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Impact of Monetary Policy on the Economy of Nigeria

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Abstract

This study examines the impact of monetary policy on economic growth in Nigeria. The study uses time-series data covering the range of 1990 to 2010. In concluding the analysis, multiple regressions were employed to analyze data on variables such as money supply, interest rate, financial deepening and gross domestic product. They were all found to have marginal impact on the economic growth of Nigeria. The study shows further, the aims and objectives of monetary policy, which includes price stability, maintenance of balance of payment equilibrium, full employment and economic growth. In summary, the study found marginal impact on growth due to change in monetary policy application. The study recommends that to fasten up the rate of growth of the Nigerian economy, the government needs to initiate and push forward effective and efficient monetary policy measures via money supply, interest rate and financial deepening in order to adequately stabilize prices, reduce poverty and inequality there by encouraging holistic macroeconomic growth.

Keywords: Economy, policy, Nigeria, management, monetary.

INTRODUCTION

Monetary management is often an integral part of macroeconomic management, which is usually within the purview of the Monetary Authority or rather Central Bank of a state on its behalf. Monetary policy is therefore a tool for monetary management of a country, which involves the use of some combinations of instruments by the Central Bank to influence the availability and cost of credit and/or money in the domestic economy with a view to achieving macroeconomic balance/stability via economic growth. On the other hand, macroeconomics policy refers to actions taken by government agencies responsible for the conduct of economic policy to achieve some desired objective of policy through the manipulation of a set of instrumental variables. This conceptualization delineates two sets of variables "target variables" and "instrumental variables". Target variables are ones for which the government seeks desirable values and are immediate goals of macroeconomic policy. The major

target variables or goods are full employment, price stability and satisfactory rate of economic growth, an equitable distribution of income and balance of payments equilibrium.

Instrumental variables, on the other hand, are those variables that the government can manipulate to achieve its economic objectives. They are necessarily exogenous variables as the government must be able to determine the values independently of the other variables in the system. Thus, macroeconomic policies deal with the various actions of policy makers of change the levels of employment, the price level, output, income distribution, and external balance in the appropriate directions through the manipulation of relevant policy instruments. In Nigeria, the key macroeconomic policies are monetary policy, fiscal, Exchange rate and Income policies. However, more importantly is that the effective management of the monetary policy is a fundamental

pre-requisite in ensuring adequate liquidation in the banking system and sectoral credit allocation to the sensitive. Sectors of the economy such as: power, agricultural, aviation, SMEs, etc.

The above therefore, shows that monetary policy management goes beyond price stability, particularly amongst developing countries, but with a dual mandate: price stability and sustainability of economic growth. Monetary policy influences the level of money stock and/or interest rate i.e. availability, value and cost of credit inconsonance with the level of economic activity, Ibeabuchi (2007). Macroeconomic aggregates such as output, employment and prices are, in turn, affected by the stance of monetary policy through a number of ways including interest rate or money; credit, wealth or portfolio, and exchange rate channels, Akhatar (1997), CBN (1995). This aptly means that Monetary Authority applies discretionary power to influence the money stock and interest rate to make money either more expensive or cheaper depending on the prevailing economic conditions and policy stance geared towards achieving price stability. Wrights man (1976) succinctly puts it thus; monetary policy is nothing more than deliberate attempt to control the money supply and credit conditions for the purpose of achieving certain broad economic objectives. In general, most Monetary Authorities or Central Banks have been saddled with controlling inflation; maintaining a healthy balance of payments position to safeguard the external value of the domestic currency and promoting economic growth.

In Nigeria, the Central Bank of Nigeria (CBN) is the sole Monetary Authority with core mandate of promoting monetary and price stability with an efficient and reliable of financial system through the application of appropriate monetary policy instruments and systemic surveillance. The 1958 act establishing the Central Bank of Nigeria (CBN) empowers it with the following specific functions amongst others:

1). Maintenance of Nigeria's external reserves;
2). Issuances of legal tender currency notes and crisis in Nigeria;
3). Safeguarding the international value of the currency;
4). Promotion and maintenance of monetary stability and a sound and efficient financial system in Nigeria; and
5). Acting as banker and financial adviser to the Federal Government.

In Nigeria, therefore, monetary policy is often confronted with the problem of managing excess liquidity, rapid expansion in credit as well as excess foreign exchange and capital inflows, uneven distribution as well as inflationary pressures arising from overheating the polity; uncertainty about the transmission mechanism, and fiscal policy outlook, etc. The conduct of monetary policy in Nigeria has underwent several phases, thus, the era of application of market instruments or indirect controls, era of intense reform of strategy and institutions and the era of application of direct controls, Ibeabuchi (2007). As

earlier noted, monetary policy is usually a complex process involving objectives and targets setting, monetary programming, choice of nominal anchor, policy instruments and institutional framework aimed at monetary policy implementation as well as communication and evaluation of outcomes.

The major objectives of the policy are the attainment of price stability and sustainable economic growth, with full employment and stable long-term interest and real exchange rates; in doing this of course Central Bank of Nigeria (CBN) often recognizes the existence of conflicts of objectives; hence, necessitating at some point, some sort of trade-offs. According to Ibeabuchi (2007), Central Bank of Nigeria (CBN) organizes monetary policy targets into three (3) stages thus: firstly, operational target i.e. manipulation of reserve money over which it has substantial direct control, to intermediate target being the level of broad money supply (M_2) which in turn impacts on the ultimate target the stage or final objective of monetary policy in the areas such as inflation and output. More so, in carrying out these functions, Central Bank of Nigeria (CBN) combines amongst others, the use of nominal anchor in executing her monetary policy. It is often a device used by the Apex Bank to pin down expectations of private agents about nominal price level or its path or about what the bank might do with respect to achieving the target path Krugman (2003).

