

The Growth And Growth Implication Of Money Supply In Nigeria

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ABSTRACT

The study critically investigated the dynamics of growth and growth implication of money supply in Nigeria between 1985–2013. The Ordinary least Square (OLS) multiple regression method were used to investigate the relationship between money supply and some selected macroeconomics variables such as the gross domestic product, Inflation rate, Budget deficit and Government expenditure in the study. The study found a direct and significant relationship between money supply and economic growth. The same relationship holds for the budget deficit and inflation while government expenditure was not significant. It was also discovered that a 1 percent increase in the level of money supply will increase the volume of the gross domestic product by about 73 percent. The study thus recommended that the monetary authority should look into the transmission mechanism of money supply in other to determine its lagged effect on the output growth.

Key Words: Money supply, CBN, GDP.

1. INTRODUCTION

Money supply has remained a fundamental integral part of economic development because it exerts considerable influence on economic activity in both developed and developing economics. In fact, it is generally believed that the low level of supply of monetary aggregates in general and money stock in particular had been responsible for the fundamental failure of many African countries to attain growth and development. The circulation of money supply in the economy is very important in achieving the growth of the economy, because the substantial and growing evidence that one the necessary conditions for economic and financial stability is that the expansion and distribution of the money supply be controlled. The pursuit of price stability objective invariably implies the indirect pursuit of other objectives such as economic growth, which can be achieved under conditions of price stability and allocation efficiency of the financial markets. The quantity theory of money argued that the general price level is determined by the money supply in circulation and therefore the main objectives of any sound economic policy is that of price stability. It then becomes imperatives that money supply in the economy be adequately controlled to enhance price stability and other macroeconomics variables. Recently, there has been an upsurge in the number of studies that investigate the relationship between money supply and economic growth in literature over the past four decades. However, Economists differ on the effect of money supply on economic growth.

It is instructive to note that while some agreed that variations in the quantity of money is the most important determinant of economic growth and that countries that devote more time to studying the behavior of aggregate money supply experiences much variations in their economic activities(handle 1997), others are skeptical about the role of money supply on output growth. For instance, in a celebrated study, Fatukasi (2008), argued that the quantity of money supply in an economy circulation significantly determines its health and prosperity. This stance was however contested by Olorunfemi and Adeleke (2013), who argued that when the volume of the said money in circulation is beyond the growth rate of the economy, or is higher than the level of total output of the economy, or money supply exceeds the level the economy can efficiently absorb, it dislodges the stability of the price system, leading to inflation or higher prices of goods. In their own contribution, Ikhide and Alwoda (1993) opined that reducing money stock of money through increased interest rates would lower gross national product (GNP). Thus the notion that stock of money varies with economic activities applies to the Nigerian economy. In Nigeria however, the monentary authority has been using the money supply as a monetary tools of stabilization.

To this end, Nigeria has been controlling her economy through variations in her stock of money. The CBN (2008), publication revealed that the currency in circulation in 1992 stood at N39, 725million, while in 1994 rose to N96, 571 million pegged at N126, 040.3 million in 1996, it rose drastically in 1998 to N208, 561.1 million, the circulation of money jumped from N208, 561.1 million in 1999 to 2005 with N310, 496.3 million, N403million, 506.0 million. N463,153.0m, N502,254.5m, N545,803.0m, N642,388.2 million respectively. These staggering figures shows that

money supply have been growing of late. It is expected that the growth of money supply should put Nigerian economy on the path of macroeconomic stability, recovery and sustainable development. But rather, the country has continued to be at disadvantage in terms of economic growth and macroeconomic performances. All in all. Nigeria continues to be confronted with a number of economic maladies even in the face of the upsurge in money supply. Among these problems are low level of savings and investment, high rate of inflation, high level of unemployment and poverty. This is particularly worrisome as several questions have been raised on the situation: Can there be growth without money supply? To what extent has the money supply in Nigeria impacted economic growth? What are the consequences of money supply on economic fundamentals? What has been the trend of money supply in Nigeria? This situation has caused a lot of concern to the researchers who have described the high level of money supply as a curse rather than a blessing. Rather than for the economy to adjust into recovery it continues to deteriorate to the background. Against this background, it becomes imperative to investigate if there is any statistical significant link between money supply and economic growth. Following this introduction, the remaining parts of the paper is organized as follows: section two covers the literature review and the theoretical framework. Section three present the methodology of the study. Data analysis and interpretation of result is the main thrust of section four while section five draws up policy recommendation and concludes the paper.

