

## Monetary Policy and Growth of Small and Medium Enterprises in Nigeria

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### Abstract

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Creating and maintaining a stable monetary policy environment is enormously important for the Nigerian economy. Ensuring that inflation remains low and stable allows households and SMEs businesses to plan ahead and keeps borrowing costs low. The study investigates the impact of monetary policy and growth of SMEs in Nigeria from 1986 to 2016. Various monetary policies, has been adopted by the government over the years, through Central Bank of Nigeria. Despite the increasing emphasis on the regulation of monetary policy, the problem surrounding the growth of SMEs still persists. Such problems include high interest rate, high rate of inflation and unstable exchange rate. The main objective of this study is to examine the impact of monetary policy on the growth of SMEs in Nigeria. The research design adopted for this study is ex post facto research design, and the Error Correction Model (ECM) was used to analyze the time series data, whereas the Johansen co-integration approach was employed to test for the long-run relationship among the series. The findings reveal that there is a slight significant effect between interest rate (INR) and growth of SMEs in Nigeria, but no significant effect between both exchange rate and inflation on the growth of SMEs in Nigeria. Therefore, the study recommends that monetary policy should be set in such a way that the objective it wants to achieve is clearly and transparently defined in response to the dynamics of the domestic and global economic developments for the growth of SMEs in Nigeria.

**Keywords:** *Monetary Policy, Interest Rate, Exchange Rate, Inflation, and SMEs Contribution to GDP.*

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### **Background to the Study**

There is a general agreement among economists in relation to the long run relationship between money, output and inflation. However, this consensus is not clear with regard to short run relationships. To understand both the long run and short run relationships is essential for the conduct of monetary policy since the central bank of Nigeria aims to influence the macroeconomic variables mainly through regulating the cost and availability of money (i.e., interest rates, exchange rate and credit availability). Monetary policy is one of the macroeconomic instruments with which monetary authority in a country employed in the management of their economy to attain desired objectives. It entails those actions initiated by the Central bank, which aim at influencing the cost and availability of credits (Nwankwo, 1991 and Wrightsman 1976).

The objectives of monetary policy include increase in Gross Domestic Product growth rate, accumulation of financial savings and external reserves, improvement in the balance of payments, as well as stability in Naira exchange rate, reduction in the rates of inflation and unemployment, the policy as well as instruments applied to attain these objectives, however, these objectives until recently have been far from adequate. Economic development is one of the major objectives of many countries in the world and economic growth is fundamental to economic development (Ajisafe & Folorunso, 2002).

Monetary policy is the art of managing money. Money must be managed because its very use introduces a potential threat to the stability of the growth of SMEs in Nigeria. For the use of money enables economic subjects to create a time lag between their acts of supplying goods and services to the market and their acts of purchasing goods and services from the market. The ultimate aim of monetary policy should be to cancel out disturbances if and when they occur, thus assuring a steady flow of total demand that will continually absorb the steady flow of total supply. Under conditions of perfect competition, this is bound to be accompanied by the full utilization of available productive resources. (Holtrop, 1963)

Creating and maintaining a stable monetary environment is enormously important for the Nigerian economy. Ensuring that inflation remains low and stable allows households and SMEs businesses to plan ahead and keeps borrowing costs low. Thus, by doing its inflation-stabilization job well over the long run, the central bank helps create the environment that allows an economy to flourish.

In recognition of the growth of small and medium scale enterprises in the economic development process of nations, there has been a shift of emphasis by successive governments in Nigeria away from large scale capital intensive industrialization in favour of small and medium scale enterprises (SMEs), especially beginning from the 1980s. The growth and development of SMEs is therefore seen as a cardinal and veritable tool in the industrialization process of Nigeria. But the existence and survival of these small and medium scale enterprises to a large extent depend on adequate robust economic policy and financing, as has been observed by Ovat (2013) and Afolabi (2013).

Churchill and Lewis (2013) identify growth stage models as those attempts to link growth with particular stages of development. However more examination is needed of SME's capability to adapt, deploy skills and focus assets and of how such procedures lead to ultimate success. Clearly as firms and particularly SMEs grow they face threats and opportunities and it is legitimate that management researchers should seek to examine the influences. These internal factors are probed and conclusions reached mainly with regard to the firm's value chain.

SMEs need to constantly experience growth by expanding productivity and market size. But, one of the major problems of monetary policy to growth of SMEs in Nigeria is stabilization of SMEs growth. Various monetary policies, has been adopted by the Nigerian government over the years, through Central Bank of Nigeria. Despite the increasing emphasis on manipulation of monetary policy, the problem surrounding the growth of SMEs still persists. Such problems include high interest rate, high rate of inflation and unstable foreign exchange rate.

