EFFECTS OF MONETARY POLICY ON ECONOMIC GROWTH IN UGANDA

(1991-2014)

BY

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A RESEARCH REPORT SUBMITTED TO THE DEPARTMENT OF ECONOMICS
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AUGUST 2018

DECLARATION

I **Subila Suzan** bearing sound mind do solemnly declare that this research report is
my original work and has never been submitted before by anyone in any university or
higher institution of learning.

Signed

Date......................................
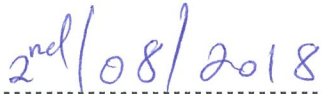
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2nd/08/2018 ....

DATE

APPROVAL

This research report was written under the guidance, supervision and is now ready to

be submitted with my approval for Examination purposes.

....
Madam NAKIBUULE SAUDA

2nd/08/2018
....
Date

DEDICATION

I dedicate this research study to all my dear mother Mrs. Namonyo Jennifer and father Mr. Namonyo Stephen Enos, and the entire family for their enormous support and encouragement towards my successful education journey. I also devote this report to my honorable Lecturers who taught and supported me in developing my personality as a competent professional.

May the Almighty God Bless you abundantly.

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Let me start by thanking God for his continued blessings and guidance in accomplishing this work. May His name be glorified forever.

I thank my academic supervisor Madam Nakibuule Sauda for all the effort, patience, guidance and encouragement during this process, she has guided me with a lot of dedication and friendliness. My own efforts would not have yielded much without her guidance.

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To all my classmates, friends, most especially Nyaketcho Kevin, Kasaana Fidel, and others who made this a success, I say thank you for allowing me to learn from you.

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ABSTRACT

This study thrusts on the effects of monetary policy on economic growth in Uganda specifically to establish the effects of interest rate and money supply on Economic growth.

It was based on time series data for the period of 1991-2014 obtained from the International Financial Statistics (IFS) which was employed for the analysis. Univariate analysis, Correlation matrix for the variables, Augmented Dickey Fuller test for stationarity, Normality tests and finally the model estimation.

The findings revealed that money supply has a positive significance on GDP. However, interest rate has a negative effect statistically insignificant at 5% level of significance. That is to say as Money increases also GDP increases, however, increase in interest rate reduces GDP. This is because investments rely on the rate of interest, High interest rate makes borrowing expensive to the investor. Thus reduced investments leads to reduced GDP.

The government should explore rational mechanisms of stimulating increased demand through money supply since it has emerged as a key element that promotes economic growth. Secondly the government and the concerned bodies should be in position to regulate the amount of interest rates charged to the borrowers so as not to scare borrowers from borrowing as it constrains the rate of growth of the economy.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

This chapter presents the background to the study, statement of the problem, objectives of the study both general and specific, research hypotheses, and scope of the study, significance of the study and the definition of key terms

1.1 Background to the study

Monetary policy is the process by which a monetary authority of a country, typically the central bank or currency board, controls either the cost of very short term borrowing or the monetary base, often targeting an inflation rate or interest rate to ensure price stability and general trust in the currency (Bordo, Michael D, 2008; monetary policy history 2nd edition).

Monetary policy is referred to as being either expansionary or contractionary, expansionary policy is when the monetary authority uses its tools to stimulate the economy. An expansionary monetary policy maintains the short term interest rate at a lower than the usual rate or increases the total supply of money. Supply of money in the economy more rapidly than usual (Rustamli. N, Abbas, G, 2014 monetary policy psychology and expectations, academic views January 2014).

Furthermore, the goals of monetary policy are usually to contribute to the stability of gross domestic product, to achieve and maintain low unemployment and to maintain predictable exchange rages with other currencies

A sound monetary policy aims to achieve price stability, maintenance of balance of payments equilibrium, reduction in unemployment, economic growth and sustainable development. These objectives are essential to the attainment of internal and external balance of the economy, as well as the promotion of long-run economic growth and stability which defines the relationship between monetary policy and economic performance as a subject of much research for a long time (Osasohan Agbonlahor).

There was little consensus among economists worldwide on the rate at which interest rate hinders the economic growth of a region, what factors determine the growth rate of a country or region, and which policy instruments explain most efficiently the monetary policy transmission mechanism of a country. This debate among economist as to whether government intervention through the use of monetary policy will bring about economic stabilization as its disagreement divided the economy into different schools of thought. Despite the lack of consensus among economists on how monetary policy actually works and on the magnitude of its effect on the economy, there is a remarkable strong agreement that it has some measure of effects on the economy (Nkoro, 2005).

Monetary policy as a combination of measures designed to regulate the value, supply and cost of money in an economy, in consonance with the expected level of economic activity (Folawewo and Osinubi, 2006). For most economies, the objectives of monetary policy include; price stability, maintenance of balance of payments equilibrium, promotion of employment and output growth, and sustainable development. Monetary policy aims at ensuring that money supply is at a level that is consistent with the growth target of real income, such that non-inflationary growth will be ensured. Monetary policy is used as economic instability is generally considered as purely a monetary phenomenon (Corazon K. Kaman).

In July 2011, the BOU reformed its monetary policy framework to meet the challenges of macroeconomic management generated by the transformation of the economy over the last 10 years and in particular the rapid growth and diversification of the financial systems. These reforms entail the transition to an Inflation targeting lite monetary policy framework.

The primary policy objective of monetary policy remain unchanged: the control of core inflation over a medium term horizon. The reforms to the monetary policy framework are intended to strengthen the implementation of Uganda's medium term macroeconomic framework.

As part of the process of introducing an inflation targeting lite monetary framework, the Bank of Uganda (BOU) sets interest rates as the operating target of monetary policy. The interest rate is called the Central Bank Rate (CBR) and is used to guide the 7 day interbank interest rate.

The Central Bank Rate (CBR) is set once a month and is publically announced so that it clearly signals the instance of monetary policy during the month. The CBR is set at a level which is consistent with moving core inflation towards the BOU's policy target of 5% over the medium term.

In Uganda, the monetary policy is conducted by the Bank of Uganda (BOU). Monetary policy influences economic growth through aggregate spending. Changes in money supply and interest rates influence consumer spending as well as investment decisions. Consequently, aggregate demand changes in response to monetary policy adjustment.