2.0 LITERATURE REVIEW.

2.1 Conceptual Clarifications.

The interaction between money supply and other macroeconomics variables has received a lot of attention from researchers. Akinnifesi (1984) explored the factors such as changes in money supply, lagged changes in money supply, credit to government by the banking system, government deficit expenditure, industrial production and food price indices were the variables captured while changes in the annual data for 1960-1983 were used in the empirical estimation. The study however, emphasized that the increase in government expenditure financed by monetization of oil revenue and credit from the banking system were responsible for the expansion of money supply in Nigeria.

Osakwe (1983) attempted to verify the amount of government expenditure that affected money supply in the ten-year period of 1970–1980 by using quarterly data. Significant statistical evidence obtained from the analysis showed a strong relationship between increases in net current expenditure and growth in money supply, on the one hand, and growth in money supply and inflation, on the other hand.

In a related study, Chhibber *et al.* (1989) employed a highly disaggregated econometric model for Zimbabwe. They found that monetary growth, foreign prices, exchange and interest rates, unit labor cost, and real output are the key determinants of inflation in that country. The need to control the expansion and the circulation of

money supply is very important when a cross sectional analysis of the determinants of money supply is examined in Nigeria.

Okefie (1981) which observed that the average quantity of money in a country depends on numerous factors. He outlined the variables to include changes in the available foreign exchange reserves, variations in the reserve requirement of the Central Banks and increase in the demand for loans by business among others.

Ajayi and Ojo (1981) supported Akinifesi and Philips (1978), and argued that a high relationship existed between money supply and its lags. According to Ndekwu (1983), variations in money supply are explained by variations in total credit in the economy. He concluded that, given other variables, the changes in money supply are largely explained by the changes in total credit. Kettel (1985) argued that money supply is one of the vital target variables through which the authorities can achieve the desired monetary policy in an economy. Abbas (1991) performed a causality test between money and income for Asain countries and identified that bi-directional causality between money and income and unidirectional causality between money and income for Asian countries and identified bi-directional causality in Pakistan, Malaysia and Thailand. Bengali et al. (1991) pinpointed a bi-directional causality from money to prices.Das (2003) examined the long run relationship between money and output in Indian and provided the evidence that money unidirectional affects output which affects growth as well.

Ashra et el (2004) examines the relationship between money supply and economic growth for the case of a developing country i.e Indian and indicates that there exists bi-directional causality between money and price level and that money is non neutral so that is not exogenous in the long run. Abbas and Husian(2006) examines the casual relationship between money and income and money and prices in Pakistan. In a related development, Aziakpono (2003) presents and tests a model to determine either or both anticipated and unanticipated money effects real output and growth in Nigeria. The evidence reveals that while anticipated money supply affects real output and growth in Nigeria, the unanticipated money do not.

Finally, although there has been various empirical works on money supply in Nigeria with conflicting results, conclusions and recommendations, a research work that examine the growth and growth implication of money in Nigeria is still lacking. The current research fill this gap.

Theoretical Framework

The monetarists adopted the quantity theory of money by Irving Fisher. The original quantity theory is expressed by fisher's equation of exchange as:

MV = PT

Where (M) = represents the money stock in circulation in the economy.

(V) = represents the velocity of money in circulation.

(P) = represents the average price level and

(T) = represents the number of transactions in the economy.

