PRIVATE INVESTMENT AND ECONOMIC GROWTH IN UGANDA: AN EMPIRICAL INVESTIGATION: 1985 -2015

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DECLARATION

I, **JAMES MUBENAWE** hereby declare that, this is my original work and has not been presented to any university or institutions of higher learning for any academic award for any award of any academic level.

Date 06-02-2018

Signed ……………………………………

APPROVAL

This Report has been written under our supervision and has been submitted for the award of the degree of masters of Makerere University supervisors.

Signature: ……………………………………………………

DR. JOWERIA TEERA MAYANJA

Date: ……6-2-2018……

DEDICATION

This Report is dedicated to My Parents who continuously ensured we get the Best as Children even when they had little means. Their Sacrifices for their children will forever be improbable to many. Their abiding support and Love have been the light that shows me the way even as I under took this course. Am eternally grateful.

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This document has been prepared in good faith on the basis of information available at the date of publication. I take responsibility for the accuracy, reliability, completeness and accuracy of the information in this publication and its usefulness in achieving the purpose as per the recommendations herein. Any errors and omissions in this report are solely attributable to me.

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ABSTRACT

Private investment in Uganda has been identified to be moving on a downward trend since the 1980's and the main goal of the study was to utilize time series data to analyze the extent to which private investment contributed to growth in the period between 1985 and the year 2015. Other objectives of the study were to empirically investigate the factors that affected private investment during the period under review and whether there was any relationship between growth and private investment and the impact this had on the growth of the economy.

The data used in the study was obtained from various sources like the World Bank and Statistical Abstracts and the International Financial Statistics (IFS). Various tests were conducted to arrive at reliable results. These included unit root and cointegration, autocorrelation and heteroskedasticity tests. The results show that private investment in Uganda was affected by various factors with public investment and changes in domestic credit having a very strong relationship with private investment. The results also show that although changes in the Gross Domestic Product had a positive significant effect on the level of private investment, there was no causality between the two variables.

Most of the other variables considered in the analysis conformed to economic theory on the relationship between them and private investment. This been the case, what is required is for the concerned authorities to look for ways of improving the current scenario in order to promote private investment and hence economic growth. This partly can be achieved through maintaining a stable investment environment and a favourable political climate.

CHAPTER ONE

INTRODUCTION

1.1 Background

After the implementation of structural adjustment programmes (SAPS) in 1987, Uganda enjoyed a remarkable growth in Gross Domestic Product (GDP), which averaged about 6.5 % per year. Much of this was attributed to agricultural expansion, favorable investment environment like low inflation, low interest rates, political stability etc.

Before, Uganda's investment performance especially with respect to the private sector was very poor. Poor savings and the crisis which affected the non-bank financial institutions before 1987 following the collapse of several of these institutions, dealt a severe blow to the levels of deposits and credit extensions in the country. This reduced Uganda's capital formation which was detrimental to growth.

The political uncertainty and the events that followed like the ethnic clashes, Foreign Aid freeze, high interest rate, high inflation and a general lack of confidence on the ruling government further aggravated the situation. The growth in Gross Domestic Product (GDP) went to as low as - 0.3 % during this period. This decline in economic performance was accompanied by declining investment levels thus reducing the country's growth potential. Private investment can play a vital role for renewed economic growth in developing countries and a country wishing to move to a higher and stable growth path need to put measures into place aimed at promoting the level of private investment (Ronge and Kimuyu, 1997).

Domestic investment as a share of GDP has continued to fluctuate. Private and public investment as a percentage of GDP also continued to fluctuate over the same period. In the year 2013 real GDP growth slumped to 3.2% due to weak macroeconomic performance and governance related problems. Uganda continues to experience a poor fiscal performance, a rising inflation and a depreciating local currency. External position of the country has deteriorated overtime due to a wide trade deficit resulting from poor export performance.

To promote investment partly, the government established an investment authority. Reforms to attract investment, especially in manufacturing, included the bond programme open to both

domestic and foreign investors, under which investors are offered incentives including duty and VAT exceptions on imported plant, machinery and equipment, raw materials and other inputs.
All along the data available shows fluctuating level of investment. The ratio of Gross Domestic Investment as a % of GDP was as high as 21% in 2013 rising from the lower value of 5.2% in 1986.

