary test of statistical inference do not hold (Enders, 1995:215). While testing whether the variable has unit root or no, the lag-length is chosen using the Akaike Information Criterion (AIC).

Decisions are made basing on the t-statistic, that is to say, if the absolute value of t-statistic is more than the critical values, then we reject the null hypothesis and conclude that the series is stationary. On the other hand, if the absolute value of the t-statistic is less e than the critical values, we fail to reject the null hypothesis and conclude that the series is non-stationary. The critical values for this t-statistic are given in Mackinnon (1991).

3.3.6 Co-integration Analysis

The notion that there is a long-run tendency for the private sector to grow relative to GDP growth or vice-versa has been an issue in economics that is rarely questioned. Thus, if the study variables are considered as stochastic trends and if they follow a common long-run equilibrium relationship, then these variables should be co-integrated. According to Engle and Granger (1987), co-integrated variables must have a long run relationship. The main reason for the popularity of Co-integration analysis is that it provides a formal background for testing and estimating both short-run and long run relationships among economic variables.

3.3.7 Granger Causality Test

The importance of the test for granger causality is to extensively analyze the statistical significance of the various parameters which are sensitive to the optimal lag lengths. Here the study created a causal relationship existing among the variables that is GDP growth and Private sector investment: that is, we test if private sector investment granger causes GDP growth. Given the null hypothesis as follows: Privatization does not granger cause GDP. If the null hypothesis is accepted, it means (H0); Privatization does not granger cause GDP and if the alternative is accepted it means (H1); privatization granger cause GDP.

3.3.8 Diagnostic Tests

3.3.8.1 Serial Correlation Test

Serial Correlation is a correlation among members of the series of error terms ordered in time. It is mainly caused by incorrect functional forms, auto regressions, manipulation of data, data transformation and non-stationarity of the data (Wooldridge 2009: 274).

The problem of serial correlation can be detected using the graphical method, Geary test, Durbin - Watson d test and Breusch–Godfrey (BG) test. In this study, the BG test that is based on the Lagrange Multiplier principle is chosen since other tests have drawbacks that made the BG test to be favored.

3.3.8.2 Normality Test

In the literature, there are several tests for normality such as a histogram of residuals normal probability plot (NPP), Anderson–Darling and Jarque–Bera tests. The Jarque–Bera test for normality is employed in this research. The Jarque - Bera test is a test based on OLS residuals mainly used in a large sample test. First, it requires calculating the Skewness and Kurtosis and then measures the OLS residuals as. In this case, we use the JB test to determine whether the residuals are normally distributed or not. The null hypothesis and the alternative hypothesis are given as

H0: Residuals are normally distributed

H1: Residuals are not normally distributed

Under the null hypotheses where the residuals are normally distributed, if the p-value of the statistics is sufficiently low or lower or equal to the level of significance, then it will be rejected. But if the p-value is found to be reasonably higher, then the normality assumption will not be rejected. In other words, the normality assumption is not rejected mostly when the value of the statistic is close to zero. The Jarque–Bera test statistic follows the chi-square distribution with two degrees of freedom (Jarque and Bera).

3.3.8.3 Multicollinearity tests

Multicollinearity is said to exist in a situation where the independent variables are highly and strongly related to each other in a given model. Given the fact that this research involves the use of more than one independent variable, there may exist a problem of Multicollinearity. Although the regression coefficients obtained in instances of Multicollinearity may be close to the true value, they cannot be used for making forecast and estimates and conclusions as they result into very large confidence intervals leading to very poor interpretations. To detect the problem of Multicollinearity, this study will use a statistical test of Variance inflation factor (VIF). The variables used to test multicollinearity included all the independent variables of privatization, gross capital formation, trade as well as exchange rate.

