
Monetary Policy and Economic Development in Nigeria (2006-2015)

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ABSTRACT

This study investigated the effect of the various monetary policies used by Nigeria government on the growth of Nigeria economy for the past ten years (2006-2015). The economy is a large component with a lot of diverse and sometimes complex part. This study will only focus on major growth compound such as the growth is domestic product, price level, exchange rate and balance of payment equilibrium. This study makes use of economic approach in estimating the relationship between selected monetary policy and major growth component gotten from the CBN statistical bulletin 2015. The Primary source of data use with a structured questionnaire was also administered to the staff of the central bank of Nigeria. The ordinary least square (OLS) technique was employed in obtaining the numerical estimate of the coefficient in different equation. The paper concludes among other that Monetary policy is critical for economic development, when monetary policy is appropriate it helps, but when it is out of time it hurts the economy. The paper recommends that the central bank is to direct the banks and other financial institution to carry out certain duties in respect of the approved monetary policy.

Keywords: Monetary Policy, Economic Growth, Balance of Payment Equilibrium, Domestic Product.

INTRODUCTION

The demand for money has been an integral part of economic from the origin of the subject. However very little attention was paid to it before the 1920s. This apparent lack of attention

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appears to have specifically changed since the great depression of early 1930s and the publication by John Maynard Keynes, in 1936 of the general theory. These events have attracted special attention in monetary theory and consequently an equally special attention has been focused on the demand for money.

Today, over sixty years after these events interest on the cost on the depression and failure of government and the monetary authorities to prevent it continue.

Irin Fisher (1932) applied the quantity theory of money. He argued that changes in the supply of money cause the price level to change and thus, affect the level of economic activity in short period. He further argued that the monetary authorities should have prevented deflation by increasing the supply of money. The objective of this study is to (i) examine the impact of monetary policy instrument adopted in Nigeria and its effect on economic growth of Nigeria. (ii) To examine the impact of monetary instrument and the general price level in Nigeria. (iii) To examine the impact of monetary policy instrument adopted by Nigeria government and balance of payment equilibrium of Nigeria. In modern economics the central bank is the authority with the mandate of manipulating monetary policy through monetary instrument achieving desired micro economic objectives.

The mandate of central bank of Nigeria and the specific objective pursued in meeting this mandate desired essentially from the CBN Act of 1958, as amended in successive review and consolidated in Act 24 and 25 of 1991, specifically the Bank's primary objectives is contained in the Act have remained largely unchanged. Embedded in these broad objectives is the mandate to conduct monetary and financial policy with view to promoting economic growth and development in Nigeria, with evaluation of Nigeria economy and along with instrument of monetary policy.

According to Caurley and Shaw (1956) the financial system plays a catalytic role in the process of economic growth and development. They believe that as the economy grows the

financial system becomes increasingly deep and broad and its structure also becomes increasingly sophisticated.

These objectives requested for the following questions:

- (i) To what extents does monetary policy instrument adopted in Nigeria has effect in economic growth?
- (ii) To what extent does the monetary policy adopted in Nigeria has effect in general price level?
- (iii) To what extent does monetary policy has effect in balance of payment equilibrium in Nigeria?

The following hypotheses are to be tested:

- H_{o1}:** There is no significant relationship between monetary policy instrument and economic growth of Nigeria.
- H_{o2}:** There is no significant relationship between monetary policy instrument and general price level in Nigeria.
- H_{o3}:** There is no significant relationship between monetary policy instrument and balance of payment equilibrium

LITERATURE REVIEW

Theoretical Foundation of Monetary Policy

Monetary policy is the alternate approach or tool for macroeconomic management.

The definition of monetary policy may be borrowed from the perspective of Ezohgoh (1987), he wrote, monetary policy has to do with the financial market and constitutes measures taken by the government monetary authorities to control money supplies in a way that certain macroeconomic objective may be attained. It involved also the control of the price and availability of credit.

Monetary policy can be used as a tool for the attainment of higher levels of output and employment.