Basically, this nominal anchor is of two types: quality based nominal anchor where quality of money is the target and price-based nominal anchor, which targets exchange or interest rates. Central Bank of Nigeria (CBN) have been often noted to using broad money supply (M_2) as it's nominal anchor for monetary policy. Other management processes include but not limited to choice of policy strategies like: exchange rate targeting monetary targeting, price-level targeting, etc. The choice of each or combination of strategies enumerated above, essentially depends on strong conviction via research that the choice strategy would deliver better monetary policy outcomes, hence taking into cognizance country's economic peculiarities. It was until 1993 that Open Market Operation (OMO) was introduced, hence, Central Bank of Nigeria (CBN) relied exclusively on varying combination of direct instruments of monetary control from time-to-time which include: credit ceilings, sectoral credit allocation, interest rate control, imposition of special deposits, moral suasion, withdrawal of government deposits, stabilization of securities and exchange controls, etc. However, as a result of 1980s economy-wide macroeconomic reforms, an offshoot of financial markets deepening, the Central Bank of Nigeria (CBN) engaged in a more of market-based instruments for control, this new direction came in the form of open-market operation (OMO) and reserve requirements in June, 1993. Similarly, discount window operations under which the central bank performs the role of lender of last resort to the deposit money banks followed OMO operations may involve direct (outright transaction) or repurchase transactions and/or reverse repo. Hence, complementary these market-based instruments include: moral suasion, discount window operations. Foreign exchange sales/swaps and standing debit and credit facility

introduced in December, 2006.

Statement of the Problem

One of the major objectives of monetary policy in Nigeria is price stability. But despite the various monetary regimes that have been adopted by the Central Bank of Nigeria over the years, inflation still remains a major threat to Nigeria's economic growth. Greenspan (2003) observed succinctly that "Uncertainty is not just an important feature of the monetary policy landscape; it is the defining characteristic of that landscape" within the Nigerian monetary environment, data 'robousity'; data transmission mechanism and fiscal environment are notably found as her greatest challenge and uncertainty. This has become particularly interesting because according to Ibeabuchi (2007), the Nigerian external sector (balance of payment) via change in net foreign assets; government budget (net credit to government) influence monetary survey as much as the real growth of the economy and prices.

Okorie (2009) observed that monetary data that as a component of monetary policy proposals are often subject to frequent revision together with non-availability and quality concerns of non-monetary data such as real sector statistics. He further opined that transmission problem of monetary data is peculiar to most developing countries of which Nigeria is not an exception. One of the peculiar challenges of transmission channels is the 'obsolesce' of the channel; relevant, and/or that the assumed magnitude of impact could be wrong by some significant Nigeria. This incidence is high, particularly for the fact that the structural relationship often subsisting amongst developing economies changes frequently, e.g. what constitute money has been expanded by the introduction of technology-backed proliferation of financial products which seemingly alter the empirical relationship between economic activity, inflation and the broad money (M_2) in Nigeria, Okorie (2009).

Finally, fiscal surprises have been seen to undermine monetary policy substantially, for instance, in the event of fiscal tax surface, monetary policy is expected to immediately become reasonably investment to maintain both internal and external balance. From the foregoing, therefore, the study's challenge is therefore how best to manage the uncertainties in such way as to continue to pursue the basic and primary function of monetary policy for efficient price stability and sustainable economic growth.

Research Questions

1). Is monetary policy an effective instrument for economic growth in Nigeria?
2). Has monetary policy tools impacted on the growth of the Nigerian economy?

Objectives of the Study

The broad objective of the study is to examine the effectiveness of monetary policy application in Nigeria from 1990 - 2011. And the specific objectives include:

1). To evaluate the impact of money supply on price stability and growth
2). To examine the impact of financial deepening on growth.
3). To examine the impact of interest rate on growth

Hypotheses of the Study

Ho: Monetary policy application has not been effective in Nigeria
Ho: Monetary policy tools have no effect on the level of financial deepening.
H0: Interest rate has not significantly induced growth in Nigeria

Scope of the Study

The effect of monetary policy is a very wide topic, however the project covers the period of 21years (1990-2011). This would go a long way in assessing the extent to which the monetary policy tools have impacted on the growth process of Nigeria using the major objectives of monetary policy as yardstick.

Limitation of the Study

The research study is limited by several factors; these include time constraint and nature of data collection. In fact, the time allocated for this research was too short. Conclusively, the nature of data used to analyze the research problem is that of Secondary data.

Significance of the Study

Most theories of economic stabilization revolve around monetary policies. This explains why several instruments have been experimented in Nigeria since 1986. Ogun and Adenikinju (1995) observed that money supply growth averaged about 33% in 1991 – 1980 and 13% in 1981 – 1989, inflation appears to have moved in line, with respective levels of 19% and 16% in the last two decades. Secondly, the explosive stage of Nigeria's inflationary experience appears to be in the 1973 – 1975 period which coincides with the period of the first oil shock of the 1970s, between 1973 and 1974 alone; the country's foreign exchange receipts grew at the unprecedented rate of about 113%. It was further noted that the monetary authority appears to have relied almost exclusively on commutation of foreign exchange receipts into domestic expenditures in the oil boom period but resolved to deficit financing in order to sustain the

expansionary monetary impulse in non-oil boom years; similarly, inflationary financing was experienced leading to negative real deposit interest rate, hence, decline in the velocity circulation of money supply as a result of fall in the efficiency of money in the production processes.

Mbutor (2009) argues that impulse response function indicated that an unexpected shock of the monetary policy rate does not have a contemporaneous effect on gross domestic product and consumer price index. He continued in his work that going by the result of the variance decomposition shows that change in the monetary policy rate contributes 22 percent to total variation in GDP, hence that monetary policy shock failed to impact on the Consumer Price Index (CPI) but by change in GDP and the lay of CPI. He therefore, posited that lending rate provides the strongest link or nexus for propagation of monetary policy impulse in Nigeria, thus study therefore would econometrically review those monetary factors as noted above via the use of ordinary least squares regression and Structural Vector Autoregressive Regression (SVAR). More so, findings that would precede this work, no doubt will be economically viable, particularly this time of financial reforms in the economy geared towards economic growth and development.