1.2 Statement of the Problem

The current levels of growth in Uganda in terms of Gross Domestic Product (GDP) have been worrying and this has always been an issue of concern in the country. Many authors have identified low investment rate as one of the major factors constraining economic performance in the African Continent. The Economy cannot grow while the level of investment is very low. (Collier and Gunning 1999). In the Ugandan case, the economy has been experiencing a fluctuating trend. A possible explanation for this could be the low levels of private investment, which has been fluctuating as evidenced by the available data. A part from other variables, investment is responsible for influencing growth of the economy in terms of economic performance and improved private investment can play a vital role in ensuring long-term growth and sustainability. There is a need to empirically investigate factors that have influenced it in order to guide policy makers in policy formulation. There is a need therefore to look at the investment behaviour during the period under review. The government has been committed to improving the economic performance of the economy and in particular it has reiterated its commitment to create jobs, eradicate corruption and ensure that the economy jumpstart from the current state among other objectives. Partly this can be achieved through improved private investment. It is therefore of much interest to see how this area of investment has helped in the attainment of this noble goal of achieving a middle-income status by 2020. In particular it would be of much interest to see how private investment trends have impacted economic growth.

1.3 Objective of the Study

To analyze the extent to which Private Investment contributed to growth in Gross Domestic Product (GDP) in the period between 1985 and 2015 in Uganda.

1.3.1 Specific Objective

1. To analyze the macroeconomic framework through which Private Investment relates with Gross Domestic Product in Uganda.

1.4 Research Question

In carrying out the research, the main question was:

How can the current low levels of growth in Gross Domestic Product are attributed to the corresponding low levels of private investment in Uganda?

1.5 Significance of the Study

There is a need to critically examine to what extent the current low level of growth can be attributed to low levels of private investment and whether the current policies are conducive to private investment in the country. The study will try to analyze what may have contributed to the current worrying trend of poor performance in terms of growth of the economy and what areas require improvement. Possible answers on the existing opportunities where potential investors can invest and likely change of policies that can help in rectifying the situation are in dire need. It is therefore necessary to empirically analyse the relationship in Uganda and a study of the role of private investment in Uganda can shed light on whether the theory that private investment promotes economic growth applies to Uganda.

The government is committed to restoration of economic performance that will lead to sustainable long run growth consistent with National Development objectives which aims at being a middle-income economy by half by the year 2020 and achieve a newly industrialized country (NIC) status by promoting industrialization by the year 2040. To improve economic growth there is a need to improve private investment.

CHAPTER TWO

LITERATURE REVIEW

2.1 Theoretical Literature

Net investment is the rate of change in the capital stock and the decision to invest depends on changes in the desired stock of that asset. Investment will thus occur when the actual stock (K_t) differs from the desired stock (K_t*) (Bwire, 1993).

Keynes (1936) considered the existence of an independent investment function in the economy and observed that although savings and investment must be identical ex-post, savings and investment decisions are, in general, taken by different decision makers and there is no reason why ex-ante savings should equal ex-ante investment.

Later Keynes developed the marginal efficiency of investment (MEI) as a measure of business demand for investment decision. To him investment by a firm would occur when the MEI (Internal rate of return) on an additional investment exceeds the rate of interest or cost of funds that is incurred in making investment decisions. MEI could thus be defined as the rate of interest, which discounts the present value of investment to zero. The higher the market rate of interest, the lower the investment and vice versa. However, this analysis assumes sources of funds have the same opportunity cost. For example, a firm using retained earnings to finance its activities cannot be compared with another firm borrowing from the financial system. The model also doesn't distinguish between net investment and replacement investment.

The next phase in the evolution of investment theory gave rise to the accelerator theory, which makes investment a linear proportion of changes in output. A more general form of the accelerator model is the flexible accelerator model. The basic notion behind this model is that the larger the gap between the existing capital stock and the desired capital stock, the greater a firm's rate of investment. Firms will plan to close the gap between the desired capital stock, K* and the actual capital stock, K, in each period.

The net investment equation is of the form $I = \Theta\ (K^{*}-K-1)$

Where I = net investment,

K^{*} = desired capital stock.

K-1= last period's capital stock.

And ϴ = partial adjustment Coefficient.

Within this framework of the flexible accelerator model, output, internal funds, cost of external financing and other variables may be included as determinants of K^*.

According to Tobin (1969), the decision of whether firms will increase or decrease their current capital stock depends on the relationship between the change in the value of the firm due to the installation and replacement cost of the additional capital. This is the marginal capital stock which looks at the discrepancy between the market value of productive assets vis-a-vis their replacement costs to explain new investment.