The following are some of the objective of monetary policy:

- Attainment of full employment
- Maintenance of price level stability
- Ensuring balance of payment equilibrium
- Economic growth and development

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Corroborating this definition, Ilemabayo (2002) put it succinctly, monetary policy is concerned with the control of the availability of credit relative and to demand volume of money supply, cost of borrowing and general liquidity of the economy for the purpose of achieving certain broad economic objectives.

From the above mentioned economist definition, we can define monetary policy all objective undertaken by the monetary authority to influence the volume of monetary supply and cost of credit.

THE OBJECTIVES OF MONETARY POLICY

Broadly speaking the objectives of monetary policy is to influence the performance of the economy as reflected in factors such as inflation, economic output, and employment. It works by affecting demand across the economy in terms of people and firms willingness to spend on goods and services (Federal Reserve Bank of San Francisco 2004).

In such context, the main goal of monetary policy is to maintain stabilization in the broadest sense. Wallich (1982) explained that by helping to promote price stability and to avoid recession monetary policy contributes to a frame work within the market can operate with greater confidence.

According to Mishin (1997) six basic goals are continually mentioned by central bank when they discuss the objectives of the monetary policy.

- High employment level
- Economic growth
- Price stability
- Interest rate stability
- Stability of financial market
- Stability in foreign exchange rate market

In general a high employment level has to strong link with a sustainable output and thus relationship make the employment an important objective indeed. It can be considered that when

unemployment is high, resources and workers are not sufficiently used in the economy and these result in a low output.

The goal of economic growth I related to the one of the employment indeed, the economy is characterized by business cycles in which output and employment are above or below their long-term levels. The role of monetary policy consists of affecting the output and the employment in the short term. For example, when demand weakens and there is a recession, the central bank can stimulate the economy temporarily and help push it back towards term level of output by lowering interest rate.

The goal of price stability is also most desirable. These can just illustrate by the fact that persistent attempt to expand the economic beyond its long term growth path will result in capacity constraint and will lead to higher inflation without lowering unemployment or increasing the output in the long-term (Federal Reserve Bank of San Francisco 2004). Dornbush, Fisher and Startz (2004) show in the same way how the cost higher inflation are easy to see in the counties where price increases all the time, money no longer a useful, medium of exchange and sometime output drops dramatically.

Finally, the stability in foreign exchange market has become a major consideration of the central bank given the increase in international trade and the increase in the international integration. Not all of these goals can be pursued by a given central bank, each one as to choose which they considered most importantly and vital to their economy realities. However, when central bank have to decide about when specific objective to adopt some conflict among create veritable difficulties.

Mishin (1997) explains that although many of the goals mentioned are consistent with each other, these are not always the case. The goal of price stability often conflict with the goals of interest rate stability and high employment in the short term.

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When these bank objectives are decided upon, the next question becomes what instruments or tools does not central bank to put into operation and how useful are these tools.

THE INSTRUMENT OF MONETARY POLICY

After selecting monetary objectives, central bank make use of various monetary policy instrument at their disposal. Fundamentally these instruments allow the central bank to stimulate or slow down the economy by influencing the quantity of money and credit provide to their customer through loan. Two types of monetary instruments are generally classified namely indirect and direct policy.

According to Gidlow (1998), the indirect policies are considered to be action taken by the central bank where by it achieves its monetary policy aims by encouraging market participants to take particular actions in terms of their lending and borrowing behavior. These actions may be the result of price and interest rate incentives or disincentives brought about in the financial market.

THE DIRECT POLICY INSTRUMENT

The direct policy instruments on the other hand refers to the measures taken by the central bank that seek to attain the aim of monetary policy by means of certain rules prescribing the behavior pattern of banks and possibly other financial institution.

The indirect instrument is also considered as market-oriented where as the direct instrument is a non-oriented. Meyer (1980) agreed that the monetary policy instruments are generally classified as either general or selective control.

General controls have their primary effect on either the net monetary base on the size of the money multiplier. These include open market operations, changes in reserved requirement and changes in the discount rate.