Outline of the Study

This research work comprise of five chapters. Chapter one comprises of the general introduction of the work that is the background to the study, statement of the problem, objectives of the study, research questions, statement of hypotheses, scope of the study and justification of the study. Chapter two is the literature review, which comprises of four parts: conceptual review, theoretical review, empirical review and theoretical framework. Chapter three comprises of the methodology used for the research, nature and source of data, techniques of data analysis, and model specification. Chapter four comprise of the presentation of data, and analysis and interpretation of results. Finally, chapter five comprise of summary of major findings, conclusion and recommendations.

LITERATURE REVIEW

Conceptual Review

The Central bank of Nigeria (CBN) defined monetary policy, as a deliberate action of the monetary authorities to influence the quantity, cost and availability of money credit in order to achieve desired macroeconomic objectives of internal and external balances. The action is carried out through changing money supply and/or interest rates with the aim of managing the quantity of money in the economy.(H. Johnson) defines monetary policy "as policy employing central bank's control of the supply of money as an instrument for achieving the objectives of general economic policy." Shaw (1999) defines it as "any conscious action undertaken by the monetary authorities to change the quantity, availability or cost of money."Monetary policy is known to be a vital instrument that a country can deploy for the maintenance of domestic price and exchange rate stability as a critical condition for the achievement of a sustainable economic growth and external viability (Adegbite and Alabi; 2013).

Since its establishment in 1959 the Central Bank of Nigeria (CBN) has continued to play the traditional role expected of a central bank, which is the regulation of the stock of money in such away as to promote the social welfare (Ajayi, 1999). This role is anchored on the use of monetary policy that is usually targeted towards the achievement of full-employment equilibrium, rapid economic growth, price stability, and external balance. Over the years, the major goals of monetary policy have often been the two later objectives. Thus, inflation targeting and exchange rate policy have dominated CBN's monetary policy focus based on assumption that these are essential tools of achieving macroeconomic stability. Over the years, the major goals of monetary policy have often been the two later objectives. Thus, inflation targeting and exchange rate policy have dominated CBN's monetary policy focus based on assumption that these are essential tools of achieving macroeconomic stability (Aliyu and Englama, 2009).

The most popular instrument of monetary policy was the issuance of credit rationing guidelines, which primarily set the rate of change for the components and aggregate commercial bank loans and advances to the private sector. The sector allocation of bank credit in CBN guidelines was to stimulate the productive sectors and thereby stem inflationary pressures. The fixing of interest rate at relatively low levels was done mainly to promote investment and growth. In general terms, monetary policy refers to a combination of measures designed to regulate the value, supply and cost of money in an economy, in consonance with the expected level of economic activity (Okwu *et al.,* 2011; Adesoye *et al.,* 2012). For most economist, the objectives of monetary policy include, price stability, maintenance of balance of payments equilibrium, promotion of employment and output growth, and sustainable development (Folawewo and Osinubi, 2006). These objectives are necessary for the attainment of internal and external balance and the promotion of long- run economic growth.

The importance of price stability derives from the harmful effects of price volatility, which undermines the ability of policy makers to achieve other laudable macroeconomic objectives. There is indeed a general consensus that domestic price fluctuation undermines the role of money as a store of value, and frustrates investments and growth. Empirical studies (Ajayi and Ojo, 1981; Fischer, 1994) on inflation, growth and productivity

have confirmed the long term inverse relationship between inflation and growth. Typically, in periods of high inflation, the horizon of the investor is very short and resources are diverted from long term investments to those with immediate returns and inflation hedges, including real estate and currency speculation. It is on this background that this study would investigate the effectiveness of the monetary policy in Nigeria with special focus on major growth components.

Monetary policy in Nigeria has been carried out through the portfolio behavior of the CBN in terms of the control of its credit and management of reserves. Credit control is being used to check movement in domestic price level, while the exchange rate policy serves as measure for determining the competitiveness and current account performance as well foreign reserves.

Objectives of monetary policy

(Kahn, 2010) observes that monetary policy objectives are concerned with the management of multiple monetary targets among them price stability, promotion of growth, achieving full employment, smoothing the business cycle, preventing financial crises, stabilizing long-term interest rates and the real exchange rate. Through the control of monetary policy targets such as the price of money (interest rate - both short term and long term), the quantity of money and reserve money amongst others; monetary authorities directly and indirectly control the demand for money, money supply, or the availability of money (overall liquidity), and hence affect output and private sector investment.

Full employment has been ranked among the foremost objectives of monetary policy in Nigeria. According to Keynes, full employment means the absence of involuntary unemployment. In other words full employment is a situation where all the labour force is employed. Keynes also gave an alternative definition of full employment in his General theory thus: "It is a situation in which aggregate employment is inelastic in response to an increase in which aggregate employment is inelastic in response to an increase in the effective demand for its output." Thus the Keynesian concept of full employment involves three conditions: (i) reduction in the real wage rate; (2) increase in effective demand; and (iii) inelastic supply of output at the level of full employment.

Price stability is one of the most important objectives of monetary policy in Nigeria. Fluctuations of price levels can bring instability in the economy. A policy of price stability keeps the value of money stable, eliminates cyclical fluctuations, brings economic stability, helps in reducing inequalities of income and wealth, secures social justice and promotes economic welfare. Price stability does not mean prices remain unchanged indefinitely. (Dasgupta and Hagger) defined price stability as " a stability of some appropriate price index in the

sense that we can detect no definite upward trend in the index after making proper allowance for the upward bias inherent in all price indexes."Price stability can be maintained by implementing a counter cyclical monetary policy during economic recession and dear monetary policy during economic boom.