3.8.4 Heteroscedasticity Test

One of the ordinary least squares and Regression Model assumptions is that the variance of disturbance terms should be constant. As pointed out by Engle (1982). When the data is not homoscedastic, although coefficients obtained from the regression analysis would hold, the confidence intervals obtained from them would be extraordinarily large and as a result, would affect further inference to be made about the data. In this study, Breusch Pagan Cook-Weisberg test for heteroscedasticity was used to test if the residuals from the regression model are homoscedastic or no.

3.4 Ethical issues

The researcher credited and precisely recognized the sources of information in an effort to celebrate the works of previous intellectuals or researchers. This limited fraud from occurring. The researcher also labored and worked in line with generally acceptable standards of research.

CHAPTER FOUR: PRESENTATION , INTERPRETATION AND ANALYSIS OF THE DATA

4.0. Introduction

This section presents a review of the data with an empirical analysis concentrating on the major variables that were stated in methodology. The study used a combination of graphical and empirical tools for carrying out the analysis in order to answer all the objectives that were inherently stated in the previous sections of the study. The first section of the analysis involves carrying out a comprehensive univariate analysis of each of the variables. This is intended to discover any forms and nature of trends in the data prior to carrying out an in-depth analysis. It involved the use of both the descriptive statistics and graphics for summarizing the data.

4.1. Preliminary Analysis

4.1.1: Descriptive Statistics

Table 4.1 presents a summary of descriptive statistic for the variables considered for analysis namely GDP growth, private sector, trade, inflation, exchange rate. Population, credit growth as well as GFC. It described the distribution of each variable with respect to mean, standard deviation, median, kurtosis, and skewness of the values for the 30 observations.

Table 4. 1: Summary Statistic

Variable	obs.	Mean	Std.Dev.	Min	Max
GDP growth	30	6.115	3.01	-3.31	11.52
Private	30	7.322	4.00	2.78	15.17
Exchange Rate	30	1370.3	799.7	9.3	2599.8
GFC	30	18.36	6.01	8.4	28.2
Inflation	30	35.08	54.7	-3.17	189.8
Popn. Growth	30	2.45	694.7	1.46	3.78
Bank Credit	30	11.84	6.39	4.38	38.2
Trade	30	27.74	8.43	10.22	43.89

In the findings of descriptive statistics from the above table, the mean, median, maximum, minimum values and standard deviations of the considered variables are exposed. When this study compared the descriptive statistics among variable, exchange rate had high mean value of 1370.3 while population growth had the lowest mean value of 2.45. While inflation with a mean value of 35.08. and trade with a mean value of 27.74. also GFC with a mean value of 18.36 and bank credit with a mean value of 11.84. Likewise, GDP growth had a mean value of 6.115, private sector with a mean value of 7.322. In terms of the standard deviation, exchange rate still had the highest standard deviation of 1370.3. while GDP had the lowest standard deviation of 6.115. The maximum value for GDP growth rate was 11.52. with standard deviation of 3.01 and private sector had standard deviation. The lowest minimum value is recorded in GDP growth rate (-3.31), while exchange rate recorded the highest maximum value of almost 2600.

4.2 Correlation Matrix of the study variables

To examine the nature and the direction of the relationship among the study variables, a correlation matrix was employed. However, before correlation analysis was conducted, the variables under study were transformed. In time series analysis, it is necessary to transform variables so as to stabilize the variance of a series. In other words, a logarithmic transformation is often employed to obtain a more homogeneous variance of a series.

Table 4.2: Showing correlation matrix among and multicollinearity results among the variables under study

	LogPriv	LogExch	LogGfc	LogTrade	logInf	LogCredit	
Logpopg							
LogPriv	1						
LogExch	0.1078	1					
LogGFC	0.4321	-0.0763	1				
LogTrade	0.5612	-0.1588	0.3195	1			
logInfl	-0.1790	-0.5799	-0.0077	-0.0565	1		
Logbank	0.5457	-0.1848	0.5828	0.4871	0.3066	1	
LogPop	0.3407	0.4859	0.2705	0.1835	-0.4646	0.1037	1

Decision Rule coefficient > 0.5 there's a problem of multicollinearity

The table above presents the correlation among independent variables but confirms no problem of multicollinearity as all values are less than 0.5. Since none of the coefficient had a value which is greater than 0.5, this study concludes that there is no multicollinearity among the independent variables under study. Hence our independent variables are free from the problem of multicollinearity.