Selective controls on the other hand have their primary influence on the allocation of credit among alternative uses. The example of selective securities and controls include margin (or down payment) requirement for loans to acquired securities and interest rate ceilings on rate paid by banks on saving account or charged by banks on loans. Gildlow (1998) provided as an example of direct policy instruments, the case of instrument set to banks lender which the latter are requested not to exceed a certain amount of lending to domestic private sector borrowers as specified period, and the instructions that banks must not quote interest rates above or below a certain maximum or minimum level on their various credit and deposit facilities made available to customers.

Alexander et al (1995:14) also provided an interesting explanation about direct and indirect policy instruments. They showed that the term direct refers to the one correspondence between the instrument (such as credit ceiling) and the policy objective (such as a specific amount of domestic credit outstanding). Direct instruments operate by setting or limiting either prices (interest rates) or quantities (amount credit outstanding) through regulations, adjusting the underlying demand for, and supply of bank reserves.

Based on these descriptions, it can be noted that both types of policy instruments play on important role in economic activities. However, direct and indirect instruments do not have the same effectiveness in improving market efficiency in the same economic environment. As been specified previously, the most common direct instruments are interest rate controls, credit ceiling and direct lending.

Alexander et al (1995:15) argued that direct instrument are perceived to be reliable, at least initially in controlling credit aggregates or both the distribution and the cost of credit. These consist of the fact that the credit ceilings are base on the amount extended by particular institutions and therefore they tend to ossify the distribution of credit and limit competition, including

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the entries of new banks. All those advantages lead to the conclusion that direct instrument often lose their effectiveness because economic agents find means to circumvent them. There are three main types of indirect instrument mentioned below:

- Open market operation (OMO)
- Reserve requirement
- Central bank lending facilities

The open market operation are often seen as the most important monetary policy tools because they are the primary determinants of changes in interest rate and the monetary base and are the main source of fluctuation in the money market. (Mishkin 1997).

The way these instruments influence the economy can be seen from purchase or sales of financial instruments by the central bank. Open market purchases expand the monetary base, thereby raising the money supply and lowering the short term interest rates. Controversially open market sales reduce the reserves of the banking system, reducing the ability of banks to lend and invest, and limiting the amount of funds available for the economy to use (Federal Reserve System monetary policy 1997).

Open market operation is also based upon the dynamic defensive or decreases the volume of reserves in order to ease tight credit. Defensive operations on the other hand are those taken to offset the effects of their factors influencing reserves and the monetary base. Another interesting indirect monetary policy tool concerns the changes in the reserve requirement. This consists of obliging banks to hold a specified part of their portfolio in reserve at the central bank (Alexander et al 1995). This instrument affects the money supply by causing the money multiplier to change.

Lastly, however it is also worth noting that by using indirect instruments, the central bank can determine the supply of reserve money in the long term only under a fully flexible exchange rate regime. Even under a pegged or managed exchange rate regime,

however central bank transactions affect reserved money at least in the short term. This transaction affect banks liquidity position, which result in adjustment to inter-bank money market, and bank loan and deposit interest rate to re-equilibrate the demand for, and money supply of reserve balance (Alexander et al 1995).

MONETARY POLICY

Having identified the instruments available for active monetary policy implementation, it is important to understand the current conduct of monetary policy. The latter needs to be operated within a well-defined independent central bank, this means simply to provide the authorities of central bank with power to determine qualities and interest rates on its own transactions without interference from government institution (Lybeck, 1998 quoted in werrel 2000) simply, Blinder (1998) states that central bank independence means two things.

Firstly, that the central bank has the freedom to decide how to pursue its goals, and secondly, that its decision are very difficult for other branches of government to reserve. This implies that an independent central bank needs to be free of the political pressures that influence other government institutions.

This is particularly important when a central bank needs to target inflation, exchange rates or the monetary base for examples, on this basis an important point to analyses could be the way central bank process before following a given strategy.

