The Implication of Effectiveness
of Demand for Money on Economic Growth

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Abstract: The demand for money plays a major role in macroeconomic analysis, especially in selecting appropriate policy. This brings in the demand for money function which expresses a mathematical relationship between the quantity of money demanded and its various determinants; interest rate, income, price level, credit availability, frequency of payments etc. Aggregate demand will be affected only in so far as consumption or investment is affected by the change in the interest rate. Against this background, the task in this paper is to empirically analyze and examine the implication of the effectiveness of demand for money on economic growth performance within the Nigerian context between the periods of 1970-2008 through the use of the application of Ordinary Least Square method, the multiple linear regression analysis on E-views 7.0. The paper therefore concludes that money demand has a major effect on the aggregate demand which accounts for the GDP of the economy. This implies that by ensuring efficiency in demand for money, aggregate demand would be achieved and adequately sustained growth that will ensure that inflation is at minimum will be achieved in the economy.

Keywords: Demand for money; monetary policy; interest rate; economic growth.

JEL Classification: F1; F16; F13

1   Introduction

The demand for money plays a major role in macroeconomic analysis, especially in selecting appropriate policy. It is a very crucial instrument in the conduct and determination of the effectiveness of monetary policy. The demand for money represents the desire of households and businesses to hold assets in a form that can be easily exchanged for goods and services. Spendability, or liquidity, is the key aspect of money that distinguishes it from other types of assets. For this reason, the demand for money is sometimes called the demand for liquidity or liquidity preference, and the demand for money theory deals with the desire to hold money rather than other forms of wealth (for example stocks and shares).

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Money is regarded as important because it is thought to influence the level of aggregate demand by affecting spending either directly through the availability of credit or indirectly through the induced changes in the rate of interest. If aggregate demand does vary directly with the supply of money, then central bank of Nigeria could seek to operate their stabilization policy by varying the supply of money. Economic agents may hold money either as an inventory to smooth differences between income and expenditure, or for its yield on asset in a portfolio. Either motive suggests a specification in which the demand for money depends on a scale variable such as real income or wealth and the rates of returns to money and to alternative assets.

In open economy macroeconomics, money is considered as a part of portfolio, which consists of domestic financial assets, and foreign assets. The return on the domestic money is the own rate of interest. The return on real assets is the expected rate of inflation. According to Friedman (1956), the purchasing power of money erodes quickly under high inflation, while the value of real assets is maintained, and as a result, economic agents may wish to switch into real assets when the inflationary expectations are strong.

There is, and has always been, considerable dis-agreement among economists over what determines the levels and rates of growth of output, prices and employment. The appropriate tool for macro-economic stabilization depends on the underlying theory in use. Keynesians would go for fiscal policy while monetarists would clamour for monetary policy. Monetary policy refers to the use of interest rates, money supply and credit availability to achieve macro-economic objectives. The use of monetary policy as a tool for macro-economic stabilization depends largely on the behaviour of the demand for money or real cash balances in the hands of economic agents. This brings in the demand for money function which expresses a mathematical relationship between the quantity of money demanded and its various determinants; interest rate, income, price level, credit availability, frequency of payments etc. The stability of these relationships (elasticities) is vital for determining the appropriateness and effectiveness of the tools or instruments of monetary policy.

An excess demand for money: If a single firm or household is short of money balances, it can sell some of its bonds and immediately replenish its shock of money. On the other hand, if the firm or household has excess stocks of money, it can invest these forthwith by buying bonds on the open market. If everyone tries to do this simultaneously, however, it will not be possible unless there are changes in the stock of money or bond. If the stock of money and bond are fixed in size, then general attempt to add or subtracts from bond holdings will only succeed in altering their price. Assume, for example, that the money supply is reduced so that all firms and households are short of money. They try to sell bonds and add to their

money buildings. This causes the price of bonds to fall. A fall in the price of bonds is the same thing as a rise in interest rate.

As the interest rate rises, people will try to economize on cash holdings; they will also tend to reduce speculative balances of cash, since bonds now seem like very good investments. Eventually, the rate will rise high enough so that people will no longer be trying to add to their cash balances by selling bonds. The demand for money will again equal the supply. There will no longer be an excess supply of bonds, so the interest rate stop rising. The net effect of the original excess demand for money will have been an increase in the rate of interest. Aggregate demand will be affected only in so far as consumption or investment is affected by the change in the interest rate.