1.1.1 Current Macroeconomic environment in Uganda.

Between 1960 and 1970, Uganda had one of the most vibrant economies in sub-Saharan Africa. Real GDP grew at an average rate of 4.8% and GDP per capita grew at 3% per annum. The national savings rate averaged 13.4% of GDP, which was sufficient to finance a moderate level of capital accumulation amounting to 13 % of GDP. (Kuteesa et. al. 2006)

Bank of Uganda (2013) stated that from preliminary data analysis, real GDP in Uganda grew by 5.1 percent in 2013/14, a significant increase from 3.4 percent registered in 2012/13. Though the strong rebound in economic growth was mainly driven by net export increase. Domestic factors also forecast to improve i.e. possible drop in lending rate as banks re-price loans going forward. This was likely to improve business activities and contribute to the achievement of a good forecast.

Prior to the inception of Bank of Uganda (BOU) in 1966, the East African Currency Board (EACB) was carrying out the activities of the central bank of East Africa. The primary role of the East African Currency growth was to stabilize the economic growth of the East African countries in which Uganda was a member. The amended

consolidated BOU Act of 2002 mandates Bank of Uganda with the function to formulate and implement monetary policy directed to economic objectives of achieving and maintaining economic stability (Bank of Uganda).

Bank of Uganda assumed the primary responsibility of formulation and Implementation of monetary policy in 1993 following the amendment of the Act. The Reserve Money Programme (RMP) has helped to guide BOU's conduct of monetary policy to ensure that liquidity expansion is consistent with targeted inflation (Polycap Musinguzi)

The link between monetary policy and economic growth was found to be weak, particularly in developing countries (Al-Mashat and Billmeier, 2007; Mishra *et al.,* *2012*; Monteil *et al.,* 2012). In addition, some studies confirm a weakening relationship between money supply and policy objectives (White, 2013; IMF, 2014). In some instances, the appropriateness and relevance of monetary policy was questioned, particularly for some developing countries with informal sectors, a poorly integrated financial sector, low financial development, and where the fiscal policy plays the dominant role in the economy

It was in against the following backdrop that the objectives of this study was to assess the effect of monetary policy on economic growth in Uganda given its crucial role in pursuit of a sustainable economic growth. The remainder of the paper was organized as follows. Section two gives a brief overview of the various monetary policy frameworks in South Africa since 1960s, section three reviews various related literatures, section four discusses the methodology, section five presents the data analysis and interpretation of findings and section six provides conclusion, and recommendations.

1.2 Statement of the problem

Over the last 50 years, Uganda made significant development progress. Since the mid 1980's, the economy moved from recovery to growth. However, this also led to a number of debates on a number of economic policies and programs including the ability of monetary policy to be successfully implemented to boost economic growth.

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This debate among economist as to whether government intervention through the use of monetary policy would bring about economic stabilization as its disagreement divided the economy into different schools of thought. Concerns have been compounded by a growing feeling that the monetary regime that had for so long served Uganda well – the reserve money framework -- was proving less successful in delivering low growth and unstable economy as the capital account became more open (Christopher Adams, 2008). Mugume (2011) analyzed the transmission channels of monetary policy in Uganda using a structural VAR model. The results from the impulse responses and variance decomposition analysis revealed that monetary policy influences real economic activities. However, the distribution of the impact at the sectoral level was not considered. Despite the lack of consensus among economists on how monetary policy actually works and on the magnitude of its effect on the economy, there was a remarkable strong agreement that it had some measure of effects on the economy (Nkoro, 2005).

With the estimated Vision 2040 economic growth rate was expected to rise from the current 5.7 per cent to a five-year average of 8.4per cent per annum by the year 2025 challenged the monetary Authority to direct its macroeconomic strategy towards sustainability of growth rate by more than 8.2 % annually through low and stable rate of inflation, stable levels of growth, employment creation and poverty reduction (NDPII, Government of Uganda).

It's on this basis that this study seeks to establish the effects of monetary policy on economic growth in Uganda with interest rate and monetary supply as the variables of interest. Therefore this study seeks to address this problem.

1.3.1 General Objective

The overall goal of this study was to find out the impact of monetary policy on economic growth in Uganda with consideration to policy variables of Money supply and Interest rate.

1.3.2 Specific Objectives

i) To assess the relationship between money supply and economic growth in Uganda

ii) To ascertain the effect of interest rates on economic growth in Uganda

1.4 Research Hypotheses

i) $Ho1$:There was no significant relationship between money supply and economic growth

ii) $Ho2$:There was no significant relationship between interest rates and economic growth

1.5 Scope of the study

The topic here clearly emphasized that the monetary policy has a direct link with economic growth whether this policy is tight or lose because it had to affect in one way or another. Other monetary phenomenon also impacted the overall growth therefore this paper would also determine whether, and how, GDP in Uganda would respond to a change in money supply, and interest rate in the economy. This study also analyzed how GDP in Uganda would respond to a change in money supply, interest rate in an economy.

1.6 Significance of the study

The study would befit the following groups of people;

The future researchers, (students). It would provide a complement to the few existing tests on money policy and economic growth.

To policy makers, this study would be of immense value because it highlights the mechanism for the operation of monetary policy against achieving its goals, problems that's deem a challenge in the implementation and above all identifying areas of conflict with fiscal policy

The study would also be relevant to academics as it contributes to the debate on the relevance of monetary policy as presented in Uganda's Vision 2040. Bankers would also find this work a useful tool in analyzing the effects of government actions on their activities and whether these actions are, on the whole favorable to investors so that others are not left out, this work would serve as a guide on the effects of the policy.

1.7 Operational definitions of key terms

Monetary policy can be defined as the process by which the government, central bank, or monetary authority of a country controls (i) the supply of money, (ii) availability of money, and (iii) cost of money or rate of interest, in order to attain a set of objectives oriented towards the growth and stability of the economy. Monetary policy rests on the relationship between the rates of interest in an economy, that is the price at which money can be borrowed, and the total supply of money.

Economic growth refers to the quantitative increase in the volume of goods and services produced in an economy over a given period of time usually one year. It does not look at the quality of goods and services produced but the numbers.

1.8 Limitation and delimitations of the study

Cost. The researcher experienced a problem of limited finances during the study which included transport, printing and photocopying of relevant materials. However, the researcher borrowed some money from relatives, friends and used it sparingly so as to overcome the cost constraint.

Time. The researcher experienced time constraint in data collection, analyzing of data and in final presentation of the report. However, the researcher overcame this problem by putting the time element into consideration while fulfilling all appointments with respondents and fully meeting them.

None and late responses. The researcher also experienced a problem of late responses or no responses at all from some respondents who were given the questionnaires to fill. However, the researcher assured the respondents that any information given was treated with maximum confidentiality.