4.3. Time Series Property of Data

The study sought to determine the time series property of the data in order to establish if it is auto correlated or its autoregressive. This was done in order to change the variables to stationary as a key assumption in multiple linear regression analysis and other inferential statistics. Besides, working with highly collinear variables would yield spurious results from which further inference is insignificant. Unit root tests were conducted on all the variables using both the Augmented Dickey-Fuller and Philips Perron test. In each case, the null hypothesis is that the variable has unit root and accepting it would imply the data is non-stationary. The alternative

hypothesis is that the data has no unit root (stationary). The result of ADF and Phillips-Perron unit root test are summarized in Table 4.3. Both tests are tested at a, 5% level of significance. The rejection criteria is that we reject the null hypothesis if the test statistic value is greater than their respective critical values at 5% level of significance and if the p-value is less than 0.05.

Table 4.3: ADF and PP tests of unit roots among variables

Variables	In level		In first difference	
	ADF	PP	ADF	PP
Log GDP growth	-7.561**	-7.733**	-7.056**	-8.954**
Log Private	-5.048**	-5.083**	-7.372**	-8.438**
Log GCF	-4.024**	-3.932**	-8.120**	-10.364
Log Exch Rate	-6.579**	-5.357**	-1.642**	-1.625**
Log Trade	-2.324	-2.452	-5.433**	-5.463**
Log Inflation	-2.250	-2.216	-5.613**	-6.099**
Log Pop growth	-2.001	-2.170	-6.509**	-6.361**
Log Bank credit	-3.422**	-3.413**	-5.932**	-6.106**

Source: Researcher 2017.

Notes: Values marked with ** represent a stationary variable at 5% significance level. The null hypothesis is that the variable has unit root or the variable is not stationary. Decision rule; reject the null hypothesis if the test statistic is greater than the 5% critical value. Using the ADF and Phillips Perron tests, the findings revealed that all the variables are found to be stationary in their level forms except for trade, population growth, and inflation rate. According to Dickey and Fuller, if the time series is not found to be stationary at levels, there is a possibility that its first difference becomes stationary. Following the Dickey-Fuller assumption, the variable for trade, population growth, and inflation rate were differenced once to make it stationary. On taking first difference, trade, population growth, and inflation rate that exhibited unit roots at level became stationary.

4.4 Granger Causality Test

Regression result can end up spurious if there is no stationarity existing in the series, thus it may hinder a viable conclusion that is established in a causality model, Katircioglu (2009). If time series are stationary at 1st difference, and they are co-integrated at 1(1) then we can check for causality. A technique for solving Granger causality was developed by Toda and Phillips (1993) and it is what is employed in this study. The importance of the test for granger causality is to extensively analyze the statistical significance of the various parameters which are sensitive to the optimal lag lengths. Here the study created a causal relationship existing among the variables that is GDP growth and Private sector investment: that is, we test if private sector investment granger causes GDP growth. Given the null hypothesis as follows: Privatization does not granger cause GDP. If the null hypothesis is accepted, it means (H0); Privatization does not granger cause GDP and if the alternative is accepted it means (H1); privatization granger cause GDP.

Table 4.4: below show the results of the granger causality among variables under study.

Equation	Excluded	F	df	df_r	prob >f
Loggdp	logratiopinv	.87751	2	22	0.4299
Loggdp	All	.87751	2	22	0.4299
Logratiopinv	Loggdp	13.349	2	22	0.0002
Logratiopinv	All	13.349	2	22	0.0002

The outputs of the above results show that private sector investment has no short run relationship with GDP growth. This conclusion was reached after the p-values of 0.4299 was found to be greater than 0.05 making the study fail to reject the null hypothesis which states that there's no causal relationship between private investment and economic in Uganda. On the other hand, GDP growth rate is found to have a cause relationship with all private sector investment with a p-value of 0.002, an implication for this is that GDP growth causes private sector investment.