Against this background, the task in this paper is to empirically examine within the Nigerian context the implication of the effectiveness of demand for money on economic performance between the periods of 1970-2008. In testing for the empirical analysis of the implication of efficiency of demand for money on economic performance, one hypothesis is drawn and the hypothesis to be tested given the above objectives is to test the implication of effectiveness of demand for money on economic growth performance. Thus,

$$H_O : bo \neq bi \text{ (Null hypothesis).}$$

$$H_I : bo = bi \text{ (Alternative hypothesis).}$$

If the null hypothesis (H_O) is accepted it means that effectiveness of money demand does not have a significant impact on the economic growth performance of Nigeria economy.

1. Literature Review

The conventional money demand equation has been one of the most widely studied relationships in macroeconomics. It generally features real money balances being affected by contemporaneous levels of real income as a proxy for transactions, and a nominal interest rate that describes the opportunity cost of holding money. The variables that enter the demand function for money, and the definition of the quantity of money appropriate for the demand function, has received substantial attention in economic literature.

First, there is the question of the constraint that is imposed on money balances, whether the appropriate constraint is a measure of wealth or income, or some combination of the two. The second issue in most literature has centred on the importance of interest rates and price changes as arguments (independent variables) in the demand function. The third issue is the question of the definition of money balances. Is a more stable demand function obtained if money is defined inclusive

or exclusive of time and/or savings deposits, and perhaps other assets that have value fixed in money terms? That is either M1 or M2.

A rich tradition exists on the estimation of money demand in the United States than in any other country. Going by economic literature, the differences in the specification of the variables in the money demand function have produced important differences in implications or results. Tobin (1956) and Baumol (1952) as cited in Odularu and Okunrinboye (2008), separately considered the transactionary demand for money as a problem in capital theory and each obtained a demand function for cash balances which depends on costs and yields. Both Baumol and Tobin deduced from their models that there are economies of scale in holding transaction balances. An income or wealth elasticity less than unity would confirm this implication.

However going by empirical literature, most economists seem to accept Friedman's empirical result in preference to those of Baumol (1952) and Tobin (1956) as cited in Odularu and Okunrinboye (2008), though there seems to be some debate over the specification of the variables in Friedman's money demand function. Specifically, Friedman's use of per capita permanent income combines wealth, interest rates, population, and lagged income into a single variable which combines and masquerades their separate effects.

Tobin (1958) as cited in Odularu and Okunrinboye (2008) accorded the rates of return on financial and non-financial assets an important role in his theory of asset choice. Friedman's essay on the quantity theory stresses a view of the quantity theory as a theory of the demand for money. He uses bond and equity yields as direct arguments in the demand function. But his empirical findings suggest the importance of per capita permanent income and exclude interest rates as direct arguments of the function or assign them a role of second order of importance. Bronfenbrenner and Mayer (1960) as cited in Odularu and Okunrinboye (2008), estimated the separate effects of wealth and interest rates along with income and lagged money balances. Their results show that interest rate, income, and lagged money balances are statistically significant by the usual tests, but the wealth variable is non-significant.

In terms of econometric work, Courchene and Shapiro (1964) as cited in Odularu and Okunrinboye (2008), identified certain dynamic problems with early literature on the demand for money; difficulties with autocorrelation arising from the presence of the lagged money stock which possessed a significant role. Thus, the distinction between the long-run and short-run demands for money surfaced. Chow (1966) as cited in Odularu and Okunrinboye (2008), argued that short-run money demand adjusted slowly toward long-run equilibrium; this stock-adjustment specification has weathered significant storms and remains the centre piece of many money demand studies. The stock-adjustment specification did not go

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unchallenged, however. Feige (1967) as cited in Odularu and Okunrinboye (2008), demonstrated that a model of the long-run demand for money produces equations similar to those emanating from the stock-adjustment model without requiring slow adjustment of money demand when the determinants of demand are permanent, rather than current, values. No distinction exists between long-run and short-run demands for money.