1.9 CONCEPTUAL FRAMEWORK

Independent variable   Dependent variable

| MONETARY POLICY |------------------| ECONOMIC GROWTH |

| Supply of money |
| Cost of money or rate of interest |
| Availability of money |

| GDP per capita |
| Productivity |
| stability |

| The central bank (BOU) policies |
| Government policies |
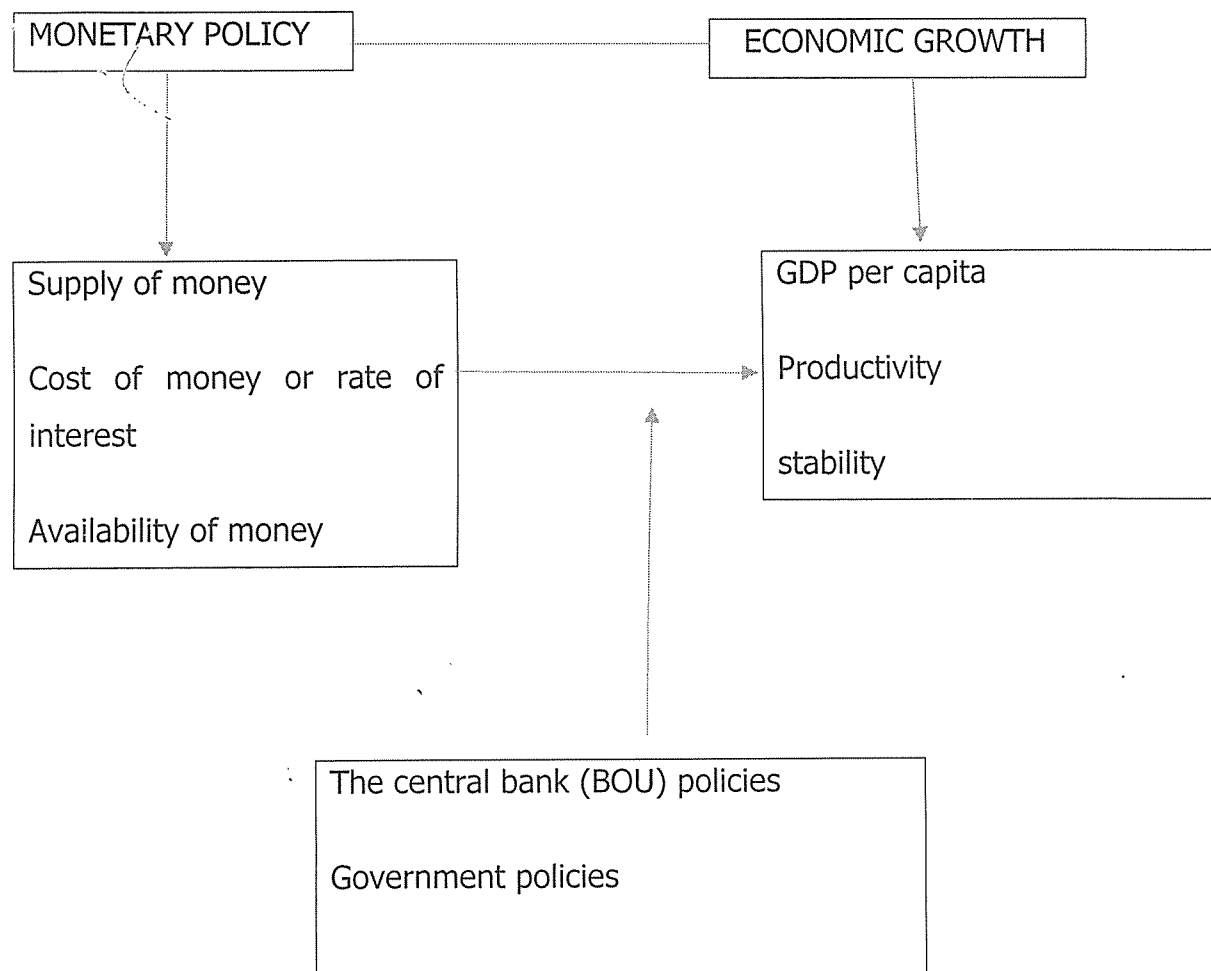
The term monetary policy is also known as the 'credit policy' or called 'RBI's money management policy' in India. How much should be the supply of money in the economy? How much should be the ratio interest? How much should be the viability of money?

From the name itself it is understood that it is related to the demand and the supply of money

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter discusses relevant definitions, concepts and theories that examine the impact of monetary policy on economic growth. The chapter also takes a look at a number of empirical works done on the impact of the monetary policy variables on economic growth.

2.1 Conceptual Review

2.1.1 Monetary Policy

Many economists have given various definitions of monetary policy and some of prominent definitions are as follow.

According to Prof. Harry Johnson, monetary policy is a policy employed by the central banks to control the supply of money as an instrument for achieving the objectives of general economic policy.

According to A.G. Hart, monetary policy is a policy which influences the public stock of money substitute of public demand for such assets of both that is policy which influences public liquidity position.

From both these definitions, it is clear that a monetary policy is related to the availability and cost of money supply in the economy in order to attain broad objectives. The central bank of a nations keeps control on the supply of money to attain the objectives of its monetary policy.

2.1.2 Economic Growth

According to Investopedia, 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.

According to Wikipedia, economic growth is the increase in the inflation-adjusted marked value of the goods and services produced by an economy over time. It is conventionally measured as the percent rate of increase in real gross domestic product, or real GDP.

According to Kallie Wells, economic growth is the increase in the goods and services produced by an economy, typically a nation, over a long period of time. It is measured as a percentage increase in real gross domestic product (GDP) which is gross domestic product adjusted for inflation. GDP is the market value of all final goods and services produced in an economy or nation.

2.2 Theoretical Literature

Theoretically, the conduct of monetary policy was well explained by the quantity theory of money. The theory lays down the foundation upon which the monetary policy is to be implemented as proposed by the classical economists. This study limits its focus on competing theories that explain the conduct of monetary policy

2.2.1 Classical Quantity Theory of Money

The theory was first developed by Jean Bodin in 1958 but refined later by Irving Fisher in 1911 (Jhingan, 1997). The classical economists treated money as a medium of exchange that is; people hold money only for transaction purposes. All versions of the quantity theory of money demonstrate that there is a strong nexus between. Money and the price level. The theory seeks to establish an exact relationship between money and price *ceteris paribus.* Fisher's identity was defined as;

$$MV = PT \dotfill (1)$$

Where 'M' represents the quantity of money in circulation, 'V' is the number of times

a unit of money is used in transaction per unit of time, 'P' is the weighted average of all individual prices and $p = MV\_$, while 'T' is the sum of all transactions of goods and services per unit of time.