Economic growth can be defined as the process whereby the real per capita income of a country increases over a long period of time. Economic growth is measured by the amounts of goods and services produced in a country. It is a desirable goal for Nigeria. Balance of payments on the other hand is a monetary policy adopted since the 1960s in Nigeria to maintain equilibrium in balance of payments. The achievement of this goal has been necessitated by the phenomenal growth in the world trade as against the growth of international liquidity.

Instruments of monetary policy

Instruments of monetary policy are tools available to the CBN, which they can use to influence the supply of money in the economy. Instruments of monetary policy are classified into two categories. (1) Quantitative, general or indirect. (2) Qualitative, selective or direct. Quantitative, general or indirect include; Bank rate policy, Open market operations, and Reserve requirements. Bank rate policy can be defined as the minimum-lending rate of the CBN at which it rediscounts first class bills of exchange and government securities held by the commercial bank.

Open Market Operations refer to sale and purchase of securities in the money market by the CBN. When prices are rising and there is need to control them, the central bank sells securities. The reserves of commercial banks are reduced and they are not in the position to lend more to the business community. Open Market Operation expands monetary base, thereby raising the money supply and bowering shorter, interest rates. In 2002, the CBN introduced another monetary instrument known as the CBN certificate to compliment the use of government security for conduction open market operation (CBN Guideline 2002). The CBN certificate is different from other instrument in the sense that, it cannot be discounted for this is to enhance the efficiency of monetary policy actions, given the instability of the only available treasury. In terms of impact, the sales and purchase of CBN certificate has the same impact as the sales and purchase of other government securities.

Reserve requirement is the fraction of total deposit liabilities which commercial banks are required to maintain in the form of cash reserve with the CBN. It is the minimum amount of reserve (or eligible liquid asset) that commercial banks must hold in proportion to total deposit liabilities. For each category of the deposit liabilities, a rise in the cash ratio or liquidity ratio reduces the amount of deposit that can be supported by a given

level of monetary base and will lead to contraction of the money supply. Fractional reserve limits the amount of money banks can loan to the domestic economy and thus limit the supply of money in circulation.

Qualitative, selective or direct controls are used to influence specific types of credit for particular purposes. They include; Direct credit control, Moral suasion and Prudential guidelines. Direct Credit Control: The Central Bank directs Deposit Money Banks on the maximum percentage or amount of loans it can loan out to different economic sectors or activities, interest rate caps, liquid asset ratio and issue credit guarantee to preferred loans. In this way the available savings is allocated and investment directed in particular directions. Moral Suasion: The Central Bank issues licenses or operating permit to Deposit Money Banks and also regulates the operation of the banking system. It can, from this advantage, persuade banks to follow certain paths such as credit restraint or expansion, increased savings mobilization and promotion of exports through financial support, which otherwise they may not do, on the basis of their risk/return assessment. Prudential Guidelines: The Central Bank may in writing require the Deposit Money Banks to exercise particular care in their operations in order that specified outcomes are realized. Key elements of prudential guidelines remove some discretion from bank management and replace it with rules in decision-making.

THEORETICAL REVIEW

Monetary Policy in Nigeria

The primary goal of monetary policy in Nigeria has been the maintenance of domestic price and exchange rate stability since it is critical for the attainment of sustainable economic growth and external sector viability (Sanusi, 2002) The ability of the CBN to pursue an effective monetary policy in a globalized and rapidly integrated financial market environment depends on several factors which include, instituting appropriate legal framework, institutional structure and conducive political environment which allows the Bank to operate with reference to exercising its instrument and operational autonomy in decision- making, the degree of coordination between monetary and fiscal policies to ensure consistency and complementarily, the overall macroeconomic environment, including the stage of development, depth and stability of the financial markets as well as the efficiency of the payments and settlement systems, the level and adequacy of information and communication facilities and the availability of consistent, adequate, reliable, high quality and timely information to Central Bank of Nigeria (Sanusi, 2002). The central bank tries to maintain price stability through controlling the level of money supply.

Examining the evolution of monetary policy in Nigeria in the past four decades, (Nnanna, 2001) observes that though, the Monetary management in Nigeria has been relatively more successful during the period of financial sector reform which is characterized by the use of indirect rather than direct monetary policy tools yet, the effectiveness of monetary policy has been undermined by the effects of fiscal dominance, political interference and the legal environment in which the Central Bank operates. (Busari et-al, 2002) states that monetary policy stabilizes the economy better under a flexible exchange rate system than a fixed exchange rate system and it stimulates growth better under a flexible rate regime but is accompanied by severe depreciation, which could destabilize the economy meaning that monetary policy would better stabilize the economy if it is used to target inflation directly than be used to directly stimulate growth. They advised that other policy measures and instruments are needed to complement monetary policy in macroeconomic stabilization. In the same stride, (Batini, 2004) stresses that in the 1980s and 1990s monetary policy was often constrained by fiscal indiscipline.

Monetary policies financed large fiscal deficit, which averaged 5.6 percent of annual GDP and though the situation moderated in the later part of the 1990s it was short lived as Batini described the monetary policy subsequently as too loose which resulted to poor inflation and exchange rates record. (Folawewo and Osinubi, 2006) investigates how monetary policy objective of controlling inflation rate and intervention in the financing of fiscal deficits affect the variability of inflation and real exchange rate. The analysis is done using a rational expectation framework that incorporates the fiscal role of exchange rate. The paper reflects that the effort of the monetary authority to influence the finance of government fiscal deficit through the determination of the inflation-tax rate affects both the rate of inflation and the real exchange rate, thereby causing volatility in their rates. The paper reveals that inflation affects volatility of its own rate as well as the rate of real exchange. The policy implication of the paper is that monetary policy should be set in such a way that the objective it is to achieve is well defined (Jelilov, Gylych; Kachallah Ibrahim, Fatima; Onder, Evren, 2016).