In the light of the above therefore, this study intends to subject these issues to empirical examination in order to evaluate the effect of monetary policy on the growth of SMEs in Nigeria. Previous studies such as Atarere, (2016) examined the influence of monetary policies on the growth of Small and Medium Scale Enterprises in Nigeria, which was mostly theoretical in nature. Nto, Mbanasor and Osuala (2012) examined the influence of monetary policy variables on banks' credit supply to small and medium scale enterprises (SMEs) in Nigeria from 1995 to 2010 and used Fully Modified Least Squares (FMOLS) to analyze the data. Also, Suleyman (2014) examined the effects of credit channel on the real sector examined for SME's in the manufacturing sector in Turkey from 2003 to 2011 and finally, Kalu (2017) analyzed the nature of the relationship between monetary policy and private sector credit in Nigeria using ECM tool of analysis to analyze the data. But this research work fills the research gap by examining monetary policy and growth of SMEs in Nigeria from 1986 to 2016, analyzing monetary policy (interest rate, exchange rate and inflation) against level of SMEs contribution to GDP in Nigeria and making use of Error Correction Model to analyze the secondary data.

The main objective of this study is to examine the effect of monetary policy on the growth of small and medium enterprise in Nigeria. Other specific objectives include: to evaluate the effect of interest rate on the growth of SMEs in Nigeria; to examine the effect of exchange rate on the growth of SMEs in Nigeria and to determine the effect of inflation on the growth of SMEs in Nigeria.

The scope of this study is restricted to monetary policy and growth of small and medium enterprises in Nigeria with reference to the entire registered SMEs in Nigeria, which is seventy-two thousand eight hundred and thirty-eight according to SMEDAN and National Bureau of Statistic (2013) from 1986 to 2016 a 31-year period, and this period is chosen because it assesses the period of the past and present government, since the country's attention is gradually shifting away from the dependency on crude oil as the

price has fallen and Nigeria is trying to improve the level and growth of her SMEs so as to create many jobs within this period and finally trying to eradicate extreme unemployment that has hit the nation especially at this time of post recession.

**In line with the objectives, the following hypotheses are formulated in a null form, they are:**

- H<sub>01</sub>:** There is no significant effect between interest rate (INR) and the growth of small and medium enterprises in Nigeria
- H<sub>02</sub>:** There is no significant effect between exchange rate (EXR) and the growth of small and medium enterprise in Nigeria
- H<sub>03</sub>:** There is no significant effect between inflation (INFL) and the growth of small and medium enterprise in Nigeria.

### **Concept of Monetary Policy**

Monetary policy is one of the prime economic management tools that governments use to shape economic performance. Monetary policy is said to be quicker at resolving economic shocks (Uniamikogbo & Enoma, 2001). Deliberating on the impact of monetary policy on private sector investment 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. He further state that these objectives are all not consistent with each other is obvious, as the preference of monetary policy objectives is anchored upon the weights assigned by monetary authorities or country priorities. Experience shows that emphasis is usually placed on maintaining price stability or ensuring low inflation rates.

There are two major control mechanisms of monetary policy used by Central Banks at any point in time and this control mechanism are usually referred to as tools/instruments of monetary policy and they have effects on the proximate targets. Monetary instruments can be direct or indirect. The direct instruments include aggregate credit ceilings, deposit ceiling, exchange control, restriction on the placement of public deposit, special deposits and stabilisation securities while indirect instruments include Open Market Operation (OMO), cash reserve requirement, liquidity ratio, minimum discount rate and selective credit policies. Monetary policy has vital roles in the short-run i.e. it is used for counter-cyclical output stabilisation, while in the long run, it is used to achieve the macro-economic goals of full employment, price stability, rapid economic growth and balance of payments equilibrium. (Imoughele, & Ismaila, 2014)

In implementing monetary policy, a central bank can act directly, using its regulatory powers, or indirectly, using its influence on money market conditions as the issuer of reserve money (currency in circulation and deposit balances with the central bank). The term "direct" refers to the one-to-one correspondence between the instrument (such as a 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 (amounts of credit outstanding) through regulations, while indirect instruments act through the market by, in the first instance, adjusting the underlying demand for, and supply of, bank reserves. (Alexander, Balino & Enoch, 1996)

Using indirect instruments, the central bank can determine the supply of reserve money. Strictly speaking, the central bank can determine the supply of reserve money in the long run only under a fully flexible exchange rate regime. Even under a pegged or managed exchange rate regime, however, central bank transactions affect reserve money, at least in the short run. These transactions affect banks' liquidity positions, which results in adjustments to interbank, money market, and bank loan and deposit interest rates to re-equilibrate the demand for, and the supply of, reserve balances. (Alexander, Balino & Enoch, 1996)

Macroeconomists have established the theoretical relationship between real output and monetary policy measures. According to the Keynesians school of thought, a discretionary change in money supply permanently influences real output by lowering the rate of interest and through the marginal efficiency of capital, stimulate investment and output growth (Athukorala, 1998). In contrast to Keynesian policy prescription, McKinnon (1973) and Shaw (1973) in their hypothesis of finance led growth advocated that market force induced higher interest rate, would enhance more investment by channeling saving to productive investment and stimulate real output growth such as the manufacturing sector.