Hus the study concludes that there is no Granger causality from between private sector investment and economic growth in Uganda.

4.4.1 Long run relationship between private sector investment and economic growth in Uganda

The second objective of the study was to establish if there is a long run relationship among the study variables. Co-integration method of analysis was used to establish if the long run relationship existed or no.

4.4.2 Co-integration Analysis.

In our study we check for co-integration using Johansen test. This test is based on maximum likelihood estimation and two statistics: maximum eigenvalues and a trace statistic. The Null hypothesis is that there is no Cointegration. A co-integration test is purposely done to check if the variables have a long run association with each other. The results of the co-integration analysis have been presented in the table below.

Table 4.5: Johansen Cointegration Test Results

				5%	
Maximum critical				trace	
Rank	parms	LL	Eigenvalue	statistic	value
0	72	930.747		331.214	156.00
1	87	887.154	0.955	244.029	124.24
2	100	855.489	0.895	180.699	94.15
3	111	828.273	0.856	126.267	68.52
4	120	806.618	0.789	82.650	47.21
5	127	786.618	0.757	42.957	29.68
6	132	777.288	0.486	24.297	15.41
7	135	770.225	0.396	10.171	3.76
8	136	765.139	0.304		
					5%

Maximum critical				max	
Rank value	parms	LL	Eigenvalue	statistic	
0	72	930.747		87.185	51.42
1	87	887.154	0.955	63.330	45.28
2	100	855.489	0.895	54.431	39.37
3	111	828.273	0.856	43.617	33.46
4	120	806.618	0.789	39.692	27.07
5	127	786.618	0.757	18.659	20.97
6	132	777.288	0.486	14.126	14.07
7	135	770.225	0.396	10.171	3.76
8	136	765.139	0.304		

Source: Researcher 2017

The table above provides the results from the Johansen cointegration test on the data. Null hypothesis states that there is no Cointegration. The rejection criteria is that we reject the null hypothesis if the trace statistic is greater than 5% critical value. In the case of the above findings, at zero rank, the trace statistic is greater than 5% critical value implying that we reject the null hypothesis of no Cointegration. A closer look at the findings of the above table indicate the presence of Cointegration relation at rank three, $H: r=0$ is rejected at the 5 % level. Moreover, for the maximum eigenvalue, at, the null hypothesis is also rejected at the 5% significance level. In other words, for both the maximum eigenvalue and the trace tests, the findings indicate existence of cointegration equation because at this rank, we fail to reject the null hypothesis and conclude that there is no Cointegration among variables. The presence of Cointegration means that the

variables are related to each other in the long term. Therefore, the empirical findings lead to the conclusion that there is no long run relationship between the variables under study.

4.5 The effect of private sector investment on economic growth of Uganda

The third and last objective of the study was to assess the effect of private investment sector on economic growth in Uganda. Regression analysis was employed as a way of examining how the study variables impact economic growth in Uganda.

4.5.1 Regression Analysis of the variables under study

The transformed variables were used for the regression analysis so as to minimize the chances of a model suffering from the problems of autocorrelation, non-normal residuals as well as heteroscedasticity. The findings are presented in the table below.