The classical economists assumed that (M) is the active variable which determines what happen to other variables, (V) is constant over time and that the economy is at its full employment level, meaning that (T) is also constant. Under these restrictions, it implies that changes in the money stock (ΔM) directly affect changes in the price level. Also, the monetarists with Milton Friedman (1956) as its chief advocate followed the same line of argument as their predecessors (the classical economists). They only differ in respect to the assumptions on (V) and (T). Friedman, consider that money demand is one of the five main forms of holding wealth (other forms of holding wealth are; equities, bonds, physical goods and human capital) and that any significant change in any of the other forms of wealth would cause velocity of circulation to vary, but only in the long- run. Based on the fact that velocity of circulation does not change in the short-run but does in the long-run in a steady manner, Friedman concluded that, money supply and velocity of circulation could be treated as existing independently of one another. Considering this as the case, he concluded that, money national income (Y = T in the original quantity theory) could be traced almost exclusively to changes in the money supply.

This argument by the monetarists therefore suggests that in the long-run, growth in the nominal national income could only be achieved through adherence to a steady long-term growth in the money supply. To on this, since velocity of circulation is constant in the short-run, it implies that changes in money national income (Y) must be equal to money supply, if the price level is to remain constant. This implies that any increases in money supply beyond the increases in money national income will lead to increases in the general price level. Hence when the rate of growth in money supply is greater than that of gross domestic product in the long run, inflation is the ultimate result.

3. METHODOLOGY OF THE STUDY

This section address the issues that relate to the methodology of the study with emphasis being laid on the choice of the research design and data requirement and sources, the nature and types of data collected, the data processing and the parameters to be estimated. The section also specifies the model. Vital concepts and terms used were equally defined and described for the purpose of giving the reviewers and readers a deep insight into the phenomena under study.

The Data

Given the nature of the model, it is important that the data that will permit the estimation of the stochastic equations representing the growth of money supply in Nigeria has to be collected. These include the Gross Domestic Product, money supply (M1), budget deficit, and government expenditure. Time series data were used in the study and they are entirely secondary data. The data series covered the periods between 1985 and 2013. The data were obtained from the Central Bank of Nigeria

(CBN) bulletin. The secondary data used for this study shall be estimated by the ordinary least square multiple regression analytical method.

The Hypothesis

This study verifies the null hypothesis stated below:

Ho: There is no significant relationship between money supply and economic growth in Nigeria.

The Model

The model specification is concerned with the structural presentation of dependent and independent variables. In this study, we specify the functional relationship between money supply and economic growth as follows:

GDP=f(Ms).....(i)

Where:

GDP = Gross Domestic Product

Ms = Money Supply

To grasp the relevance of the objective proposed in this paper, we incorporate other variables that determined economic growth such as budget deficit, inflation and government expenditure and specify our model as

GDP = f(Ms, Bgd, Inf, Gexp....(ii))

Equation (ii) can be stated in a linear form as

 $GDP = \alpha_0 + \alpha_1 ms + \alpha_2 bgd + \alpha_3 inf + \alpha_4 gexp + \epsilon t \dots (iii)$

Where :

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\alpha_0 = intercept
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 α_1 = coefficient of money supply

 α_2 = coefficient of budget deficit

 α_3 = coefficient of Inflation rate

 α_4 - coefficient of Govt Expenditure

 ε_t = random error term

4.0 DATA PRESENTATION AND ANALYSIS

4.1 Introduction

In this chapter, the main objective of the research is to focus on the analysis and interpretation of the data to explain the relationship between money supply, gross domestic product and government expenditure in Nigeria. Data analysis is the process of preparing, refining and evaluating data in order to device a logical inference and applies them for policy formulation. More specifically, the analysis intend to determine the relationship between the dependent variable (money supply) and the explanatory variables (gross domestic product and budget deficit) respectively.

4.2 Data Analysis and Discussion.

The data obtained through secondary sources on the selected macroeconomic variables are presented below with the result of the regression analysis.