Chosen a Target without doing Something

As is already known, in conducting monetary policy central bank has the responsibility to achieve certain goals or final objectives. The latter would be the inflation rate, the GDP and others. Mishkin (1997) opines that strategy can be explained as follows: after deciding on its goals, the central bank choose a set of variables to aim for called intermediate targets such as monetary aggregates, interest rates etc, which have a direct effect of the goals. The central bank policy tools do not directly affect these intermediate targets. A long side this, the central bank chooses

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another sets of variables to aim for called operating targets or instruments among other reserve aggregate which are more responsive to its policy tools (Mishkin 1997:478) in more general terms, Mishkin argued that the main reason for trying to achieve its goals by using intermediates and operating target is simply to allow the central bank to judge whether its policies are on the right part and to make mid course corrections , rather than waiting to see the final outcome of its policies.

The process started from central bank policy tools and directly affect the operating targets , which is in their turn affect the intermediates targets, and finally the letter affect the goals. As been specified above, this comprise monetary aggregates and interest rate. In practice three criteria are suggested for choosing one targets between them.

The three criteria can be summarized briefly as follows:

- **Measurability:** Quick and accurate measurement of an intermediate target variable is necessary because the intermediate will be useful only if it signals when policy is off the track more rapidly than the goal.
- **Controllability:** The good intermediate targets are the one of which the central bank must be able to exercise an effective control.
- **Predictable Effect on Goals:** The goals must have a close link with intermediate target choose (Mishkin 1997:482).

The criteria remain valid about the choosing the operating targets. A preferable table impact on most desirable intermediate target.

MONETARY POLICY RULES

Taylor (1998) opines that the monetary policy rules is defined as a description expressed algebraically, numerically and graphically of how the instrument of policy such as the monetary

Base or federal fund rate, change in response to economic variables. Taken in general sense, a rule can be defined as

nothing more than systematic decision making process that uses information in a consistence and predictable way **(Taylor 1998)**. The concept of monetary policy by the central bank (Poole1999) Severson (1998) defines monetary policy as rule simply as a prescribed guide for monetary conduct.

In policy conducted by rule, policy makers announces in advance how the policy will respond in various situations, and commit themselves to following through Taylor (1998) notes that one monetary policy rule can be said to be better than another monetary policy rule can be said to be better than another monetary policy rule if it results in better economic performance according to the same criteria such as inflation or the variability of inflation and output.

Various economic rules such as the Exchange Rate Rule, GDP Targeting Rule, Inflation Targeting Rule and Taylor Rule will be discussed in terms of their abilities to guide Central Bankers.

Exchange Rates Rule

Exchange rate considerations play a strong role in influencing monetary policy in a country. The rate of exchange means the price of one currency in comparison with another currency. Mishkin (1997) argued that if a central bank does not want to see its currency in value, it may pursue a more contractionary monetary policy and reduce the money supply to raise the domestic interest rate, thereby strengthening the currency, domestic industries may suffer increased foreign competition and may pressure the Central Bank to pursue a higher rate monetary growth in order to lower the exchange rate (Mishkin 1997:573).

The two most noted exchange rates regimes are fixed and floating exchange rates tend to be extended from pegs to target zones, to float with heavy, light or no intervention. Initially, in a fixed exchange rate system, the exchange rates are determined by the Government and Central Bank rather than the free market, and are maintained through foreign exchange market intervention (Dorn Bush, Fisher and Startz 2001). On the other

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hand, the same author explains that the floating exchange system is a system in which exchange rate are allowed to fluctuate with the forces of supply and demand. The terms flexible and floating rate are used interchangeable.

In the conduct of monetary policy based on exchange rate target a major trading partners country needs to be selected and then a range of value of the domestic currency so that the country need to be set. The major partner retained should be characterized by a stable economy with low inflation the approach consist of maintain the exchange at a target range, this situation makes money endogenous because the central bank need to provide the foreign exchange or domestic currency demanded within the set target.(Musing Uzi and Opondo 1999)

Money Supply Rule

Some economist, called monetarist believe that fluctuations in the money supply are responsible for most large fluctuations in the economy. They argue that slow and steady growth in the money would yield stable output as well as stable rises in employment and prices. (Mishkin 2000)

This view has been expressed in many works in terms of the quantity theory following Fishers equation of exchange.