The long-run money demand depends on permanent (long-run) values of the determinants of money demand. To the extent that permanent variables can be modeled with distributed lags of measured values, the inclusion of measured, rather than permanent, variables into money demand mimics the stock-adjustment specification. Second, the stock-adjustment model implies unusual dynamic adjustment when the money stock is exogenous. The determinants of money demand must overshoot their long-run (permanent) values to clear the money market on a period-by-period basis (Walters, 1966) and (Starleaf, 1970) as cited in Odularu and Okunrinboye (2008).

This demand for money specification has received renewed attention in the 1990s with econometric advances in the area of cointegration. A large body of literature has emerged that investigates long-run properties of the conventional money demand equation for various countries. Evidence with regard to a long run money demand relationship in the United States, particularly with M1 during the postwar period, is mixed. Miller (1991), Hafer and Jansen (1991), Friedman and Kuttner (1992), Stock and Watson (1993), and Norrbin and Reffett (1995a) as cited in Dutkowsky and Atesoglu (2001) find little support for cointegration for the conventional static money demand equation with M1.

Several studies have been carried out on the demand for money in Nigeria though not all made explicit attempts at investigating the stability of the money demand function as regards financial innovation. Asogu and Mordi (1987) as cited in Busari (2005) examine the monetary sector in general to uncover some of the main determinants of the money demand function. Ikhide and Fajingbesi (1998) as cited in Busari (2005) also examine whether deregulation of interest rate in Nigeria under the Structural Adjustment Programme (SAP) of 1986 has had any significant impact on the demand for money in Nigeria. Studies like Essen et al. (1996) as cited in Busari (2005) have dwelt extensively on issues relating to money demand in a liberalizing but heavily indebted economy using Nigeria as case study. The study observed that indebtedness could signal to private economic agents, the direction of government fiscal and monetary policy which in turn influences the demand for money in the domestic economy. Audu (1988) as cited in Busari (2005) represents one of the first post-regulation era efforts to examine the stability of money demand function. Using selected West African countries, the study observed mixed results but was quick to observe a stable money demand relationship for Nigeria.

The study by Nwaobi (2002) as cited in Busari (2005) has also made efforts to examine the stability of the demand for money in Nigeria. Using a relatively simple model that specifies a vector valued autoregressive process (VAR), the money demand function was found to be stable and the author suggests that income is the appropriate scale variable in the estimation of money demand function in Nigeria. In another study, Anoruo (2002) as cited in Busari (2005) explores the stability of the M2 money demand function in Nigeria during the Structural Adjustment Program (SAP) period. In the study it was observed that the M2 money demand function in Nigeria is stable for the study period. Further it was argued that M2 is a viable monetary policy tool that could be used to stimulate economic activity in Nigeria.

2.1. Theoretical Framework

The demand for money is often broken into two distinct categories: the transactions demand and the speculative demand.

2.1.1 Transactions Demand for Money

The primary reason people hold money is because they expect to use it to buy something sometime soon. In other words, people expect to make transactions for goods or services. How much money a person holds onto should probably depend upon the value of the transactions that are anticipated. Thus, a person on vacation might demand more money than on a typical day. Wealthier people might also demand more money because their average daily expenditures are higher than the average person.

However, changes in GDP are very likely to affect transactions demand such that anytime GDP rises, there will be a demand for more money to make the transactions necessary to buy the extra GDP. If GDP falls, then people demand less money for transactions. The GDP here is nominal GDP. This means GDP measured in terms of the prices that currently prevail, (GDP at current prices where real GDP corresponds to a quantity of goods and services produced after eliminating any price level changes that have occurred since the price level base year. To convert nominal to real GDP, simply divide nominal GDP by the current price level, $P_\$$, thus

Real GDP = Nominal GDP / P

If we use the variable Y to represent real GDP, and rearrange the equation we can get,

Nominal GDP = P Y

By rewriting in this way we can now indicated that since the transactions demand for money rises with an increase in nominal GDP, it will also rise with either an increase in the general price level or an increase in real GDP.

Thus, if the amount of goods and services produced in the economy rises while the prices of all products remain the same, then total GDP will rise and people will demand more money to make the additional transactions. On the other hand, if the average prices of goods and services produced in the economy rises, then even if the economy produces no additional products, people will still demand more money to purchase the higher valued GDP, hence the demand for money to make transactions will rise.