At equilibrium, the value of capital stock is unity and this is the optimal level of investment. If capital stock is greater than one, investment will be increasing meaning there is incentive to investors. However, if capital stock is less than one, investment will be decreasing meaning there is disincentive to invest.

However, marginal capital stock is not easily measured and thus what is used instead is the ratio of the market value of the firm and the replacement cost or book value of the firm. Limitations of these

are that movement from marginal capital stock to average capital stock is not straightforward and getting the present value is not easy because one may not have the information and shares may be unreliable.

Jorgenson (1971) and others have formulated the neoclassical approach, which is a version of the flexible accelerator model. In this approach, the desired or optimal capital stock is proportional to output and the user cost of capital (which in turn depends on the price of capital goods, the real rate of interest, the rate of depreciation and the tax structure).

Mckinnon (1973) and Shaw (1973) claimed that developing countries suffer from financial repression and that if these countries were liberated from their repressive conditions, this would induce savings, investment and growth. In this “neo-liberal” view (Galbis, 1979) investment is positively related to the rate of interest in contrast with the neoclassical theory. The reason for this is that a rise in interest rates increases the volume of financial savings through financial intermediaries and thereby raises investments funds.

Pindyck, (1991) introduced an element of uncertainty into investment theory due to irreversible investment. The argument is that since capital goods are often firm specific and have a low resale value, disinvestment is more costly than positive investment. He argues that the present value rule which says invest when the value of a unit of capital is at least as large as its cost must be modified when there is an irreversible investment because when an investment is made, the firm cannot disinvest should market conditions change adversely. This lost option value is an opportunity cost that must be included as part of the cost (Asante, 2000).

The neoclassical flexible accelerator model has been the most widely accepted general theory of investment behaviour (Greene and Villanueva, 1990). However, the applicability of the theory to developing countries is very much in doubt because of various reasons hence the need to reformulate investment theories developed for industrial countries to fit the circumstances typical of developing countries.

The influence of financial variables on investment behaviour makes the specification of investment functions heavily dependent on the institutional environment in the financial system. The typical absence of equity markets and prevalence of financial repression in the developing world imply that neither Tobin's q nor standard neo-classical "flexible accelerator" investment functions can be applied uncritically in developing countries. Credit rationing can discourage investment in the sense that if some sectors like agriculture are given priority, those investors willing to invest in other sectors will be locked out of the available credit facilities. On the other hand, the cost of funds in informal financial markets may influence the behaviour of private investment in many developing countries.

Further to this the role of imported intermediate goods in developing nations suggest that the specification of relative factor prices in empirical investment functions cannot be restricted to the wage rate and the user cost of capital, but must also take into account the domestic currency price, as well as the availability of such goods. Foreign exchange rationing and the cost of foreign exchange in unofficial "free" markets cannot be overlooked. In addition to this the real exchange rates in these countries are rarely stable and keep on varying.

2.2 Empirical Literature Review

Serven (1990) in his studies on the effects of a real exchange rate devaluation or capital formation showed the importance of accounting for the role of imported capital goods in explaining investment behaviour. He concluded that when a real depreciation is expected, an investment boom is likely to develop if the import content of capital goods is high relative to the degree of capital mobility, because the expected depreciation induces a switch towards foreign goods. The boom is subsequently followed by a slump when the depreciation is effectively implemented because the exchange rate change is equivalent to the removal of a subsidy on investment. An overvalued real exchange rate will also affect investment in the sense that foreign investment into the country will be discouraged and will equally make the importation of investment goods very costly.

The existence of a debt overhang also inhibits private investment. The IMF and the World Bank action of withdrawing support to countries with high debt levels also tend to discourage other donors and potential investors can also be discouraged to invest in such countries. The fear is that confiscatory future taxation will be used to finance future debt service inflict fear to investors. In fact, about 25 % of budget expenditures in Uganda goes to finance debt or accruing interests on loans. A large debt overhang also reduces future returns to investment because much of the returns will be used to repay external debt (Tenkins, 1998).