From Fisher Equation:

$$MV = PY$$

Where M is the Money supply

V is the velocity

P is the price level

Y is the real output level

The term on the right level (PY) is therefore nominal income or nominal output. Dynamizing the Fisher equation into growth rates;

$$\left(\frac{Dm}{dt}\right) m + \left(\frac{dv}{dt}\right)/v = (Dy+DT)/y.$$

The equation of exchange holds by definition. The quantity is reached by only adding certain assumption about what is the cause and what is the effect.

From the above equation thus, assumption are imposed;

- Nominal money M is assumed to be exogenous and considered under the full control of the Central Bank.
- Velocity is assumed constant.
- The aggregate nominal demand component is assumed to cause changes in nominal income (causality runs from MV to PY)
- Output Y is fixed at the full employment level.

If velocity is assumed to be constant $gv=0$, and causality is held as in the third assumption, then movements in nominal output (PY) are driven by movements in the supply of money (M). If real output is assumed to be constant at the full employment level and $gy=gp$, meaning that money growth feeds entirely into price inflation. As real variables (velocity and output) are unchanged by an increase in the money supply, the quantity theory thus claims that money is neutral (at least in the long run).

Nominal GDB and the Target Rule

The lost of reliability of monetary supply as a policy rule, led economists to think that nominal GDP targeting might be a good fundamental guide for policy. The idea argued that central bank should target nominal GDP using one the several policy rules. Such a rule would adjust a short-term interest rate in response to deviation in nominal GDP from target (Clark 1994).

One of the most important reasons why the monetary aggregates rule is less reliable is nothing more than the fact that its relationship with prices and output has deteriorated, apparently in response to financial deregulation and innovation (Judd and Trehan 1992 as quoted in Judd and Motley 1993).

The way the nominal GDP targeting rule woks can be explained as follows;

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Under this rule, the central bank announces a planned path for nominal GDP. If nominal GDP rises above the target, the central bank reduces money growth to limit aggregate demand, if it falls below the target, the central bank rises money to stimulate aggregate demand (Mankiw 200:397). Mathematically, Judd and Motley {1993} explained a simple way to calculate the channel of influence from nominal GDP growth to inflation. The following is the details of the explanation;

1? $p = x - y$ where P , X and Y represents the annualized growth rate of the implicit GDP deflation, nominal GDP, and real GDP respectively. The formula states that inflation is equal to the difference between growth in nominal and real GDP. In the long-term, real GDP can be the capital, labour and productivity and thus is largely independent of nominal GDP growth. The result of this is that, any given growth of nominal GDP can be translated into a corresponding inflation rate in a simple way. The example mentioned is that trend real GDP is commonly estimated at around 2% so that a 5% growth rate of nominal GDP would fix a long-term around 3%.

2? $x = m + V$. putting these definitions together yield.

3? $p = m + V - Y$

As long as trend velocity growth is stable, any given long-term inflation rate in a straight forward manner when the velocity of M2 was stable, the relationship between M2 and inflation was particularly simple, since historically the trend growth rate of M2 velocity was zero. For example a 5% growth rate of M2 would produce a 5% nominal GDP growth rate and a 3% rate of inflation in the long run.

Inflation Targeting Rule

Inflation targeting has been adopted as the framework for monetary policy in a number of countries over the past decade. In the general sense, under the inflation target rule, the central bank would determine a target for the inflation rate {usually a low one} and then adjust the money supply when the actual inflation deviates from the target {Mankiw 2000}

Several sources of literature in the area of monetary policy show the most important interest of any central bank is the desire for price stability. One of the main reasons for that is a key principle for monetary policy is that price stability is a means to an end: it promotes sustainable economic growth {Mishkin and Posen 1997}. In all of this, Mishkin and Posen argued that a goal of price stability requires that monetary policy be oriented beyond the horizon of its immediate impact on inflation and the economy.

Mathematically speaking, Svensson {1997} defines inflation targeting as an equation where target variables are involved. More specifically, in inflation targeting the target variable is inflation in the loss function.

The equation can be expressed as follows;

$$L_t = \frac{1}{2} [\pi_t^2 + eY_t^2]$$

Where L_t represents inflation in period t , π_t is the inflation targeting, Y_t is the output gap and e is the relative weight on output-gap stabilization.