2.1.2 Speculative Demand for Money

The second type of money demand arises by considering the opportunity cost of holding money. Recall, that holding money is just one of many ways to hold value or wealth. Alternative opportunities include holding wealth in the form of savings deposits, certificate of deposits, mutual funds, stock, or even real estate. For many of these alternative assets interest payments, or at least a positive rate of return, may be obtained. Most assets considered money, such as coin and currency and most checking account deposits do not pay any interest. If one does hold money in the form of a NOW account (a checking account with interest) the interest earned on that deposit will almost surely be less than on a savings deposit at the same institution.

Thus to hold money implies giving up the opportunity of holding other assets that pay interest such that the interest one gives up is the opportunity cost of holding money. Since holding money is costly, i.e., there is an opportunity cost, people's demand for money should be affected by changes in it's cost. Since the interest rate on each person's next best opportunity may differ across money holders, we can use the average interest rate. Such that high interest rate would undoubtedly lead individuals and businesses to reduce the amount of cash they held, preferring instead to shift it into the high interest yielding time deposits. The same relationship is quite likely to hold even for much smaller changes in interest rates. This implies that as interest rates rise (fall) the demand for money will fall (rise). The speculative demand for money, then, simply relates to component of the money demand related to interest rate effects.

Therefore, money demand will depend positively on the level of real GDP and the price level due to the demand for transactions. Money demand will depend negatively on average interest rates due to speculative concerns. We can depict these relationships simply using the following functional representation.

$$M^D = f\,(\,P^+,\,Y^+,\,i^-\,)$$

Here M^D is the aggregate, economy-wide money demand, P is the current price level, Y is real GDP, and 'i' is the average interest rate. The "+" symbols above the price level and GDP levels mean that there is a positive relationship between changes in that variable and changes in money demand. For example, an increase (decrease) in P would cause an increase (decrease) in M^D. A "-" symbol above the interest rate indicates that changes in 'i' in one direction will cause money demand to change in the opposite direction.

For historical reasons, the money demand function is often transformed into a real money demand function as follows. First, rewrite the function on the right-hand side to get,

$$M^D = P^+ L (Y^+, i^-)$$

In this version, the price level, P, is brought outside the function f and multiplied to a new function labeled L, called the liquidity function. Note that L is different from f since it contains only Y and i as variables. Since P is multiplied to L it will maintain the positive relationship to M^D and thus is perfectly consistent with the previous specification.

Finally, by moving the price level variable to the left-hand-side we can write out the general form of the real money demand function as,

$$\frac{M^D}{P} = L (Y^+, i^-)$$

This states that real money demand, M^D/P, is positively related to changes in real GDP (Y) and the average interest rate (i) according to the liquidity function. We can also say that the liquidity function represents the real demand for money in the economy. That is, the liquidity function is equivalent to real money demand. Therefore, since any real variable represents the purchasing power of the variable in terms of prices that prevailed in the base year of the price index. Thus, real money demand can be thought of as the purchasing power of money demanded in terms of base year prices.

An English economist John Maynard Keynes (1882-1946), distinguished three motives for holding money: the transaction motive (to meet day-to-day needs); the speculative motive (in anticipation of a fall in the price of assets); and the precautionary motive (to meet unexpected future outlays). The amount of money held is determined by the interest rate and the level of national income. Keynes formulated his theory of demand in his well known book, "The General Theory of Employment, Interest and Money" in 1936. According to him, the demand for money arises out of its liquidity; liquidity refers to the convertibility of an asset into cash. He then identified three motives for holding money.

2.2 Keynes's Motive for Holding Money

2.2.1 Transaction motive

This arises out of money's medium of exchange role and arises out of the need for bridging the gap between periodic receipts and payments. Keynes recognized both the income motive for households and business motives for firms. Given the society's basic institutional and technical customs and practices which govern income receipt and the flow of expenditures, the transactions demand depends on personal income and business turnover. It thus varies in direct proportion to changes in money income. Symbolically it is written as: $L_t = k_t (Y)$

Where

L_t : Transactions demand for money

K_t: The fraction of money income society desires to hold as transaction balances.

Y: money income

2.2.2 Precautionary motive

This arises out of unforeseen circumstances or expectations regarding the uncertain future by economic agents. Keynes posited that households sometimes keep money for unexpected contingencies such as medical emergencies or events while firms held balances above transactionary balances based on expectations about the economy e.g. a boom or depression. Keynes held that the level of precautionary balances varied with income and not interest rate changes.