Fisher's quantity theory of money faced some criticism from Keynes. Some of the criticisms include; lack of theoretical value, constant velocity, truism, unrealistic assumption, neglect of the asset function and store of value function, multiplication of two non-compatible factors (M and V), lack of an explanation on how change in 'M' changes' P', and finally it is a static theory based on assumptions (Jhingan, 1997).

The identity was later converted into a theory and specified as;

$$MV = py \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots (2)$$

Where, 'Y' is the physical output which is the same as real income. The income version of the quantity theory makes two significant changes to Equation (1) as it converts it into a theory and by substituting 'T' for 'Y', it brings real output in relation to money supply. In classical theory, 'Y' is the function of employment, thus the income version of the quantity theory integrates the classical theory of output and employment with the theory of money. Equation (2) implies that a rise in money 'Y' remaining constant results in a proportionate rise in prices. An increase in money expenditure while income is held constant implies aggregate demand increase while supply is fixed leading to rise in prices. Similarly, when money supply is reduced spending capacity of the people is reduced leading to a proportionate fall in the prices (Dwivedi, 2010).

2.2.2 The Keynesian Theory

Keynesian theory did not buy the notion that the relationship between money and price is direct and proportional. They share the view that it is indirect through the rate of interest. Also they reject the notion that the economy is always at or near the natural level of real GDP so that Y in the equation of exchange can be regarded as fixed. They also reject the proposition that the velocity of circulation of money is constant.

Keynesians believe that expansionary monetary policy increases the supply of loanable funds available through banking system, causing interest rates to fall. With lower interest rate, aggregate expenditures on investment and interest-sensitive consumption goods usually increase, causing real GDP to rise. Hence, monetary policy can affect real GDP indirectly.

Keynes (1936) studied both transaction and asset theories of money demand. Keynes extended Cambridge theory to include holding bonds and securities as an alternative to holding idle cash balance as an asset. Keynes theory links the demand for money to the variations in the interest thus introducing speculative demand for money that arises due to uncertainty about interest fluctuations. Thus, the money people hold to buy bonds in future expecting bond prices to go down is speculative demand for money.

Therefore, the theory distinguished three motives of holding money which are the transaction motive, precautionary motive and finally speculative motive (Dwivedi, 2010).

Keynes criticized the assumption of constant velocity as proposed by the classical economists. Keynes view was that velocity is affected by behavioral economic variables and most importantly, by the nominal interest rate. Keynes theory states that demand for money is negatively related to nominal interest which is a significant departure from the classical quantity theory of money but, less departure from the Cambridge approach which did not rule out such a relationship (Dwivedi, 2010)

2.2.3 The Monetarist View on Monetary Policy

Monetarist is a school of thought led by Milton Friedman. This school of thought is a modern variant of classical macroeconomics. They developed a subtler and relevant version of the quantity theory of money. Like any school of thought, Friedman (1963) emphasized on the supply of money as the key factor affecting the well-being of the economy and as well, accepted the need for an effective monetary policy to stabilize an economy.

He also had the notion that, in order to promote steady growth rate, money supply should grow at a fixed rate, instead of being regulated and altered by the monetary authority (ies). Friedman equally argued that since money supply might be demanded for reasons other than anticipated transaction, it can be held in different forms such as money, bonds, equities, physical goods and human capital. Each form of this wealth has a unique characteristic of its own and a different yield. These effects will ultimately

increase aggregate money demand and expand output. The Monetarists acknowledge that the economy may not always be operating at the full employment level of real GDP.

Thus, in the short-run, monetarists argue that expansionary monetary policies may increase the level of real GDP by increasing aggregate demand. However, in the long-run, when the economy is operating at the full employment level, they argue that the quantity theory remains a good approximation of the link between the supply of money, price level, and the real GDP. Also, in the long-run expansionary monetary policy only lead to inflation and do not affect the level of real GDP.

2.2.4 The classical theory of economic growth

The classical theory of economic growth was a combination of economic work done by Adam Smith, David Ricardo, and Robert Malthius in the eighteenth and nineteenth centuries. The theory states that every economy has a steady state GDP and any deviation off of that steady state is temporary and will eventually return. This was based on the concept that when there is growth in GDP, population will increase. The increase in population thus has an adverse effect on GDP due to the higher demand on the limited resources from a larger population. The GDP will eventually lower to the steady state. When the GDP deviates below the steady state, population will decrease and thus lower demand on the resources and in turn the GDP will rise back to the steady state.

2.2.5 The Neo-Classical theory of economic growth

Two economists, T.W. Swan and Robert Solow, made important contribution to economic growth theory in developing what is now known as the Solow-Swan growth model.

The Neo Classical theory focused on three factors that impact economic growth: labor, capital and technology, or more specifically, technological advances. The output per worker (growth per unit capital) grows but at a decreasing rate. This is referred to as

diminishing marginal returns. Therefore, there will become a point at which labor and capital can be set to reach an equilibrium state.

Since a nation can theoretically determine the amount of labor and capital necessary to remain at that steady point, its technological advances that really impact the economic growth. The theory states that economic growth will not take place unless there are technological advances, and those advances happen by chance. Once an advance has been made, then labor and capital have to be adjusted accordingly. It also suggests that if all nations have access to the same technology, then the standard of living will all become equal.

There were two major concerns with this era of theories. One was the conclusion that continuous economic growth can only occur with technological advances, which happen by chance and therefore cannot be modeled.

Secondly, it relied on diminishing marginal returns of capital and labor. However, there was no empirical or real-life evidence to support this claim. Therefore the model was known for identifying technology as a factor in growth but failed to ever substantially explain how.

2.3 CONTEXTUAL REVIEW.

2.3.1 To find out the impact of monetary policy on economic growth.

The long run effects of an increase in the money supply are much more difficult to predict. There is a strong historical tendency for asset prices, such as housing, stocks among others to artificially rise after too much liquidity enters the economy. This misallocation of capital leads to waste and speculative investment, often resulting in burst bubbles and recession. On the other hand, it is possible money is not misallocated, and the long term effect is higher prices than consumers normally would have faced.

2.3.2 To assess the relationship between money supply and economic growth.

According to standard macroeconomic theory, an increase in the supply of money should lower the interest rates in the economy, leading to more consumption and lending/ borrowing. In the short run, this should, but does not always correlate to an increase in total output and spending, presumable, GDP.