When $e = 0$ this means that only the inflation can enter the equation, the loss function is called strict inflation targeting where as the case when $e > 0$ and the output gap enters the loss function is called flexible inflation targeting. In most studies that have contracted on explaining the implementation of inflation targeting it has been known that to set the inflation target too low is risky because there is possibility of driving the economy into deflation with price levels falling unrealistically.

More generally, evidence from different countries has shown that inflation targeting can be used as a successful approach for gradual disinflation. Consequently, the central bank of many countries now practice inflation targeting, but allow them a little discretion.

The Taylor Rule

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The Taylor rule is also known as a simple interest rates rule. That is, simple speaking it is the current practice where central bankers could formulate policy in terms of interest rates. This rule was originally proposed by the economist John Taylor following to the need of American central bank to set the interest rates to achieve stable price while avoiding large fluctuation in output and employment {Mankiw 2000}

Considering the monetary transmission mechanism as the process through which monetary policy decisions are transmitted into changes in real GDP and inflation Taylor {1995} argued that most of the central banks today are taking actions in the monetary market to guide the short term interest rate in a particular way in other words, rather than changing the money supply by a given amount and then letting the short-term interest rate take a course implied by money demand, the central banks adjust the supply of high-powered money in order to give certain desired movement to the fund rate.

Taylor proposed a simple interest rule in which the funds rate reacts to two variables, the deviation of inflation and the percentage deviation for real GDP from potential GDP. The Taylor rule states that the central bank's policy interest rate should be increased more than one with increases in the inflation rate. The Taylor principle ensures that an increase in the inflation rate produces a policy reaction that increases the real rate of interest. The rise in the real interest reduces private spending, slows the economy down and brings inflation back to the central banks inflation target.

Over several years there has been an emerging consensus among economist authors that the Taylor rule appears to be a good description of the interest rate policies of many central banks. Thus Taylor rule is the most popular approach to the empirical analysis of reaction function {Sanchez-Fung 2000}

In the light of the different policy rules mentioned above, it is worth noting that studies on monetary policy rules shows that it's

possible to use every simple rule to achieve better economic performance. However, generally speaking, the question of determining the best rule needs first of all a better understanding of the transmission mechanisms of monetary policy through the economic system.

MATERIAL AND METHODS

The data for this study are obtained mainly from primary source. Particularly from central bank of Nigeria {CBN} publication. This study makes used of economic approach in extending the relationship between selected monetary policy and major growth component.

The ordinary least square {OLS} techniques shall be employed in obtaining the numerical estimates of the coefficient in different equations. The OLS method is chosen because of its possesses some optical properties, its computational procedures is fairly simple and it is also essentials component of most other estimation techniques the method would be applied with the use of statistical package for social science (SPSS20)

Thus, this study works was designed in such a way as to enable the reader realize and appreciate the effect of a monetary policy measures in a deregulated economy with a particular reference to Nigeria economy

Data means the collection of the raw fact that has to be process to give information; various methods are used in collecting these raw facts, for the purpose of this research. The method used for this research work is questionnaire, personal interview, and CBN Bulleting. This includes textbook, journals, newspapers, financial publications and fact obtained from personal interview with people involve and also from central banks publication for the purpose of the research work, the researcher adopted primary source of data.

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DATA PRESENTATION AND ANALYSIS

The sample size of this research work is 50 copies of the design questionnaire were administered on respondent of CBN community of these 38 were successful returned. This implies a response rate of 38%, which we consider representative of the intended sample of the balance 12 were returned with errors and could not be used.

From the table above, if we are able to judge from the law of large number to be adopted in this exercise, it can be concluded that the sample size evenly represented for arriving at a better conclusion in the study.

The result of the above analysis can be represented in pie-chart show below;

273.6	Total number collected back
86.4	Total number not returned

Angle corresponding to the total = 360

Total number issued = 50

Total number collected back = $\frac{38}{50} \times \frac{360}{1} = 273.6$

Total number not returned = $\frac{12}{50} \times \frac{360}{1} = 86.4$

Inference: That about 76% of the expected 100% sample size respondent and returned their questionnaire proves that the generalization expected to be achieved from the sample size determination will not be seriously distributed.