It is clear that the public sector forms a major part in developing countries. Whether public sector investment raises or lowers private investment is uncertain apriori. On the other hand, public sector investment can crowd out private investment expenditure if it uses scarce physical

and financial resources that would otherwise be available to the private sector. The financing of the public sector investment, whether through taxes, issuance of debt instruments or inflation can reduce resources available for private investment activity. The public sector may also produce marketable output that competes with private output. On the other hand, public investment to maintain and expand infrastructure and the provision of public goods is likely to be complementary to private investment. Public investment of this type can enhance the prospects for private investment by raising the productivity of capital. Public investment may stimulate private output by increasing the demand for inputs and other services. Expenditure on infrastructural projects like transport, communication, electric power and irrigation will compliment private investment. They reduce the cost of production or raise the return on private capital, thus raising the rate of capital accumulation. However public expenditure resulting in large fiscal deficits will raise interest rates and credit rationing and will thus be detrimental to private investment. (Oshikoya, 1994).

Macroeconomic instability often induced by political factors, is an important feature of the macroeconomic environment faced by developing countries and the resulting uncertainty may have a large influence on private investment. The tendency to delay irreversible investment in the face of uncertainty has also been much emphasized in the recent analytical literature on capital formation and has been shown to exist even when investors are risk neutral agents (Pindyck, 1991). Inflation rate as an indicator of macroeconomic instability can have adverse effects if high and unpredictable. This increases the risk ness of long-term investment. Greene and Villanueva (1991) found that a high inflation rate has a negative impact on investment in several developing countries.

Although many African Countries have adopted comprehensive stabilization and structural economic reform programmes, there continue to be concern about the growth and investment performance for many African countries. Specifically, the response of private sector investment, considered to be crucial for sustainable long-term growth, has been considerably less than anticipated (Cockroft and Riddell, 1991). Indeed, as a ratio to GDP, private investment during the recent years has been lower than during the 1970's.

Khan and Blejer (1984) showed that public investment in developing countries had an overwhelming impact on private investment. The government could influence private investment even by changing the public investment policy alone. This implied that tightening the use of monetary policy tools used for stabilization policy would have adverse effects on private investment and consequently growth. Government budget deficit financing can crowd out the private sector and so governments should use foreign borrowing to finance the budget deficit more than using the domestically borrowed resources. They also found exchange rate and high interest rates to adversely affect investment and consequently growth.

Khan and Reinhert (1990) investigated private investment and economic growth on 24 developing countries for the period 1970 - 1979. They took a new approach that distinguished the public from the private investments unlike most of the earlier studies, which looked into the total investment. Their strategy was aimed at finding which sector's investment promoted more to economic growth than the other and the interdependence between them. They used the neoclassical model. They used exports and imports as additional variables to capital and labour. They found out that private investment had significant effects on growth. They however cautioned that these were just direct effects but that indirect public effects could even be higher than was reported. On removing the public investment from the regression both exports and imports were found to positively influence growth.

Sundarajan and Thakur (1980) studied the relationship between public and private investment in a developing country by postulating a dynamic model of savings, investment and growth and by testing and simulating it for two countries, India and Korea. They found out that an initial increase in fixed investment by public sector raises public sector output, the private sector actual and expected output and aggregate domestic savings. If there is a negative effect owing to a net reduction in the availability of Savings to the private sector (crowding out) that more than offsets the positive effects of increased private sector output and expectations, private fixed investment falls, otherwise, private investment rises. Therefore, investment by the government stimulates and complements private investment.

Wire (1992) examined the interactions among domestic savings, private investment and per capita growth in output, and their response to changes in key macroeconomic variables in Kenya during the 1972 - 1992 period and found out that macroeconomic instability indicators (external debt burden, current and expected inflation rate) and factors "exogenous" to policy control e.g., drought to negatively affect investment. However, real interest rate, public sector investment and lagged ratio of external debt service payments to revenue from total exports were found to affect investment favorably.

Mlambo and Oshikoya, (1999), found out that gross domestic investment in Africa has been on a declining trend since the 1980's moving from 26.5% of GDP then to about 22% in 1990. By 1998 the figure was about 20%. Given that investment is considered an important requirement for GDP growth, the current trends are worrying. In fact Collie and Gunning;(1999), identified the low investment rate as a major factor constraining economic performance on the African Continent.

Unless something is done, Africa will never be able to come out of this vicious Circle of low investment leading to low capital formation, which in turn adversely affects growth.