The Keynesian theory

The Keynesian theory is rooted on one notion of price rigidity and possibility of an economy setting at a less than full employment level of output, income and employment, this model assumes a close economy and a perfect competitive market with fairly price- interest aggregate supply function (Onyiewu, 2013). From the Keynesian mechanism, monetary policy works by influencing interest rate which influences investment decisions and consequently, output and income and the multiples process (Amacher and Ulbrich, 1989).

In the Keynesian theory, monetary policy plays a crucial role in affecting economic activity, it contends that the change in the supply of money can permanently change such variables as the rate of interest, the aggregate demand and the level of employment, output and income (Jelilov, Gylych; Onder, Evren, b 2016). Keynes believe in the existence of unemployment equilibrium, this implies that an increase in money supply can bring about permanent increases in the level of output and as well the ultimate influence of money supply on the price level depends upon its influence on aggregate demand and the elasticity of the supply of aggregate output (Jhingan, 2010).

The classical monetary theory

The classical school evolved through concerted efforts and contribution of economists like Jean Baptist Say, Adam Smith, David Richardo Pigu and others who shared the same beliefs, the classical model attempts to explain the determination, savings and investment with respect to money (Onyiewu, 2013). According to the classicist, money is a veil and a neutral in its effect on the economy (Jhingan, 2010). In the classical system, the main function of money is to act as medium of exchange, it determined the general level of prices in which goods and services will be exchanged (Jelilov, Gylych; Chidigo, Mary; Onder, Evren, 2016). This relationship between money and the price level is explained in terms of the quantity theory of money (Jelilov, Gylych; Muhammad Yakubu, Maimuna;, 2015). The classical quantity theory of money states that the price level is a function of the supply of money, where: MV=PT where M, V, P, and T are the supply of money, velocity of money, price level and the volume of transactions (Jhingan, 2010). The classical economists believe that the economy automatically tends towards full employment level by laying emphasis on price level and on how best to eliminate inflation (Amacher and Ulbrich, 1986).

The monetarist quantity theory

The monetarist essential, quantity theorist who adopted fisher's equation of exchange to illustrate their theory, as a theory of demand for money and not a theory of output price and money income by making a functional relationship between the qualities of real balances demanded a limited number of variables (Essia, 1997). Monetarist like Friedman (1963) emphasized money supply as the key factor affecting the wellbeing of the economy (Jelilov, Gylych; Onder, Evren;, a 2016).

The modern approach

The modern economist reject the Keynesian view that link between the supply of money and output is the rate of interest, this theory considered only two types of assets; bonds and speculative cash balances, and the allocation depended on the rate of interest which in turn resulted in changes in output (Jhingan, 2010). This theory is a restatement of the quantity theory in the modern terms, this theory view velocity of circulation as a stable function of a limited number of key variables, the velocity bears a stable and predictable relationship to a limited number of other variables, and determines how much money people will hold rather than motive for holding more and sees money as the main type of asset which yields a flow of services to its holders, according to the functions it performs (Friedman 1956).

The Quantity theory

The quantity theory was first developed by Irving fisher in the inter-war years, and is a basic theoretical explanation for the link between money and the general price level (Geoff, 2012). (Irving Fisher, 1932), in his quantity theory of money, opine that like other classical writers the short-run monetary control was dictated by interest rates which were sticky but in the long-run the demand of influence was real cash balance. Fisher further assumed that the rise in commodity prices would precedes the increased in interest rate which was regarded as main channel of the firms operation cost (Jelilov, 2016).

Active-Passive Money View Theory

According to an active-money view, the quantity of money is subject to the independent influence of the central bank (Jelilov, Gylych; Musa, Muhammad;, 2016). This influence, among other things can lead to a real quantity of money holdings that is larger (smaller) than desired. In contrast to the passive money view, the attempt to eliminate these excess balances is considered to have an important role in the transmission of monetary policy. The interpretation of a nominal "monetary shock" highlights the distinction between the two views. According to the passive-money view, a monetary shock is the consequence of a change in the demand for money caused by an output shock, for example that is accommodated by the central bank as it targets short-term interest rates. In contrast, the active-money view interprets a monetary shock as the consequence of a change in the supply of money induced by the central bank that is unanticipated by agents. If there is a positive shock, initially, agents have to hold the additional nominal balances (Jelilov, Kalyoncu, & Isik 2015). Over time, individuals perceive that the nominal quantity of money they hold corresponds to a real quantity that is larger than desired at current prices, and that this is not a temporary condition. That is, individuals are "off" their long-run demand for money function. However, all individuals cannot collectively dispose of the aggregate excess nominal balances (Jelilov, Gylych; Abdulrahman, Samira; Isik, Abdurahman;, 2015). Nonetheless, the attempt to do

so has economic effects: the increase in expenditure leads to an increase in nominal spending, an increase in economic activity, and ultimately an increase in prices (Jelilov, Gylych; Waziri, Fadimatu; Isik, Abdurahman;, 2016).

Empirical review

(Bagunjoko, 1997) investigated the efficiency of monetary policy as a stabilization tool, using modified st louise model data covering the period of 1970 to 1993, the study found that money matters in Nigerian economy, and the appropriate monetary target is the domestic credit of the banking sector. (Elliot, 1975) using St louise equation, examined the relative importance of money supply changes compare to government changes, in explaining fluctuations of nominal gross national product (GNP), his result clearly supports the conclusion that fluctuations in nominal GNP are more importantly attached to monetary movement than movement in federal government expenditure. (Akujuobi, 2010) studied monetary policy and Nigeria's economic development using multiple regression analysis, namely- gross domestic product (dependent variable) and independent variables: Cash Reserve Ratio (CRR), Liquidity Ratio (LQR), interest rate, Minimum Rediscount Rate(MRR) and the treasury bill rate and found out that apart from cash reserve ratio, other impact much on the economic development of the nation and this may be as a result of the underdeveloped of the paths of these instrument such as the money and capital markets. (Ajayi, 1974), worked on employing the variables of monetary and fiscal policies using Ordinary Least Square (OLS) technique, and found that monetary influence is much larger and more predictable than fiscal influence. Using simultaneous equation models to test the hypothesis of monetary policy effectiveness in Nigeria, found that rather than promoting growth, domestic monetary policy was a source of stagnation on persistent inflation (Balogun, 2007).