Distribution of Respondents by Sex

The table below shows the distribution of respondents by sex. Although there is no formulated hypothesis in the study that is related to sex, it is a crucial variable that should not be regulated to the background in the analysis.

CHOSING AND USING A	FREQUENCY	PERCENTAGE
MALES	22	57.89
FEMALES	16	42.1
TOTAL	38	100

57.89% of the respondent are males while the balance of the 42.1% are females, the result in the table show that sex is not all important determinant of holding money in monetary policy. Both can and do hold money in Nigeria, although more males are involved than females.

Distribution by Respondent by Age

The distribution of the respondent by age is represented in table 4.3, the table indicates that the entire respondents are adults none is below the age of 25. The respondent seem skewed in favour of maturity and this, it may be argued is capable of introducing biases into the respect on the contrary, it may well be argued that because the issue is involved in the study is money. Maturity is needed to understand and provide the necessary practical experiences on the instrument being traded in the money and capital market

	FREQUENCY	PERCENTAGE
Under 25	0	0.0
26-35	15	39.4
36-45	11	28.9
46-55	7	18.4
56 and above	5	13.2
Total	38	100

Distribution of Respondent by Basic of Salary

The average incomes of our respondent that those surveyed are living above poverty living by Nigeria standard. This is a plus for the study; the chosen sample is made up of those members of the society that are capable of making effective financial decisions. It seems plausible to conclude that monetary policy varies with income levels, other variable may also be critical.

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Salary	Frequency	Percentage
5000-10000	10	26.32
10000-20000	14	36.84
20000-30000	10	26.32
40000 and above	4	10.6
Total	38	100

Qualification of Respondent

The table below shows that most of the respondents are literate with at least good qualification in their various fields. The data show two respondents (i.e. 5.3%) of the total respondent possesses GCE and NECO (21.1%) while 23 (60.5%) own HND/BSC certificate. The remaining 3 respondent (7.8%) possess MA/MSc and Professional certificate.

Level of Education	No of Respondent	Percentage
Below school certificate	-	-
SSCE/GCE	2	5.3%
OND/NCE	8	21.1%
HND/BSC	23	60.5%
MA/MSc	3	7.8%
TOTAL	38	100

Source: June, 2016

SPECIFICATION OF MODELS

Model 1:

$$GDP = a_0 + a_1r + a_2m_2 + a_3cr + Lr$$

Where GDP = Gross Domestic Product

LR = Liquidity Ratio

M2 = Broad Money Supply

CR= Cash Ratio

A0, a1, a2, and a3 = Parameters

Model 11:

$$INF = b_0 + b_1r + b_2m_2 + b_3cr + Lr$$

Where INF = Inflation Rate

LR = Liquidity Ratio

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M2 = Broad Money Supply

CR = Cash Ratio

B0, b1, b2, and b3 = Parameters

Model 111:

$BOP = c_0 + c_1Lr + c_2m_2 + c_3cr + Lr$

Where BOP = Balance of Payment

LR = Liquidity Ratio

M2 = Broad Money Supply

CR = Cash Ratio

C0, c1, c2, c3 = Parameters

DISCUSSION AND INTERPRETATION

As earlier mentioned, the various theories of the demand for money was subjected to economic test because of the obvious limitations of fixed survey. Fixed survey could not provide practice estimates on magnitudes, direction of impact and level of significance of the identified variables. In carrying out this portion of the study we consistently place before us the fact that the essence of the money demand function is to present an effective model to monetary policy authorities that could be relied upon to adjust the various level of macroeconomic aggregate.

We defined income as Gross Domestic Product (GDP) and Gross National Product (GNP). The real and nominal values of the two variables were used in estimating equations. 1-18 presented in the preceding chapter the estimation showed that income elasticity varied significantly for different demand for money models and different definitions of money, implying that the different equations have degree of acceptability. It equally implies that some definitions of the real variable and money supply are capable of introducing some measures of bills into the money demand equations.

For both definition of money the income elasticity were closer to the nominal definition of income although constantly the elasticity of the GDP is higher than for the GNP, handling credence to the belief in some quarters that GDP may be a better definition of income.