2.3 Overview of literature Review

From the literature review it was indicative that private investment decisions were influenced by among others, economic growth (GPD), real exchange rate, real interest rate, credit availability, external debt overhang, debt service payments, public investment, uncertainty, macroeconomic instability (inflation rate) and changes in terms of trade among others. Our study was intended to analyze the trend of private investment in relation to growth in Gross Domestic Product in Uganda for the specified period and the factors that affected it. Several studies done on investment had ramped Uganda among Sub–Saharan Africa and a country specific study was necessary. In particular the study was aimed at establishing whether the current low growth of the economy in terms of GDP could be attributed to the corresponding levels of private investment.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

This chapter includes the model theoretical framework, model specification, data source, variable definition, estimation strategy, and analysis techniques.

3.1Theoretical Framework Model Specification

The study examined the variables identified in the available literature, which will include Changes in Domestic Credit, Inflation, Changes in Terms of Trade, Real Exchange Rate, The Debt GDP Ratio, Public Investment, Real Interest Rate and changes in GDP. The specification of the model for analysis will build on the method used in studying private investment in Africa. This will be adapted to reflect the current institutional and structural constraints facing Uganda at the moment. In our study Real Interest Rates will be added as an extra variable because it is an important variable in the Ugandan situation, which in our opinion should have been included in the study.

The model takes the following form.

$$GDP = \beta_0 + \beta_1 PI + \beta_3 PUB + \beta_3 DCR + \beta_4 INFL + \beta_5 TOT + \beta_6 RER + \beta_7 DEBT + \beta_8 RIR + \varepsilon \ldots \ (1)$$

Where

PI = Private investment

GDP = GDP growth

PUB = Public investment

DCR = Domestic credit

INF = Inflation

TOT = Terms of trade

RER = Real exchange rate

DEBT = Debt ratio

RIR = Real interest rate

3.2 Estimation Techniques

3.2.1 Stationarity of data

To test for stationarity, the Augmented Dickey Fuller (ADF) was used.

The ADF equations used were as follows:

$$\Delta y_t = \alpha_0 + (\alpha_1 - 1)\, y_{t-1} + \sum_{i=1}^{p} \beta i \Delta Y_{t-i} + \mu_t \ldots\ldots\ldots\ldots\ldots \text{(2) (Random walk with a drift)}$$

$$\Delta y_t = \alpha_0 + (\alpha_1 - 1)\, y_{t-1} + \alpha_2 t + \sum_{i=1}^{p} \beta i \Delta Y_{t-i} + \mu_t \ldots\ldots\ldots\ldots \text{(3) (Random walk with a drift and trend)}$$

The simple Dickey Fuller tests assume that the errors are independent and had a constant variance. With the Augmented Dickey-Fuller tests, the unit root tests will be valid even with the presence of serial correlation of unknown form, for example say AR (p) process (Gujarati, 1995). If the null hypothesis of a unit root (non-stationary) is rejected, a time series will be considered as integrated of order zero, i.e. I (0), in levels. If not, the time series will not be stationary in levels but was stationary at first difference.

3.2.2 Co-integration test

Two variables are said to be co-integrated if they have a long-term, or long run equilibrium, relationship between them. If two variables, dependent and an independent, are individually non-stationary but their residual (combination) is stationary, those variables are co-integrated on the long run. In this case the researcher used the Johansen co-integration test to test co-integration since it is the only test which can estimate more than one co-integration relationship if the data set contains two or more time series as well as gives the maximum rank of co-integration.

3.2.3 Diagnostic Tests

A number of tests will be undertaken to ensure that robust results are reported for meaningful conclusion. Among these include; Autocorrelation and Heteroskedascity tests.

3.3 Data Type and Sources

To achieve the objectives of the study, annual time series data for the period 1985 to 2015 was obtained from the World Bank Development Indicators.

CHAPTER FOUR

ANALYSIS AND DISCUSSION OF EMPIRICAL RESULTS

4.0 Introduction

This chapter is aimed at presenting the empirical results of the study based on the data used in the analysis and the model specified in the previous chapter. Before conducting regression on the data various tests were conducted which included unit root tests for stationarity and cointegration test. After the regression, I conducted diagnostic tests, which included autocorrelation and, heteroscedasticity tests to check the appropriateness of our specification and reliability of the results.