GDP is an imperfect representation of economic productivity and health, but generally higher is more desired than lower. Rising economic productivity increases the value of money in circulation since each unit of currency can subsequently be traded for more valuable goods and services.

Thus economic growth has a natural deflationary effect, even the supply of money does not actually shrink. This phenomenon can still be seen in technology sector where innovation and productivity advancement are growing faster than inflation; consumers enjoy falling prices of goods and services. (Sean Ross January 2018).

2.3.3 To ascertain the effects of interest rates on economic growth.

The results found that the interest rate has a slight impact on growth; however the growth can be improved by the lower interest rate which will increase the investment. Therefore proper measures should be taken to have a more rapid economic growth.

The recent performance of the financial sector which involved mixed results of profits, losses and non-performing assets has caused a lot of discussions.

The causes from the business strategy of each bank to the general economic environment especially the slowdown in growth and higher interest rates. While it is certainly true that the regarding lending and borrowing activities of the private sector. (Fred K. Muhumuza 2016).

2.4 Review of related studies

Numerous studies have been done in many countries on the impact of monetary policy instruments and macroeconomic variables such as inflation. Few of these researches are considered relevant and hence reviewed here:

Amarasekara (2009) examined money the impact of monetary policy on inflation and economic growth in Sri Lanka. The impact of money supply growth, changes in exchange rate and interest rate on inflation and economic growth was analyzed using a vector autoregressive (VAR) framework using two lags. The study adopted a quarterly, seasonally adjusted data from 1978 to 2005 on variables such as interest rate, money supply, and real GDP in Sri Lanka. Results from the study indicated that inflation in Sri Lanka does not fall after contractionary changes in monetary policy. Furthermore, inflation reduced immediately exchange rate appreciated and the rate of interest also rose following a contractionary reserve shock.

Chow and Shen (2004) sought to establish the relationship between money, price level and output for the Chinese Macro Economy. The study used annual data for the period covering 1954 to 2002 employing a VAR model in the analysis: The study was motivated by Friedman proposition which states that output reacts to money shocks first, and prices later. The results of the impulse response function revealed that in the first year after expansionary monetary shock, most of the impact is on real output, which die down quickly while in the second year, price die out over a long horizon thus confirming Friedman findings.

Chuku (2009) investigated the effects of monetary policy innovations in Nigeria employing Structural Vector Auto regression (VAR) on quarterly data covering the period 1986 to 2008. Variables used in the model include; broad money supply, minimum rediscount rate, real effective exchange rate, real gross domestic product (RODP) and consumer price index (CPI). The results of impulse response functions revealed that monetary policy innovations have both real and nominal effects on economic parameter depending on the policy variable selected. The study also

revealed that price-based nominal anchors (MRR and REER) do not have a significant influence on real economic activity. Whereas, innovations in the quantity-based nominal anchor (M2), affects economic activities modestly. It therefore, follows that monetary policy shocks have been a modest driver of business cycle fluctuations in Nigeria.

Okoro (2013) examined the impact monetary policy on Nigeria economic growth by testing the influence of interest rate, inflation, exchange rate, money supply and credit on GDP. Augumente Dickey Fuller (ADF) test, Philips–Perron Unit Test, Co-integration test and Error Correction Model (ECM) techniques were employed. The results show the existence of long–run equilibrium relationship between monetary policy instruments and economic growth.

Eric Muraya Mathenge, 2011) the research establishes the relationship between monetary policy and Gross Domestic Product (GDP). GDP is greatly affected by monetary policy of the state. By using regression method, the study concludes that growth in money supply has high influence on GDP of an economy and there are various unknown factors that affect the GDP.

From the reviewed literature, there seems to be no consensus over the monetary policy instrument to be employed in developing nations. In developed nations, monetary authorities target interest rates as their intermediate target while in developing nations, most monetary authorities target monetary aggregates mostly due to inefficient financial market and uncompetitive banking sector Kathanje et al., (2007).

Government policies, including monetary policy, affect the growth of domestic output to the extent that they affect the quantity and productivity of capital and labor. Monetary policy is only one element of overall macroeconomic policy, and can only affect the production process through its impact on interest rates.

There are two main channels of monetary policy. One was through the effect that interest rate changes have on the exchange rate of a currency, and the other was

through the effect that interest rate changes have on demand. Therefore, monetary policy has an impact on economic activities and growth through the workings of foreign and domestic markets for goods and services (Boweni, 2000)

There appears to be no consensus on the choice of variables in testing the effects of monetary policy on economic growth and prices. Chow and Shen (2004), Towadros (2007), Waliullah and Rabbi (20 I 1), used money, prices and output as variables while Starr (2005) used Money Supply, CBR, real exchange rate, RGDP and CPI as variables.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

The chapter presents the empirical model that were adopted for the study. The variables that were used in the study are defined. The data, the data sources and the methods that were employed in data analysis are presented in this section.

3.1 Research Design

This study was a time series descriptive research aimed at establishing the effects of monetary policy on economic growth. With raw data from 1991-2014 being used, augmented dickey fuller test for stationarity, Normality tests and regression analysis were employed in this analysis

3.2 Data and Source

Secondary data for the period 1991-2014 used in this study was derived from IFS (2015), International financial statistics with raw data for GDP, Money Supply and Interest rate.

3.3 Description of variables

Variable	Description
GDP (Y)	Outcome on Economic growth measures as log of Gross Domestic Product
MR (X_1)	Money supply which includes long time deposit and money market funds with more than 24-hour maturity. Measured as Log of Money supply
I R(X_2)	Interest Rate as measured as Log of the central bank rate

3.4 Model specification

In this study, economic growth (GDP) in Uganda was specified as a function of money supply and Interest rate. The variables are noted as GDP=Gross Domestic Product, MS= Monet supply and IR=Interest rate.

Thus GDP=f (MS, IR) .... (i)

The model expressed as

$InGDP = \beta_0 + \beta_1 MS + \beta_2 IR + +\varepsilon_i$.......................................(ii)

Ho is that the series has a unit root i.e. the series is non stationary.

3.5 Testing for stationarity

For a stochastic process to be non- stationary, its moments (mean, variance, auto-covariance) are time variant. A time series is stationary if its mean, variance, and auto covariance are independent of time. The use of non-stationary data generates poor forecast and may generate spurious regression results. Each of the variable in the model is subject to unit root test under the null hypothesis.

3.6 Study Population

The target population of the study was the senior management, statisticians, research and development, banking officers, randomed people and economists.