Table 4.5: Showing the Regression results of the variables under study

No of observation	=	30		
Prob>F-Statistic	=	0.0001		
R-squared	=	0.702		
Adj. R-Squared	=	0.6073		
GDP	Coef.	Std. Err.	t	P> t
Private sector	1.453933	.4664814	3.12	0.005
Exchange rate	.0034554	.002284	1.51	0.145
Gross capital formation	-.2579166	.2695783	-0.96	0.349
Trade opens	-.0294304	.0688591	-0.43	0.673
inflation	.0051892	.0128302	0.40	0.690
pop growth rate mill	-.8743839	.4051186	-2.16	0.042
bank credit	-.4328542	.0690549	-6.27	0.000
_cons	22.63063	5.027004	4.50	0.000

Source: Researcher 2017

The findings from the above table indicate that private sector investment, population growth rate and bank credit are statistically significant at 5% level. i.e. the p-values of 0.005, 0.042 and 0.000 are all greater than 0.05. Other independent variables like exchange rate, gross capital formation, trade, and inflation rate are all insignificant that is; the p-values of 0.145, 0.349, 0.673 and 0.690 are greater than 0.05.

This study therefore concludes that private sector investment positively contributes to the growth of Uganda's economy. However, population growth rate and bank credit contribute negatively to the growth of the economy. Exchange rates and inflation rate positively affects growth though not significant whereas trade and gross capital formation negatively impacts on growth insignificantly.

From the above regression table, the multiple linear regression can be fitted as;

$$GDP_{growth} = 22.631 + 1.454private\ sector + .0035exchange\ rate - .258GCF \\ - .029Trade + .005inflation - .432bankcredit - .874population\ growth$$

The interpretation of the above equation is that a 1% increase in private sector investment increases GDP growth rate by 145.4% and that a one million (1,000,000) increase in population size reduces GDP growth rate by 87.4%. Also, the equation shows that there is a negative relationship between bank credit as well as trade and GDP growth rate in Uganda. Thus the findings indicate that a 1% increase in bank credit in Uganda reduces GDP growth rate by 43.2% while a 1% increase in inflation increases GDP growth rate by 0.5% and a 1% increase in exchange rate leads to a 0.35% increase in the GDP growth rate.

The findings also indicate that the p-value for the entire model ($p=0.0001$) is less than 0.05 implying that the model is statistically significant at 5% level. Furthermore, the R-squared value shows that a combination of all the independent variables account for 70.2% changes in GDP growth rate in Uganda.

4.6 Diagnostic Tests

Diagnostic tests determine the goodness of the model. Thus, the regression model was preceded by diagnostic tests presented. The diagnostic tests included: Shapiro-Wilk W test for Normal data, Breusch-Pagan test for heteroscedasticity and Breusch-Godfrey Lagrange Multiplier test for autocorrelation

4.6.1 The Jarque-Bera Test for Normality

Table 4.6: Showing Jarque-Bera Test for Normality

Shapiro-Wilk W test for Normal data					
Variable	Obs	W	V	Z	Prob>z
myresid	29	0.94543	1.560	0.912	0.181

Null hypothesis of normality is H_0 : Residuals are normally distributed. We reject the null hypothesis for normality if the p-value is less than 0.05. In our model since the p-value of 0.181 is greater than the p-value of 0.05, we fail to reject the null hypothesis and thus conclude that the residuals of the model are normally distributed.

4.6.2 Breusch-Pagan for heteroscedasticity

Table 4.7: Breusch-Pagan for heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity		
H_0 : Constant variance		
Variables	fitted values of log GDPrate	
chi2(1)	=	0.14
Prob>chi2	=	0.3181

The findings from the Breusch-Pagan test for heteroscedasticity above indicates that the model does not suffer from the problem of non-constant variance. This is because the p-value of 0.3181 is greater than 0.05 thus we fail to reject the above stated null hypothesis in table 4.6 and conclude that there is constant variance in the model.

4.6.3 Test for Serial correlation

Table 4.8: Breusch-Godfrey LM test for Serial correlation results

Breusch-Godfrey Lagrange Multiplier test for serial correlation			
lags(p)	chi2	df	Prob>chi2
1	0.062	1	0.6928
H0: No serial correlation			

From table above, the p-value of the chi2 (0.6928) is greater than the p-value of 0.05 level of significance therefore, we fail to reject the null hypothesis and conclude that there is no serial correlation in the model which is desirable of our model.