Symbolically: $Lp = kp (Y)$

Where;

L_p : Precautionary demand for money

K_p : The fraction of money income society desires to hold as precautionary balances.

Keynes usually lumped both motives together as they were both affected by the same institutional factors which he assumed given and fairly stable in the short run adding to the fact that they were both interest inelastic.

Mathematically: $L_1 = L_t + L_p = k t(Y) + k_p (Y) = k(Y)$

Where;

L_1 : Demand for active balances

2.2.3 Speculative motive

This falls under the idle balances held by economic agents according to Keynes. He posited that people hold or hoard money above their active balances for the

purpose of being able to earn some form of gains by speculating on bond prices. Since individuals knew that an inverse relationship exists between bond prices and interest rate, they held money for the opportunity to partake in such speculative activities so as to earn some form of interest. According to Keynes, there thus existed an inverse relationship between speculative demand for money and interest rates. Functionally, this is expressed as: $L_2 = f(i)$

Where;

L_2 : Speculative demand for money i : interest rate

Keynes concluded by positing that the total demand for money consists of demand for active balances (L_1) and that of idle balances (L_2). Thus, $L = L_1 + L_2$

$$L = k(Y) + f(i)$$

However, Keynes demand for money theory has been criticized for unnecessarily bifurcating aggregate demand for money into transactions and speculative demand. The transactions demand for money depended on income level (but Keynes had assumed a constant relation between money holdings and income). His speculative demand was based on portfolio approach which considered the yields of assets viz-a-viz their competition with money held in individuals' portfolio. Again, he further limited his analysis to two assets; money and bonds. The combination of demand motives with two different approaches is inconsistent (Paul, 2004).

3. Methodology

In order to examine the impact of injection and withdrawal of money stock on the growth of Nigeria's economy, there is need to specify an evaluating criterion. The ordinary least square method of simple regression models will be used to analyze the implication of the effectiveness of demand for money on economic growth performance. In line with this assertion the Ordinary Least Square (OLS) method of estimation is used. In order to carry out an effective statistical analysis of the regression results, the following statistical tools were adopted; coefficient of determination (r^2), adjusted coefficient of determination (r^2), student t – test, analysis of variance (f-test).

3.1 Sources of Data & Explanation

The data used for this study was collected mainly from the secondary source. This information is collected to assist in order to be able to draw conclusions on the study. The data collected is mainly from the Central Bank of Nigeria Golden Jubilee Statistical Bulletin which is the annual statistical publication of the Central Bank of Nigeria in 2008. The dependent variable used is GDP which represents economic growth. It is obtained from the statistical bulletin and it is divided by the consumer price index to obtain the real GDP. The independent variables in the

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models are M^D which represents the demand for money in the economy. The money demand use in this paper is nominal M2 which money supply or stock in an economy. This is because when the economy is at equilibrium, M2 equals M^D which is divided by consumer price index (CPI) to obtain the real money demand in the economy and a positive relationship is expected between the dependent variable and the independent variable. And 'i' which represents the interest rate in the economy. Since interest rate has a negative influence on money demand m^d and a positive relationship is expected between m^d and RGDP, therefore a negative relationship is expected between interest rate and RGDP.

3.2 Model Specification

The model specified below will be use to achieve the objectives of the study and to test the hypothesis of the study. As indicated above that the transactions demand for money rises with an increase in nominal GDP, it will also rise with either an increase in the general price level or an increase in real GDP. Therefore, real money demand can also influence the real GDP of the economy. Thus:

Model 1;

$$RGDP_t = f(m^d_t) \tag{1}$$

Where; RGDP= Real Gross Domestic Product

m^d = Real Demand for Money

Since money demand depend positively on the level of real GDP and the price level due to the demand for transactions. Money demand also depends negatively on average interest rates due to speculative concerns. On this note, interest rate will also influence the impact of Money Demand on GDP. So therefore, equation (1) can be rewritten as;

$$RGDP_t = f(m^d_t \, i_t) \tag{2}$$

Where; i = Interest Rate

In order to express the model to be estimated in linear form and also interpret the outcomes or the parameters in terms of elasticity, equation (2) is log transformed, and it is written as follows:

$$LnRGDP_t = \alpha_t + \beta_1 \ln m^d_t + \beta_2 \ln i_t + \varepsilon_t. \tag{3}$$

A priori expectation

$\beta_1 > 0, \; \beta_2 > 0$

Where, μ = standard error term

Equation (3) is used to capture the objective of the paper using the OLS regression method and one hypothesis is drawn to analyse this objective.