4.1 Descriptive Statistics

The descriptive are given in table 4.1 below. The results show that private investment has been a mean value of 6.085. The highest figure was around 11.523 with the lowest figure being -3.306. Gross domestic product (GDP) averaged about 13.164 with the highest figure being 21.186. In terms of inflation the lowest recorded figure was -0.288 and the maximum was 200.026. Domestic credit had a mean of about 7.554 with a maximum of 15.171. The terms of trade had a maximum of 56.26 of and a minimum of 25.35. On average this stood at 37.03. The real exchange rate recorded a standard deviation of 121.31 with a maximum of 516.198 and a minimum of 94.47. Public investment averaged about 18.76 recording a highest figure of about 27.91 and a minimum of 8.45. The real interest rate recorded a maximum figure of about 22.996 and a minimum of -53.444. On average, it stood at 2.284.

Table 4.1: Summary Statistics

Variable	Observation	Mean	Std.Dev	Min	Max
PI	31	6.085	2.964	-3.306	11.523
DEBT	31	47.276	27.145	13.416	106.53
DCR	31	7.554	4.138	2.782	15.171

INF	31	33.704	58.87	-0.288	200.026
GDP	31	13.164	5.263	5.22	21.186
PUB	31	18.76	5.779	8.45	27.91
RER	31	172.79	121.31	94.47	516.198
RIR	31	2.284	22.621	-53.444	22.996
TOT	31	37.03	9.007	25.35	56.26

4.2 Diagnostic Tests

The study used ordinary least squares (OLS) for estimation. The following are the necessary diagnostic tests that were conducted to ensure data accuracy and reliability.

4.2.1 Testing for Autocorrelation

I used both Durbin-Watson test and Breusch-Godfrey LM test to confirm its presence. Durbin Watson statistic is (2, 20) = 2.244793 and the LM test has a significant p-value of 0.006 which is greater than 0.05. This shows the presence of autocorrelation from both tests.

Table 4.2.1 Breusch Godfrey Langrage multiplier test for autocorrelation

Lags	Chi^2	Df	P-Value
3	3.176	2	0.006

4.2.2 Test for Heteroscedasticity

I applied Breusch pagan test for heteroscedasticity. From the results in table 4.2.2 below, the P-value of 0.5446 which is greater 0.05 (insignificant) means that there exists a constant variance.

Table 4.2.2 Test of heteroskedasticity

Breusch-Pagan test for heteroskedasticity
Ho: Constant Variance
$Chi^2(1) = 0.384$
$Prob > Chi^2 = 0.5446$

4.2.3 Unit root Test

The unit root test was applied to detect non-stationarity in all the variables under the study to avoid making wrong inferences using unreliable information. This could promote spurious estimates. The proposed Augmented Dickey-Fuller (ADF) test was applied to test whether a time series could be stationary or not. From table 4.2.3 below, the p-values were computed in an attempt to determine the stationarity status of the variables. From table 4.2.3 below, the p-values of Private investment, Public investment, Domestic credit, Inflation, Terms of Trade, Debt ratio and Real interest rate had unit roots but after conducting the first differences, they became stationary. This was because of the significant P-Value.

Table 4.2.3 Stationarity Test

Variables	**P-Value at Level**	**P-Value after taking the 1st difference**
GDP	0.6899	0.0000
PI	0.0006	0.0000
PUB	0.5019	0.0001
DCR	0.9790	0.0000
INF	0.1928	0.0005

TOT	0.6849	0.0001
RER	0.0001	0.0128
DEBT	0.7250	0.0253
RIR	0.2265	0.0019

4.2.4 Testing for Cointegration

This involves the establishment of either a long run or short run relationship between private investment and other independent variables. Having established the stationarity, I used equation 1 above to generate the residuals and the first differences of the residual.

From the results in the table below, the p-value of 0.0188 is less than 0.05. Therefore, the null hypothesis of no cointegration was rejected. This means that there is a long-run relationship between dependent variable and independent variables.

Table 4.2.4 Cointegration Test

Δ.Uhat	**Coefficients**	**P-Value**
L1	-0.812739	0.0001
LD	-0.109750	0.0000
Number of Observations = 31 Probability > F =0.0188 R-Square = 0.8143		

It was also observed that about 81.43% of variations were explained by the model implying that in the long run, all variables tend to move together. Because of this, I had to estimate a regression model.

4.5 Regression results

The table below summarises the regression results.