CHAPTER FIVE:

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter brings in the major issues raised in this study. Therefore, it brings together the investigation and findings concerning the impact of private sector investment on economic growth; and also develops an assessment of the policy. The chapter presents the summary of the research findings, conclusion and recommendation.

5.1 Summary of Finding

The aim of this study was to examine the impact of private sector investment on economic growth in Uganda for the period from 1985 to 2014; The study examined the time series property of the data using Augmented Dickey- Fuller (ADF) and Phillip Perron tests were as well employed to confirm the findings of the ADF stationarity tests. Correlations as well as Johansen Cointegration were used to establish causal relationships among the variables under study. Finally, regression analysis was used to establish the impact of private sector investment on economic growth in Uganda

5.1.1 Granger causality between private sector and GDP growth

Granger causality was the method that was employed to examine short run relationship between private sector investment and GDP growth. The results as indicated in chapter four showed that private sector investment has no short run relationship with GDP growth. As indicated by the p-values of 0.4299 that was found to be greater than 0.05 making the study fail to reject the null hypothesis which stated that there is no short run relationship between private investment and GDP growth. These findings of non-causality between privatization and GDP growth are consistent with the findings of (Chimobi, 2010) who using the VAR Granger Causality Test established that there is no causality between privatization and economic growth in Nigeria. The study findings also conform with the findings of Kigume (2011) who findings while studying the causality between GDP growth and private sector investment in Kenya from 1963 to 2003 revealed that there is no short run relationship between privatization and GDP growth.

5.1.2. Long run relationship between private sector investment and economic growth in Uganda

Johannes Cointegration was used to test if there were any cointegration equations between economic growth and private sector investment in Uganda. However, a prerequisite for testing Cointegration analysis is that at least some variables should be non-stationary at level but should become stationary after first difference. (Engel and Granger, 1987). From the previous analysis chapter, the findings revealed that some variables like trade, population growth were non-stationary at level but when they were differentiated once, they become stationary qualifying our variables for Cointegration. Upon carrying out the Johansen trace test, this study established that there is no a long run relationship between variables. Attempts to confirm the results of the trace tests using the Maximum Eigenvalue test also confirmed that there is a long run relationship between GDP growth and private sector investment. The existence of the relationship was established by observing that, the trace statistic value of both Maximum Eigen value test and the trace tests were all greater than the 5% critical value at two co-integration equations thus the null hypothesis that there is no long run relationship between economic growth and private sector investment was rejected hence the study concluded that there is a long run relationship among the variables.

5.1.3 The effect of private sector investment on economic growth of Uganda

Multiple linear Regression analysis was used to examine how private sector investment impacts economic growth of Uganda. The findings of the regression analysis indicated that there is a positive significant impact of private sector investment on economic growth in Uganda as the model showed that a 1% increase in private sector increases GDP growth rate by 145.3%. Further findings from the model also showed that inflation as well as exchange rate also impacts the growth of economy positively though insignificant. Gross capital formation, trade and bank credit impact negatively on the growth of Uganda's economy but it is insignificant. These findings align well with the findings of Le and Suruga (2013) who while exploring the impact of private investment and exchange rate on economic growth, using panel data of 105 of developed and developing countries over the period 1970-2009 showed that both private investment and exchange rate, bank credit have a positive significant relationship with economic growth. The findings also indicated that GCF affects economic growth in Uganda negatively.

The model showed that the impact of population growth on the economy is significantly negative while trade, GCF and bank credit are insignificant. These findings are consistent with Kinoshita (2012) who while establishing the relationship of both trade on economic growth found out that the study variables had a negative relationship with economic growth.