3.3. Tables

Table 1. Showing Regression Result

Dependent Variable: LOG(RGDP)

Method: Least Squares

Sample: 1981 2008

Included observations: 28

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(m^d)	0.775034	0.105563	7.341896	0.0000
LOG(I)	0.456974	0.139941	3.265479	0.0032
C	2.195417	1.140444	1.925054	0.0657
R-squared	0.699842	Mean dependent var		10.87316
Adjusted R-squared	0.675829	S.D. dependent var		0.419267
S.E. of regression	0.238714	F-statistic		29.14467
Sum squared resid	1.424612	Prob(F-statistic)		0.000000
Log likelihood	1.965987			
Durbin-Watson stat	0.583630			

3.4. Interpretation of Result

Recall that equation (3) captured the objective of this paper. Thus, based on the result in the table above, equation (3) can be written as

$$\ln RGDP_t = 2.195417 + 0.775034 \ln m^d_t - 0.456974 \ln i_t$$

Also;

$$\text{S.E.} = [1.140444] \qquad [0.105563] \qquad [0.139941]$$
$$t_{stat} = [1.925054] \qquad [7.341896] \qquad [3.265479]$$

The figures in the above parentheses are standard error and t-statistics respectively.

$R^2 = 0.699842$

Adjusted $R^2 = 0.675829$

Durbin Watson = 0.583630

F-statistics = 29.14467

The objective of the model specification presented above is simply to ascertain how efficiency of demand for money has impacted on economic growth performance of the economy. The regression result summarized above has proved that the a priori economic expectation has been fully satisfied since it tallies with the a priori expectation which expects a positive relationship between RGDP and m^d also a negative relationship between RGDP and i. From table1 above, the result shows that a positive relationship exists between m^d and RGDP which is significant at $t^* = 7.3$ and $P > 0.05$, also, $F^* = 29.1$ and $P > 0.05$ level of significance. The value of the parameter β_1 which is 0.775034 shows that a 1 % unit change in real demand for money would induce 78 % unit change in the total RGDP at 5% and 1% level of significance. This signifies a positive relationship between the two variables has explained above. Also, the negative value of the parameter β_2 which is –0.456974, shows that a 1 % unit change in interest rate would induce –45 % unit change in the total RGDP at 5% and 1% level of significance which signifies a negative relationship.

From the table above, the value of the adjusted coefficient of determination (adjusted R^2) is 0.675829. This means that at least 68% of what happens to the dependent variable is accounted for by the independent variable when the degree of freedom is taken into consideration. Also, the comparism between the tabulated t-value of 1.708 and the computed β_1 and β_2 t-statistic value of 7.34 and 3.27 respectively, shows that the independent variable is significant at 5% and 1% level of significance. And, from the F-table the value of $F_{0.05} = 4.24$ and from the regression table the value of $F^* = 29.14467$ i.e. $F^* > F_{0.05}$. Therefore, we reject the null hypothesis and do not reject the alternative which states otherwise.

4. Conclusion and Recommendation

This paper has examined the implication of efficiency of demand for money on economic growth performance, using Nigeria as a case study. One hypothesis was postulated and analysis was carried out in line with the hypothesis using multiple regression analysis. It was used to specify the relationship that exists between real demand for money, interest rate and real GDP.

From the analysis above, the paper observed that money demand has a major effect on the aggregate demand which accounts for the GDP of the economy. This implies that by ensuring efficiency in demand for money will stimulate aggregate demand which will positively influence the real GDP. Efficiency in demand for money occur at equilibrium where money demand equal money supply, which implies that aggregate demand and aggregate output are also at equilibrium such

that what is demanded is produced. Invariably this implies that equilibrium efficiency of money demand will be achieved and adequate and sustained growth that will ensure that inflation is at minimum will be achieved in the economy.

Therefore, the Central Bank of Nigeria should put in place monetary policy that would ensure that the volume of money in circulation does not exceed the demand for money. This will bring about efficiency in the demand for and supply of money and which will result into equilibrium in aggregate demand and aggregate output with the multiplier effect of sustainable economy growth on the economy as a whole.

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