(Ajayi, 1974) and (Elliot, 1975) however, did not conduct neither a unit root test nor a co-integration test and that may be why they were unable to ascertain the influence of monetary policy in the lung-run (Okoro, 2013). Also, (Bagunjoko, 1997), failed to conduct a co-integration test before error correction model (ECM) that may be why he did not observe the extent of appropriate monetary policy impact on the economy. Similarly, (Bologun, 2007), did not test the stationary of the data used which must have influenced his result, while (Chuku, 2009), also failed to investigate the long-run effect of monetary policy in Nigerian economy by employing the co-integration test (Okoro, 2013).

A recent study by (Chimobi and Uche, 2010) examined the relationship between Money, Inflation and Output in Nigeria. The study adopted co-integration and granger-causality test analysis. The co-integrating result of the study showed that the variables used in the model exhibited no long run relationship among each other. Nevertheless money supply was seen to granger cause both output and inflation. The result of the study suggested that monetary stability can contribute towards price stability in the Nigerian economy since the variation in price level is mainly caused by money supply and concluded that inflation in Nigeria is to an extent a monetary phenomenon. The Error Correction Mechanism and Cointegration technique was employed by (Adefeso and mobolaji, 2010) estimate the relative effectiveness of fiscal and monetary policy on economic growth in Nigeria using annual data from 1970-2007. The empirical result showed that the effect of monetary policy is stronger than fiscal policy and the exclusion of the degree of openness did not weak this conclusion (Jelilov, 2015).

The impact of exchange rate regimes and exchange rate movements on inflation and growth has also been discussed in many empirical studies of developing countries. But the findings of these studies differ and cannot be generalized. However, the impact of nominal exchange rate flexibility on inflation is more ambiguous. All empirical researches confirm that depreciations of nominal exchange rate are correlated with temporary increases in consumer prices (Akinbobola 2012). (Karimi and Khosravi, 2010) investigated the impact of monetary and fiscal policies on economic growth in Iran using autoregressive-distributed approach to co-integration between 1960 and 2006. The empirical results indicated existence of long-run relationship between economic growth, monetary policy and fiscal policy. The results further showed exchange rate and inflation as proxies for monetary policy have inverse impact on economic growth. Furthermore, Aigbokhan (1985) employed the elasticity version of the St. Louis equation and found that monetary policy exert greater impact on economic growth in Niger.

THEORETICAL FRAMEWORK

The Quantity theory

The quantity theory was first developed by Irving fisher in the inter-war years, and is a basic theoretical explanation for the link between money and the general price level (Geoff, 2012). (Irving Fisher, 1932), in his quantity theory of money, opine that like other classical writers the short-run monetary control was dictated by interest rates which were sticky but in the long-run the demand of influence was real cash balance. Fisher further assumed that the rise in commodity prices would precedes the increased in interest rate which was regarded as main channel of the firms operation cost. Fisher also formulates his equation of exchange and specified that;

$$MV=PT \text{---} 2.1)$$

Where m is the actual money stock, V is the transaction velocity of circulation of money, p is the average price level and T is the number of transaction made per the period. Fisher, imposes the assumption that the equilibrium values of V, and T will be fairly constant in the short run and invariant with respect to change in the quality of money.

Given the assumption, equation (1) can be re-written as;

$$M\bar{v}=P\bar{T} \text{--} 2.2)$$

Where bars (-) signify that v and t are constant. Given that m is exogenous, there must be proportional relationship in equilibrium between money supply (m) and the general price level.

The quantity theory of money as employed by (okafor, 2009), with a simple growth model, the quantity theory of money is based on the link between the stock of money (M) and the market value of output that it finances (py), where p is the price level and y is the output. M is related to p with a factor of proportionality k, the relationship is given by:

$$M=kPY \text{---} (2.3)$$

$$M/p=KY \text{---} (2.4)$$

K is assumed to be constant

Equation (2) can actually be written as;

$$MV=PY \text{---} (2.5)$$

Where V= ^{1}/k and this is the income velocity of money, the ratio of money income (nominal GDP) to the number of times the stock of money turns over in a given period in financing the flow of nominal income. Therefore, V is a useful concept on policy making.

Equation (3) can be written in growth form:

$$M= \ P+ \ \overset{\triangle}{Y}- \ \overset{\triangle}{V} \text{--} (2.6)$$

If V is constant then $\overset{\triangle}{V}$-0 so that equation (4) yields

$$M= \ \overset{\triangle}{P}+ \ \overset{\triangle}{Y} \text{--} (2.8)$$

This is the fulcrum of CNB monetary targeting.

METHODOLOGY

Introduction

The focus of this chapter is on the methodology employed in this study. The description of the research method justifies the findings of the study. Specifically, the chapter discusses the nature, sources of data collected, the techniques of data analysis and model specification.

Nature and source of data

This study intends to use time series data (Secondary data). The data used in this research were obtained from sources such as: Central Bank of Nigeria (CBN) statistical bulletin and National Bureau of Statistics (NBS various issues), Journals, textbooks, unpublished papers, seminar papers and Articles.

Technique of data analysis

The study intends to use the Ordinary Least Square method (OLS) i.e regression analysis. On demonstrating the impact of monetary policy on growth, Gross Domestic Product (GDP) was regressed on interest rate, money supply, financial deepening.

MODEL SPECIFICATION

This study seeks to examine the economic effect of monetary policy in Nigeria using quantity theory developed by Irving Fisher in the inter-war years.