REGRESSION RESULTS AND DISCUSSION

Table 1

Dependent Va	riable: GDP			
Variable	Coefficiet	Std. Error	t-Statistic	Prob.
С	8.627970	3.405723	2.533374	0.2845
MS	0.734317	0.24381	3.011841	0.0034
BGD	0.842972	0.205906	4.093965	0.0367
INF	0.594460	0.042529	13.97775	0.0004
GEXP	0.448486	0.229408	1.954971	0.0713
R-squared	0.762348	Mean depen	Mean dependent var	
Adjusted squared	R-0.756329	S.D. depend	dent var	8.891901
S.E. regression	of0.630725	Akaike info criterion		7.541607
Sum squared 12.23224 resid		Schwarz cr	Schwarz criterion	
Log likelihood -32.70804		F-statistic	F-statistic	
Durbin-Watso	on 1.835697	Prob(F-stat	istic)	0.005098

stat

Source: Researcher's Computation (2014)

The Theoretical Significance of the Parameter Estimate

Table 1 reported the ordinary least square multiple regression results. According to the results, money supply, budget deficit, inflation rate and government expenditure all have positive coefficients and it is significant at level. The result showed that money supply is positively related to GDP and that a 1 percent increase in Money supply will lead to about 73% increase in the volume of the gross domestic product in the study period. Again, there is a direct relationship between gross domestic product, and budget deficit in Nigeria. It indicates that a unit increase in the Government Budget Deficit will bring about 84% increase in real output. This result is consistent with the a priori proposition. The government expenditure has a positive sign and it is significant at 1% level. This result suggests a direct relationship between government expenditure over the years has boosted GDP. It shows that 1% increase in

government expenditure leads 44% increase in GDP. Thus, other things being equal, the enhanced monetary policy of the government may have contributed positively to the growth in Nigeria.

The Statistical Significance of the Parameter Estimate

The statistical significance of the parameter estimate is verified by the adjusted R-Squared, the standard error test, the F-Statistics and the Durbin Watson statistics.

- 1. The value of the adjusted R-Squared R² for the model is given to be 0.756329. It implies that total money supply, BGD and government expenditure explained about 75% systemic variation in the GDP over the observed years in the Nigerian economy while the remaining 14% variation is explained by other determining variables not specified in the model. This shows a goodness of fit of the regression line.
- 2. The F-Statistics of 34. 40 is significant at 5% level and this implies that the explanatory variables are important determinants of economic growth in Nigeria in the period under study.
- 3. The value of the Durbin Watson is 1.8 for the model, this falls within the determinate region and implies that the model is free from autocorrelation problems.
- 4. For the model, when compared half of each coefficient with its standard error, it was found that the standard errors are less than half of the values of the coefficients of the variables. For instance the standard error of the money supply which is 0.24381 is less than half coefficient of the variable which is 0.3671585. Also, the standard error of budget deficit is 0.205906 is less than half coefficient of the variable which is 0.421486. As for the inflation rate, the standard error is 0.042529 and this is also significant when the standard error test was performed on the variable as it was greater than halve the coefficient of the variable. Hence the variable is statistically significant. In summary, since all the econometric test applied in this study show a statistically significant relationship between the dependent and independent variables from the model, we accept the alternative hypothesis which states that: There is a significant relationship between money supply and economic growth in Nigeria.

5. CONCLUSION, SUMMARY AND RECOMMENDATIONS.

This paper investigated if there is any relationship between money supply and economic growth in Nigeria between 1985 and 2013, using ordinary least square technique. The findings show a positive relationship between money supply and economic growth which is in conformity with our a priori expectation. The same relationship holds for the budget deficit and economic growth as well as inflation and economic growth. The central focus of this study is that money supply is an essential ingredient for output growth in the economy. It is therefore recommended that

government should formulate policy that is aimed at raising broad money supply and consequently increase economic growth in the country. The CBN should also look into the transmission mechanisms of money supply in order to determine its lag effects on economic growth.

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