The income elasticity of M2 are consistently higher than the income elasticity for M1 only 2.8% of the equation with M1 definition of money (equation 1 with nominal GDP and equation 15 with real GNP) are not significant at 95% confidence level for M2 definitions, 5.6% of the 72 equation are not significant at 95% confidence level.

The table below shows that the equation containing long term interest rates and using large money supply (M1) tend to have lower income elasticity than the short term interest rate. The reverse is the case using M2 definition of money. Also the introduction of the rate of inflation tends to marginally lower the income elasticity whist the introduction of the rate of change inflation tens to increase it. A comparison of the equation 3 and 17 makes these very clear.

		M1			M2			
Equation	Nominal	Nominal	Real	Real	Nominal	Nominal	Real	Real
N	GDP	GNP	GDP	GNP	GDP	GNP	GDP	GNP
1	0.3400	0.3325	1.5664	0.6248	0.3820	0.3747	1.6486	0.6649
2	0.696	0.5769	1.4949	0.5615	0.6696	0.6166	1.5327	0.5793
3	0.4945	0.4662	1.5373	0.6029	0.5319	0.5035	1.6054	0.6329
4	0.6386	0.5716	1.5767	0.5371	0.6666	0.6141	1.6357	0.5572
5	0.6351	0.5758	1.4444	0.7129	0.6059	0.6085	1.4429	0.7495
6	0.6420	0.5825	1.3657	0.7160	0.6697	0.6467	1.3581	0.7478
7	0.5189	0.4838	1.3996	0.6215	0.5441	0.5111	1.4006	0.6533
8	0.2713	0.2153	0.5152	0.1216	0.3035	0.2536	0.4175	0.1091
9	0.1857	0.1646	0.4910	0.1113	0.1994	0.1857	0.4276	0.1061
15	0.4718	0.3513	0.5463	0.1351	0.3205	0.2009	0.4319	0.1108
16	0.5891	0.5504	1.5266	0.5914	0.6225	0.5841	1.5769	0.6131
17	0.6249	0.5726	1.4792	0.5422	0.6655	0.6129	1.5314	0.5635

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10	0.5899	0.5506	1.5669	0.5974	0.6233	0.5843	1.6189	0.6194
11	0.6267	0.5746	1.5599	0.5298	0.6691	0.6168	1.6183	0.5495
12	0.3180	0.2290	0.5803	0.0953	0.3343	0.2598	0.4269	0.0885
13	0.6670	0.6140	1.6012	1.5421	0.7044	0.6526	1.6212	0.5469
14	0.5159	0.4875	1.6594	0.5767	0.5499	0.5223	1.7121	0.5917

The research objective is to estimate the microeconomic model with the hope that its result will outperform the other models {both in the microeconomic and macroeconomic realms}. We estimated the model represented by equation 31 for parameters a_1 , a_2 , ----- A_{15} for income and substitution elasticity.

SUMMARY

This paper has attempted to illustrate how effective monetary policy tools can be used in a developing economy with a specific reference to Nigeria economy during the period 2006-2015. The research shows that the specific economic environment, the instruments, the objectives and the execution of the monetary programmed are important determinants of the effect of monetary policy measures.

The review of monetary policy as a tool for economic development and operations in Nigeria reveals some characteristics. This includes the narrowness of the revenue base of the nation. High employment level, Economic growth, price stability, interest rate stability, stability of financial market and the stability in foreign exchange rate market.

CONCLUSION

Monetary policy is critical for economic development, when monetary policy is appropriate it helps, but when it is out of time it hurts the economy. Thus monetary adjusted has to be undertaken and since it is painful, it needs to be gradual consistent and credible.

There is no gain saying that no developing country can attain the state of self sustained growth and development unless it first achieves monetary objectives and restore domestic stability

RECOMMENDATION

Monetary policies can be effective when this is effective management. This is achievable, when the economy is rebuilt on a viable and diversified revenue base, expenditure is rationalized and deficit financing is reduced to the best minimum.

Effective monetary policy management can only be built on a viable and credible budgetary and planning system.

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