The model is expressed as:

$$GDP=f \ (MS, \ INT, \ M2/GDP,) \text{..} (3.1)$$

$$GDP= \ C \ MS^{\propto}INT^{\beta}M2/GDP^{1-\propto-\beta} \text{...} (3.2)$$

$$Log \ GDP = log \ C+ \ \propto logMS + \beta INT + \sigma M2/GDP+\mu \text{....................}(3.3)$$

F- Test

The f test is done in order to find out whether the joint influence of the independent variable on the dependent variables is statistically significant.

Decision rule; if F (F*) value calculated is greater than F tabulated ie (F*>F tab) with the chosen level of significance with k-1 and N-K degree of freedom, we reject the null hypothesis, that is we accept the regression model is significant.

But if F*>tabs, we accept null hypothesis, that is we accept that the regression model is not significant with k-1 and N-K degree of freedom. The chosen level of significance in this test is 5%.

Presentation of results

YEAR	LOGGDP	LOGMS	INTR	M2/GDP
1990	12.77	22.08	17.5	28463
1991	-8.27	24.10	16.5	41228
1992	-1.87	20.82	26.8	44216.2
1993	-1.94	20.52	25.5	55912.9
1994	0.91	21.58	20.01	82204
1995	-1.85	16.12	29.8	106630
1996	-0.87	13.11	36.09	153003
1997	-2.61	14.62	21	222263
1998	-1.18	18.58	20.18	285668
1999	-1.81	21.79	19.74	353911
2000	1.89	22.16	13.54	412473.7
2001	-0.28	24.52	20.46	520287.3
2002	-0.37	21.83	19.72	645937
2003	4.57	20.2O	21.3	997743.8
2004	1.58	18.26	23.4	1263161
2005	1.51	17.73	22.38	1598495
2006	-0.97	19.04	21.6	2002315
2007	-3.55	28.03	20.4	2263588
2008	-1.52	36.35	19.5	2813849
2009	1.96	40.68	18.7	4032672
2010	1.88	32.48	18.21	5672622
2011	0.05	33.58	21.18	8960287

Source: Central bank of Nigeria Statistical Bulletin and National bureau of statistics

Pre-diagnostic (Stationarity) test Result

Variable		At Level	At 1st Difference	Significance Level/Remark
Log GDP	ADF	-5.1556***	-	GDP was stationary @ level in all the Mackinon Critical Percentage Values.
Log M2/GDP	ADF	-1.9052	-5.1046***	Financial deepening was stationary at 1st Difference.
Interest Rate	ADF	-2.4575*	-6.2469***	Interest rate, stationary at first difference.
logM$_2$	ADF	-0.3928	-3.6349***	M$_2$ stationary @ 1st difference.
Residual Cointegration	ADF	-10.9069	-	The model is co integrated at level in all the Critical M. Values.

Key: *** Stationary @ 1%
      ** Stationary @ 5%
      * Stationary @ 10%

$$\log GDP = 4.43 - 0.06\log M2 - 0.16 INTR + 2.12E07 M2/GDP$$
        (0.016) (0.03)   (0.06)   (0.01)
     $R^2 = 0.84$ $R^2 = 0.73$ $F_{stat} = 4.23$
     D.W = 2.02 $F_{prob} = 0.0001$ Akaike=5.79

T-Test

The coefficient of the model will be tested for significance using the t- test. The T testing procedure is based on the assumption that the error term ui follows the normal distribution.

RESULTS AND DISCUSSIONS

This chapter of the project contains the data collected during the research, results of the analysis, findings and the implications.

Discussion of Results

The estimated model accounted for 73 percent change on growth of the economy proxy by GDP. The result shows that all the regressors are statistically significant at 5% level of significance. The results therefore, to some extent, have demonstrated a considerable support on the argument that monetary policy tools in Nigeria would have impacted on growth of the economy.

In other words, therefore, a unit change in financial deepening would lead to a marginal increase on growth by 2.12E07 holding other variables constant. In other words, the result is consistent with the known 'a priori' relationship between economic and financial sector growth.

Similarly, a unit change in interest rate would lead to an average 0.16 declines on growth holding other factors constant. The result is consistent with Odozi (2007)'s finding. However, the result negates the expected 'a priori' economic relationship. Money supply was also significant, but exhibited negative relationship as well. In summary, the study found marginal impact on growth due to change in monetary policy application.

Sequels to the above, two of the variables studied showed an inverse relationship with growth, in other words, rather than induce positive growth, decline same unfortunately. Finally, the result of the co-integration test further affirms an existence otherwise attainability of long-run relationship between the dependent variable and its regressors.

Policy Implication of Findings

1). The level of money supply and rate of interest in the system, if not well managed, are capable of distorting growth significantly in respective of monetary policy mix adopted.

2). A consistent but deliberate monetary policy tool would ensure increase in growth of the economy; particularly as financial deepening is seen to be positively and significantly impacting on growth.

SUMMARY OF MAJOR FINDINGS

The research work investigated the impact of monetary policy on economic growth in Nigeria: 1990-2011. It further examined the determinant of efficient monetary policy management and growth in Nigeria. A time series data were employed with variables such as: Financial deepening, interest rate, money supply and GDP a proxy of growth. The study found that monetary policy application in Nigeria within the period in review marginally impacted on growth of the economy. However, with an exception of financial deepening, other variables used in the analysis rather declined growth instead. Finally, it equally showed that this scenario would endure even in the long run.

CONCLUSION

Given the result of the estimated model, it shows that various monetary policies administered through those variables have not probably been adequately applied to help propel growth. However, below are the conclusions drawn from the study:

1). That there exist an obvious correlation between monetary policy and growth in Nigeria.
2). That the various monetary policies of the government are sustainable if properly managed.