5.2 Conclusion

This study examined the impact of private sector investment on economic growth in Uganda and found that it has a positive significant impact on economic growth. Exchange rate and inflation rate equally had positive but non-significant impact on GDP growth while population growth, Growth Capita Formation, trade and bank credit had a negative impact, though only population growth and bank credit were found to be significant. A combination of all the study independent variables accounted for more than 70% changes in GDP growth, which is taken to be significant contribution. Therefore, privatization in Uganda can be comprehended as a government tool that has helped the country to foster accelerated economic growth, through creation of a stronger private sector, thereby increasing private sector investment, which has added passively and significantly to the country's economic growth. However, growth of the private sector should be judged not only in terms of the sales, the tax paid to the government or expansion of enterprises but also, on the basis of national wealth creation. Though the contribution of the private sector investment is very clear, as per the findings of this study, we cannot conclude that the basic problems facing private enterprises in Uganda have been controlled or managed well, it is believable that managerial problems cannot be addressed through privatization policy alone. It therefore remains a true fact that private sector investment has greatly increased real income and has encouraged the people to take part in the economic recovery, as some shares of the privatized State Owned Enterprises were sold to the local people.

5.3 Policy Implication and Recommendation

The study found that privatization and exchange rate have a positive significant impact on economic growth. Therefore, based on the findings, the following recommendations are made;

For private sector investment to continue increasing economic growth in Uganda, the government needs to maintain macroeconomic and fiscal stability measures. Such policy

measures should focus at encouraging and promoting private investors. For example, strengthening the private sector foundation may help increase private sector investment.

Government should formulate investment policies that promote economic growth in Uganda, since investment is a positive significant predictor of economic growth. These policies may include provision of the necessary infrastructure at a manageable economic cost as well as creation of an overall conducive investment environment, such as promotion of human resources development.

Improving the local privization conditions so that local products have improved quality not only for local consumption but also for exports, that will result snow-ball effect of improving investment in leading sectors that will result in improving investment in other sectors subordinates to those ones e.g. Agriculture sector helps to improve the agro-industrial sector because it provides raw material to industry.

The government to encouraging competition among local producers and giving businessmen the technical and financial support to improve the base of production while maintaining high quality.

5.4 Contribution to the existing Knowledge

The study is quite helpful in supplementing the pool of knowledge and understanding regarding private sector investment and economic growth. This study trial the effect of private sector investment on growth and recovery of economy in Uganda and examine the long ran relationship between private sector investment and economic growth.

This study has contributed to the understanding of the causality between the various components of private sector investment and economic growth in Uganda. The study has given an insight into the role of Private sector investment, exchange rate, Gross Capital Formation, Trade openness, population growth, credit bank on economic growth. In addition, this study complemented the ordinary least squares estimation with the innovation accounting method in explaining more clearly the role of private sector investment in economic growth in Uganda.

means that some of the variables either were excluded in the empirical model, or proxies have been found for those variables. The risk involved in finding proxies is that they may not correctly represent the effect of the actual variables, resulting in inconsistent results. However, these problems seem not to significantly affect the findings to be presented in this study, since they support both the theoretical and empirical knowledge on the effect of private sector investment on economic growth

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APPENDIX

Source	SS	df	MS	Number of obs = 30		
-----+-----				F (7, 22) =	7.41	
Model	184.486785	7	26.3552549	Prob > F	= 0.0001	
Residual	78.2805639	22	3.55820745	R-squared	= 0.7021	
-----+-----				Adj R-squared	= 0.6073	
Total	262.767348	29	9.06094305	Root MSE	= 1.8863	

gdp	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
-----+-----						
Private	1.453933	.4664814	3.12	0.005	.4865098	2.421356
exchangerate	.0034554	.002284	1.51	0.145	-.0012812	.0081921
gcf	-.2579167	.2695783	-0.96	0.349	-.816988	.3011545
trade	-.0294304	.0688591	-0.43	0.673	-.1722355	.1133747
inflation	.0051892	.0128302	0.40	0.690	-.021419	.0317975
popm	-.8743839	.4051186	-2.16	0.042	-1.714548	-.0342194
bankcredit	-.4328542	.0690549	-6.27	0.000	-.5760653	-.2896432
_cons	22.63063	5.027004	4.50	0.000	12.20526	33.05599