3.7 Sample Size and Composition

The researcher used a sample size of 80 respondents and these were categorized in the following manner, 2 from the senior management level. 6 from the statistical department.12 ran domed individuals. 20 banking officers, 28 economists and 12 research and development officers. This number was determined using Krejcie, R.V & Morgan, D.W (1970).

Table 3:1 showing the sample size of respondents

Category of respondents	Population	Sample Size	Percentage
Senior management	4	2	2.5
statisticians	6	6	7.5
Research and development	12	12	15
Banking officers	20	20	25
economists	32	28	35
Randomed population	12	12	15
Total	84	80	100

Source: Krejcie, R.V & Morgan, D.W (1970)

3.8 Sampling Technique

The researcher used a purposive sampling technique where managers, credit officers who have long experience in credit policy and the level of economic performance in microfinance Uganda in order to get reliable and consistent information in a broad perspective and group using a simple random technique.

3.9 Data Collection Tools and Methods

This chapter revealed the nature of data collection tools and methods as explained below:

3.10.1 Questionnaire

The researcher developed both open and closed ended question which was approved fast by the super visor before they are presented to the respondents to be answered. The questionnaire was used because large amounts of information can be collected from a large number of people in a short period of time and in a relatively cost effective way.

3.10.2 Interview Guide

Face to face in depth interviews was conducted to collect data from opportunity bank officials and other respondents. Structured questions and open ended statements was used by the researcher in trying to interview respondents.

3.11 Data Collection Procedure

A letter of introduction was obtained from the research coordinator, Economics and Statistics, Kampala International University seeking permission to conduct the study. It was presented to the officials of sampled banks in Uganda seeking permission to carrying out the study in the division. After being granted the permission, the researcher proceeded to make appointments with the selected respondents. Thereafter, the researcher administered questionnaires and the required data was collected. The researcher personally administered questionnaires to the respondents in order to avoid delay, to avoid collecting wrong data, ensure completeness and accuracy and confidentiality of the data collected was strictly adhered to.

3.12 Data Processing and Analysis

Completed questionnaire was edited for completeness and consistency. The questionnaire was coded to allow for statistical analysis. According to Mugenda (2010).data must be cleaned, coded and properly analyzed in order to obtain a meaningful report. The Statistical Package for Social Science (SPSS) version 12 was used to analyze and interpret the collected data where appropriate. The percentage frequencies was posted to excel worksheets to generate graphical summaries that also used to indicate the direction of respondents, tables and charts was used to summarize responses for further analysis and facilitate comparison.

3.13 Reliability and Validity of Research Instruments

The questionnaire was well structured to achieve the purpose of the research thereby meeting the test of reliability. The reliability of the research instruments was tested through a pre-test.

In order to ensure validity the questionnaire was made clear and understandable, the questionnaire was first discussed by the researcher with the supervisor; this included careful choice of words, order and structure of questions. After receiving the questionnaires, manual editing was done, followed by coding. Frequency count of different provisions was done and this gave the number of occurrences and percentages out of total occurrences for different responses. And lastly simple conclusions were drawn from the given percentages and numbers

CHAPTER FOUR

RESULTS AND PRESENTATION OF FINDINGS

4.0 1ntroduction.

This chapter consists of the presentation, analysis and discussion of the findings from the study. It provides results which were analyzed from raw data collected in the field. It is in two categories; the first one represents the responses of the questions that were asked concerning research objective and the other shows Descriptive, correlation and regression analysis is employed. The analysis was done and data is represented in form of tables and graphs

4.1. Effect of money supply on economic growth.

From the finding, the table below shows the results that were established.

Table4.1: Effects of supply of money on economic growth

Statements		Frequency (n = 80)	Percentage (%)
Money supply enhances productivity.	Agreed	40	50
	Not sure	12	15
	Disagreed	28	35
Has the increase in supply of money increased GDP per capita?	Agreed	10	12.5
	Not sure	15	18.75
	Disagreed	65	81.25
Increase in Supply of money leads to inflation causes economic instability	Agreed	55	68.75
	Not sure	5	6.25
	Disagreed	20	25

Source: Primary Data

From the information collected above the majority of the population (50%) believe that supply of money enhances productivity, 15% were not sure of that but 35% disagreed with the statement. This would imply that people need money to carry out economic activities.

81.25% did not agree that money supply increases GDP per capita and 12.5% agreed while18.75% were not sure of this. Therefore they do believe that not only money supply will boost GDP per capita.

From the above information, a bigger number of the population agree that increase in money supply will cause inflation. This will imply that the level of productivity may reduce because of high costs of production.

4.2 Effects of interest rates on economic growth.

Three statement were put forth and they generated result as showed below

Table 4.2: Effects of rate of interest on economic growth

Statements		Frequency (n = 80)	Percentage (%)
The central bank rate determines the level of economic growth.	Agreed	50	62.5
	Not sure	10	12.5
	Disagreed	20	25
Low cost of money has increased money in circulation hence increased GDP?	Agreed	48	60
	Not sure	20	25
	Disagreed	12	15
Higher interest rate has lowered the availability hence investment and economic growth.	Agreed	55	68.75
	Not sure	3	3.75
	Disagreed	22	27.5

Source: Primary Data

From the above information, the majority of about 62.5% agreed that CRB determines on portfolio performance.

A bigger number of the respondent also agreed that low cost of money increases the money in circulation which increases the GDP.

The 68.75% also show that for this economy to drive to economic growth, the measures should be taken to reduce on the interest rate.

4.3. Effects of the central bank and the government.

The research sought to establish result on the effects of the central bank and the government on economic growth and the results are presented below.

Table 4.3: Effects of central bank and the government policies on economic growth

Statements		Frequency (n = 80)	Percentage (%)
The legal reserve requirement determines the level of productivity	Agreed	70	87.5
	Not sure	4	5
	Disagreed	6	7.5
The use of credit creation has increased productivity and economic growth.	Agreed	60	75
	Not sure	4	5
	Disagreed	16	20
Control of money in circulation by the government has promoted economic growth by ensuring economic stability.	Agreed	50	62.5
	Not sure	10	12.5
	Disagreed	20	25
Uncontrolled printing of money has caused inflation which lowers economic growth rate	Agreed	54	67.5
	Not sure	16	20
	Disagreed	10	12.5
The central bank always advises the commercial banks to follow the monetary directives to enhance economic growth.	Agreed	44	55
	Not sure	14	17.5
	Disagreed	22	27.5

Source: Primary Data

The information above shows that (87.5%) believe that the legal reserve requirement should be regulated favorable in an economy because it leads to economic growth, while the (5%) were not sure but the (7.5%) did not agree which is very small percentage.