RECOMMENDATIONS

1). To fasten up the rate of growth of the Nigerian economy, government needs to initiate and push forward effective and efficient monetary policy measures via money supply, interest rate e.t.c. in order to adequately stabilize prices, reduce poverty and inequality by encouraging holistic macroeconomic growth.
2). There is also the need to put in place an enabling policy instruments and strategies in the likes of increasing available domestic credit via potent interest rate in-order to encourage production.
3). Finally, government should deepen the level of finance in the economy; this would encourage investment through provision adequate credit facilities required for optimal performance of real sector of the economy.

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APPENDIX

Null Hypothesis: LOGGDP has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-8.475509	0.0000
Test critical values: 1% level	-3.788030	
5% level	-3.012363	
10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGGDP)
Method: Least Squares
Date: 12/06/14   Time: 12:45
Sample (adjusted): 1991 2011
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOGGDP(-1)	-1.222925	0.144289	-8.475509	0.0000
C	-0.606879	0.552490	-1.098444	0.2857

R-squared	0.790828	Mean dependent var	-0.605714
Adjusted R-squared	0.779819	S.D. dependent var	5.395650
S.E. of regression	2.531826	Akaike info criterion	4.786152
Sum squared resid	121.7928	Schwarz criterion	4.885630
Log likelihood	-48.25459	Hannan-Quinn criter.	4.807741
F-statistic	71.83425	Durbin-Watson stat	0.834124
Prob(F-statistic)	0.000000		

Null Hypothesis: D(LOGM2) has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-2.816112	0.0537
Test critical values: 1% level	-4.420595	
5% level	-3.259808	
10% level	-2.771129	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
and may not be accurate for a sample size of 9

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LOGMS,2)
Method: Least Squares
Date: 12/06/14   Time: 12:46
Sample (adjusted): 1996 2011
Included observations: 9 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LOGMS(-1))	-2.167841	0.769799	-2.816112	0.0670
D(LOGMS(-1),2)	0.902758	0.593039	1.522256	0.2253
D(LOGMS(-2),2)	1.157658	0.747582	1.548536	0.2193
D(LOGMS(-3),2)	0.149645	0.581665	0.257270	0.8136
D(LOGMS(-4),2)	0.695575	0.542506	1.282150	0.2899
C	0.654605	1.345200	0.486623	0.6599

R-squared	0.883369	Mean dependent var	-0.051111
Adjusted R-squared	0.688985	S.D. dependent var	6.264917
S.E. of regression	3.493867	Akaike info criterion	5.574616
Sum squared resid	36.62131	Schwarz criterion	5.706099
Log likelihood	-19.08577	Hannan-Quinn criter.	5.290876
F-statistic	4.544439	Durbin-Watson stat	3.065747
Prob(F-statistic)	0.121343		

Null Hypothesis: INTR has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=4)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.145286	0.0384
Test critical values:	1% level	-3.788030	
	5% level	-3.012363	
	10% level	-2.646119	

*MacKinnon (1996) one-sided p-values.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(INTR)
Method: Least Squares
Date: 12/06/14   Time: 12:47
Sample (adjusted): 1991 2011
Included observations: 21 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INTR(-1)	-0.666394	0.211871	-3.145286	0.0053
C	14.52905	4.672382	3.109559	0.0058

R-squared	0.342397	Mean dependent var	0.175238
Adjusted R-squared	0.307787	S.D. dependent var	5.521040
S.E. of regression	4.593470	Akaike info criterion	5.977541
Sum squared resid	400.8994	Schwarz criterion	6.077020
Log likelihood	-60.76418	Hannan-Quinn criter.	5.999131
F-statistic	9.892826	Durbin-Watson stat	1.909315
Prob(F-statistic)	0.005328		

Null Hypothesis: M2GDP has a unit root
Exogenous: Constant
Lag Length: 4 (Automatic - based on SIC, maxlag=4)

	t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic	-3.972489	0.0001
Test critical values: 1% level	-3.886751	
5% level	-3.052169	
10% level	-2.666593	

*MacKinnon (1996) one-sided p-values.
Warning: Probabilities and critical values calculated for 20 observations
    and may not be accurate for a sample size of 17

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(M2GDP)
Method: Least Squares
Date: 12/06/14   Time: 12:48
Sample (adjusted): 1995 2011
Included observations: 17 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
M2GDP(-1)	1.191316	0.353245	3.372489	0.0062
D(M2GDP(-1))	-0.508280	0.650724	-0.781099	0.4512
D(M2GDP(-2))	-0.863584	0.568829	-1.518179	0.1572
D(M2GDP(-3))	-1.176250	0.864734	-1.360246	0.2010
D(M2GDP(-4))	-3.905165	0.913743	-4.273809	0.0013
C	-43624.67	54505.43	-0.800373	0.4404

R-squared	0.977919	Mean dependent var	522240.2
Adjusted R-squared	0.967882	S.D. dependent var	837968.6
S.E. of regression	150175.8	Akaike info criterion	26.94756
Sum squared resid	2.48E+11	Schwarz criterion	27.24164
Log likelihood	-223.0543	Hannan-Quinn criter.	26.97680
F-statistic	97.43358	Durbin-Watson stat	2.695332
Prob(F-statistic)	0.000000		

Dependent Variable: LOGGDP
Method: Least Squares
Date: 12/06/14   Time: 12:50
Sample: 1990 2011
Included observations: 21

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.429407	7.766531	0.570320	0.5759
LOGMS	-0.061701	0.204146	-0.302240	0.0461
INTR	-0.163991	0.217799	-0.752946	0.0041
M2GDP	2.13E-07	5.78E-07	0.368056	0.0034

R-squared	0.839444	Mean dependent var	-0.216190
Adjusted R-squared	0.730066	S.D. dependent var	3.781726
S.E. of regression	4.020149	Akaike info criterion	5.790158
Sum squared resid	274.7471	Schwarz criterion	5.989115
Log likelihood	-56.79666	Hannan-Quinn criter.	5.833337
F-statistic	4.232691	Durbin-Watson stat	2.208139
Prob(F-statistic)	0.000034		