Table 4.5 Regression results

Variable	**Coefficients**	**P-Value**
PI	0.079	0.009
DCR	0.094	0.6345
INF	-0.067	0.0477
TOT	0.129	0.0084
RER	-0.014	0.088
DEBT	-0.048	0.0139
RIR	-0.0342	0.0332
PUB	0.493	0.0004
Number of Observations = 31 R-Square = 0.972 Prob> F = 0.000641		

From the table above, we confirm that the model is fit since the p-value is 0.000641 which is less than 0.05. This implies that all variables comfortably fit in the model. The above estimating model shows that if all other explanatory factors are held constant, a 1% increase in private investment

(PI) leads to a 7.9% increase in economic growth (GDP) and significant at 5%. A percentage change in the inflation rate leads to a 6.71% decrease in economic growth when other variables are kept constant. A one percentage change in real interest rate reduces economic growth by 3.42%, when all other variables are held constant. A 1% change in terms of trade consequently increases economic growth by 12.9% when all other variables are held constant. A 1% change in public investment leads to 49.2% increase in economic growth holding other factors constant. Furthermore, a percent change in the debt ratio leads to a 4.8% decrease in economic growth when other variable are held constant. Other variables like domestic credit and real exchange rate could not be interpreted because they had insignificant P-values (they were greater than 0.05).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

This chapter gives a summary of the findings of the study in relation to the objectives and key variables in the study. It later makes comprehensive conclusions and suggestions for further study.

5.1 Conclusion.

Our study was aimed at empirically testing the relationship between private investment and changes in Gross Domestic Product, investigating the factors that had affected private investment using time series data that covered the period between 1985 and the year 2015.

The study shows that there existed a significant relationship between changes in gross domestic product and the levels of private investment. The results show that other factors also played a role as it had earlier been envisaged. In particular public investment and changes in domestic credit were found to be very important in explaining changes in economic growth over this period. This means improved public investment particularly in areas that compliment private investment and increased credit facilities to the private sector would go a long way in improving the level of economic growth in the country. Based on the regression results, the study also found that the current low levels of growth could not wholly be attributed to the low levels of private investment. Large portions of debt were expected to negatively influence economic growth in Uganda. This could be explained by the problems associated with a large debt overhang. Investors are usually very sensitive to this because they fear of high taxes in the future to cover interest payments and the repayment of principal.

The results of the findings shows that the variables real interest rate, inflation and real exchange rate had a negative influence on economic growth in the period under review. Increased real interest rates act as a detriment to private investment by increasing the cost if investment funds. The end results with reduced private sector demand for credit due to its high costs means the economy suffers from reduced capital formation. Inflation on the other hand affects economic growth because of the uncertainties associated with it and the fear of lower returns from their investment in the future.

Finally although these factors affect economic growth, other factors like unfavourable political climate and the macroeconomic environment that accompanies it must have played an important role and may have been responsible for the current low level of economic growth. Uganda is also very much dependent on agriculture but the climatic conditions has not been very favourable for increased investment in this area.

5.2 Policy Recommendations

The results show how various factors affected economic growth during the period and hence the direction to which policy should be directed and some of the areas that require attention include the following. There is a need to reduce the current high domestic debt burden, which has tended to discourage economic growth and has also contributed to high cost of borrowing funds for investment. There is also need to try and sustain a growth rate of about 5 % and above which is conducive to investment. The Government should also work hard to provide incentives to encourage investment in the country. The current fight against corruption is also hoped to play an important role in this area. Prudence in Government spending is also necessary.

The Government should also look for possible ways of improving the terms of trade by improving the level of exports in the country. The reason for this is because terms of trade have affected the level of economic growth in the positive direction. Public investment has been shown to complement economic growth especially through investment aimed at improving public infrastructures like roads, water and power and these should be given priority.

A large proportion of debt is detrimental to economic growth because of the debt overhang problem. The current trend is very worrying especially considering that the external debt position stands at 10 billion US$. Improvements in this area will encourage economic growth and the government can do this through proper debt management, asking for debt relief from donors like the IMF, the World Bank and other bilateral donors. Debts with low interest rates and with long maturity period should be the priority. The Government can also look for grants, which are not payable back. By doing this the investors will not shy away from investing in Uganda because of the problems associated with debt overhang.

The public investment variable was significant at 5% level. This implies these areas should be given great emphasis if the current trends are to be reversed. Improved public investment especially in the area of infrastructure development will go a long way in increasing economic growth. This is because this has been seen to compliment private investment. Increased credit facilities to the private sector should be of much priority because this impacts positively on the level of private investment. The coefficient of inflation was also significant at 5 % level and the government should have a strong and sound monetary policy, which will deter high inflationary trends that will deter economic growth.

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