Credit creation is also a key factor to economic growth basing on the information collected where a larger number of (75%) turned up by a geeing with this.

Meanwhile the population also argued the government not have uncontrolled printing of money where 67.5% of the population agreed that with uncontrolled printing of money, money in circulation will lead to higher prices which leads discouragement of economic activities hence low economic growth. Therefore by so doing the government will be controlling the money in circulation as well increases on the rate on economic growth in Uganda evidenced by the 62.5% population agreeing with it.

From the table above, a larger number of the people also believe that the central bank should play a bigger role in moral suasion so that to boost the level of economic activities on Uganda that will lead to economic growth.

4.4. Rate of GDP growth.

Table 4.4: Effects of rate of interest on economic growth

Statements		Frequency (n = 80)	Percentage (%)
Has the Ugandan GDP been growing for the past 5 years?	Agreed	44	55
	Not sure	16	20
	Disagreed	30	37.5
GDP has been increasing has a result of low interest rate.	Agreed	51	63.75
	Not sure	19	23.75
	Disagreed	10	12.5
GDP per capita is generally raised by the monetary policies.	Agreed	52	65
	Not sure	8	10
	Disagreed	20	25

Source: Primary Data

The information above generally shows that the GDP in Uganda has been growing for the past 5 years and it is contributed by various factors like low interest rates where 63.75% agreed that low interest rate increases GDP growth, favorable government policies, 55% of the population agreed that for the past five years, GDP per capita has

been growing in Uganda but 37.5% of the population did not agree with this and the 20% were not sure of this statement.

This chapter presents analysis results, interpretation and key findings of the study. Descriptive, correlation and regression analysis is employed.

4.5 Descriptive statistics

Table 4.1 Descriptive statistics shows that the data is either normally distributive or not. If selected variable skewness is between 1 to -1 than the data is normally distributed and if it more than 1 to -1 the data is not normally distributed. The selected data having skewness more than -1 so as show in the table. This suggests that the selected data is not normally distributed and spearman correlation analysis is best fit on this data

Table 4. 5: Summary of descriptive statistics

| Variable	Mean	Variance	Std. Dev.	Skewness	Min.	Max.
GDP (in Billions)	27028.88	1.60125	12637.29	0.511377	11283	50753
M2 (in Billions)	1539.458	890333.8	943.575	0.5708986	320	3900
Interest Rate	22.55417	18.72607	4.327363	1.769833	21.2	34.4

The average GDP is moderately positively skewed (*skewness* = 0.5114).

The average Money Supply (in Billions) is moderately positively skewed (*skewness* = 0.57089).

The minimum interest rate is 21.2 while maximum value is 34.4. The interest rate charged on borrowing is highly positively skewed (*skewness* = 1.769833)

The variables GDP (in Billions), Money Supply have been observed to have skewness less than one unlike the interest rates. The variables with skewness less than one is said to be uniform, equally distributed and thus does not have outliers and extreme values whereas those variables that produce skewness above one are basically said to violate normality.

Figure 4.3 Graphical analysis of the study variables (Dependent: GDP, Independent: Money supply and Interest rate)

Trend Line: GDP, Interest rate and Money Supply

Legend: GDP (in Billions) — Interest_rate2 — Money_supply (in Billions)
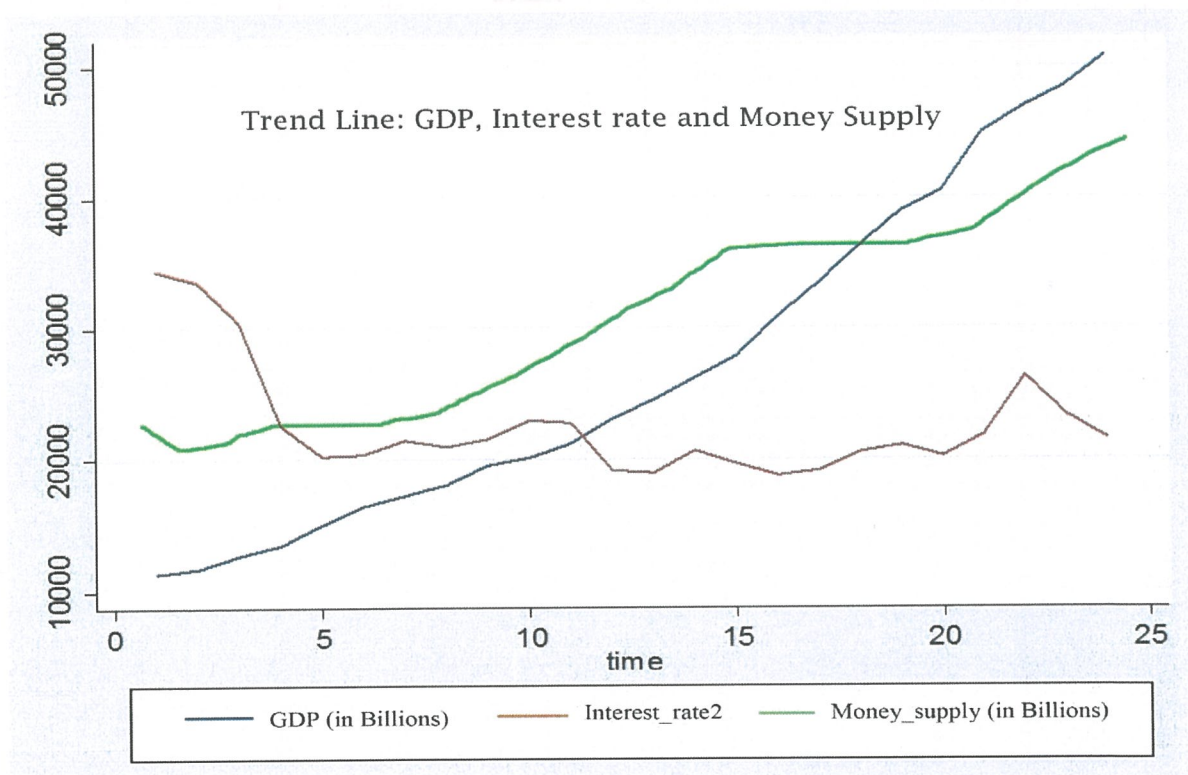
Source: Author

Testing for parameter stability: Unit root test (testing for stationarity)

In this test, "Ho: is that the series has a unit root i.e. the series is non stationary"

Table 4. 6: Unit root test results: *(ADF: GDP,MS, IR)*

Variable	ADF Test statistics in Levels	ADF Test Statistic at 1st difference
LogGDP	-3.792	5.938
LogMS	2.718	6.132
LogIR	-3.283	8.373
Critical values for ADF statistics in levels are -3.000 and -2.630 at 5%, 10% and maximum lag length of 8		

When the series was tested for unit root in level, only log of interest rate (which has turned out to be stationary) passed the unit root test. All the other variables (such as GDP, Money Supply) are not stationary in their level.

Table 4. 7: Correlation Matrix/Pairwise correlation for the variables under study

The result from the correlation shows that the relationship between two exist variables that is (dependent: GDP, independent: money supply and interest rate)

	GDP (in Billions)	M2 (in Billions)	Interest Rate
GDP (in Billions)	1.0000		
M2 (in Billions)	0.9752	1.0000	
Interest Rate	-0.3297	-0.3804	1.0000

Considering the correlations, the results indicate that there is a positive and a strong correlation between the country's GDP and Money Supply, implying that the higher the money circulated in the economy, public consumption tends to increase.

There is a weak negative correlation between the interest rates charged borrowers and the gross domestic product of the country, the negative coefficient reveals that the higher the interest rates charged reduces private investments in the economy.

4.6 Model Estimation

Table 4. 8: Multiple Linear Regression model

GDP in Billions	Coef.	Std. Err.	t	P>|t|
M2 in Billions	13.30686	0.6847625	19.43	0.000
Interest rates	10.53542	149.3114	0.94	0.356
Exchange rate	9.183184	1.988341	4.62	0.000
_cons	3367.032	3936.384	0.86	0.402

Obs =24, F (2, 21) = 213.13, Prob > F = 0.0000, R - squared = 0.9530, Adj R - squared = 0.9486

REGRESSION EQUATION

$$GDP = 3367.032 + 13.31M2 + 10.53IR$$

The coefficient of determination reveal that 95.3% of the variations in the dependent variable can be explained by money supply and interest.

There exists a relationship between the variables with model having significant value implying that the model is of a good fit and thus the variables employed to construct the model are credible and reliable.

A unit increase in money supply by one unit increase economic growth by 13.31 where as a unit increase in interest rate by one unit predicts economic growth by 10.53.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a detailed summary of findings from the previous chapter, the conclusions drawn from the study, suggested recommendations and the suggestions for further research.

5.2 Results of findings

Only money supply significantly affect the variations in GDP with the exception of interest rate. However, the effect is not statistically significant at 5% level of significance. That is to say, as Money increases also GDP increases, however, increase in interest rate reduces GDP. This is because investments rely on the rate of interest, High interest rate makes borrowing expensive to the investors thus reduced investments which leads to reduced GDP while low interest rates makes borrowing cheap to the investors thus increased investments which leads to increased GDP.

5.3 Conclusions

Monetary policy for any country plays a key role in its overall economic growth. Monetary policy of Uganda now for some years has been largely supportive of the dual objective of promoting economic growth and price stability through adjustments of money supply and interest rate.

In this case, the government through the central bank has come up with major monetary policies to regulate on the level of economic activities in a country, control money supply and ensure economic stability in an economy.

The monetary policies include; open market operation (OMO) which deals with the selling and buying of government securities, margin requirement which is concerned with what is mortgaged for the loan, legal reserve requirement which looks at the minimum amount of money commercial banks are required to keep with the central bank, central bank rate (CBR) which is the rate at which commercial banks borrow

from the central bank, others include moral suasion, credit creation, selective credit control, special deposits.

In this study although the variables indicate a positive impact, only interest rate is significant.

5.4 Policy Recommendations

The government and the central bank needs to avail the public with the funds to allow them to engage in the production of goods and services so as to accelerate economic growth.

Secondly, the government needs to develop policies that variably adjusts interest rate with relative objective of stability and promoting investments which could in return increase the production and supply of more goods and services in a country hence economic growth will be realized.

The government should also ensure political stability of a country for example wars and conflicts (party conflicts like FDC and NRM), so as to encourage investment which ensures continuous supply of more goods and services hence increased economic growth of a country.

The government should tighten on the exchange rates of the country to regulate the amount of money in circulation at a level that will not negatively affect the economy. This is evidenced in cases where few of other currencies like a dollar can buy a lot of the Ugandan currency (shillings) where by this habit has increased on the inflation rate in a country which discourages investment hence limiting economic growth.

5.5 Suggestions for further research

More studies should be carried out on other variables such as exchange rate, unemployment and inflation

Exchange rate. Furthermore the researchers should carry out research on the exchange rate policies of this country because it can be one of the primary limitation to economic growth much as it comes with some positive effects.

Further study should be done on unemployment because it was seen as one of the key factors to influence economic growth. A country with high employment rate producing highly skilled labor force in larger numbers encourages investment both from within and outside the country which consequently increases on the output of the country hence economic growth.

Inflation as a macro economic problem in many developing countries has discouraged economic growth since it discourages investment due to many factors like high cost of production and therefor more research should be done on inflation so that the researchers come up with solutions to the problem.

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APPENDICES

APPENDIX A: RAW Data to be used for analysis

Year	GDP (in Billions)	M2 (in Billions)	interest rate
1991	11283	320	34.4
1992	11669	385	33.5
1993	12641	430	30.4
1994	13450	520	22.5
1995	15000	590	20.2
1996	16360	609	20.3
1997	17195	706	21.4
1998	18038	873	20.9
1999	19491	953	21.5
2000	20103	1036	22.9
2001	21146	1193	22.7
2002	22992	1491	19.1
2003	24481	1587	18.9
2004	26147	1710	20.6
2005	27803	1810	19.6
2006	30802	1900	18.7
2007	33393	2050	19.1
2008	36301	2147	20.5
2009	38933	2300	21
2010	40496	2391	20.2
2011	44907	2480	21.8
2012	46888	2634	26.3
2013	48421	2932	23.3
2014	50753	3900	21.5

Source: IFS (2015), International Financial Statistics

APPENDIX B: BUDGET.

NO.	ITEM	QUANTITY	EACH (USH)	AMOUNT(USH)
1.	BAG	1	50,000	50,000
2.	REAM OF PAPER	1	15,000	15,000
3.	PENS	15	500	7,500
4.	TRANSPORT			50,000
5.	AIRTIME	2 LINES	10,000	20,000
6.	OTHERS	100,000		100,000
	TOTAL			**242,500**