The Central Bank of Nigeria (2011) defines monetary policy as “the specific actions taken by it to regulate the value, supply and cost of money in the economy with a view to achieving predetermined macroeconomic goals”. Thus, to achieve predetermined economic goals, the CBN embarks on monetary control. In doing this, it classifies money into Narrow Money (M1) and Broad Money (M2). M1 is made up of currency in circulation with the non-bank public; and demand deposits (current accounts in the banks). This category of money represents money used for daily transactions and short-term monetary needs. The M2 (broad money) consists of narrow money and savings as well as time deposits (that is, call money). It also includes foreign currency-denominated deposits. This categorization measures the total volume of money in supply in the economy. It is via the broad money that liquidity and inflation issues are tackled by the CBN.

Monetary policy is a package of actions designed to manage the growth of money supply during a period to its optimal target. It is relevant irrespective of the economic framework in place. It consists of discretionary measures designed by the monetary authorities to regulate and influence the supply, cost and direction of money and credit provided to the economy. The measures are undertaken in such a way that monetary expansion is kept at a pace consistent with the level of economic activity and in consonance with general macroeconomic stability (Ojo, 2004). He further stressed that the success or failure of monetary policy can be assessed on the basis of its impact on economic growth as well as

on the domestic and external stability of the economy. One important aim of monetary policy is that of stabilizing the economy, that is, it should stimulate the economy in recession and dampen it in periods of inflation.

In our opinion, monetary policy is the process by which those in helm of monetary authority of a country, for example the central bank or currency board, controls the supply of money, targeting an inflation rate or interest rate to ensure that there is stability of price and the citizens have general confidence in the currency.

According to Uchendu (2006), there are three main channels (liquidity, credit and exchange rates) through which changes in monetary policy affect small and medium enterprises (SMEs) activities. The author buttresses that liquidity channel, sometimes called money or interest rate channel, exist when nominal short-term interest rates react to changes in liquidity conditions to influence the operations of SMEs in an economy. The basic characteristic is that the effect is felt economy wide. On the other hand, the credit or loan channel works mainly through banks. In this mode of transmission, household and SMEs/firms receive fewer credits especially from banks during periods of liquidity squeeze. In particular, bank-dependent borrowers are more vulnerable in such periods. Besides the existence of spread between interest rates on external finance and opportunity cost of the use of internal finance, imperfect asset substitutability and information asymmetry between lenders and borrowers are essential elements for the existence of the credit channel. (Uchendu, 2006)

The exchange rate channel propagates monetary policy through the foreign exchange market. In an open economy, with relatively developed financial markets interest rate and exchange rate differentials stimulate foreign exchange flows between countries and induce monetary adjustments. In effect, the exchange rate channel exists through the substitution of the external assets for a domestic asset. In the process, the effects of policy are transmitted within and to the external economy as should be expected. The three transmission channels do not necessarily work independently of each other but operate in such a way as to reinforce each other in propagating monetary stimuli to the economy (Uchendu, 2006). The observed channels of monetary transmission (liquidity, credit and exchange rate) are also applicable in Nigeria though the strength and significance of the channel may have varied over the years.

### **Interest Rate**

An interest rate is the amount of interest due per period, as a proportion of the amount lent, deposited or borrowed (called the principal sum). The total interest on an amount lent or borrowed depends on the principal sum, the interest rate, the compounding frequency, and the length of time over which it is lent, deposited or borrowed (*Sepehri & Moshiri, 2004*). It is defined as the proportion of an amount loaned which a lender charges as interest to the borrower, normally expressed as an annual percentage.

During the era of direct monetary management (pre-1986) in Nigeria, interest rates were administratively determined such that economic activities were influenced principally through variation in the volume of credit granted to borrowers. When economic controls were relaxed as part of Structural Adjustment Programme (SAP) launched in mid 1986, the inter-bank market and the emerging rates became an important means for the transmission of monetary policy in Nigeria. Money market conditions generally dictated interest rate developments. From the early 1990s, the effectiveness of inter-bank market weakened as distress borrowing by illiquid banks contributed to interest rate movements. As part of the final phase of change over to the indirect method of monetary management, the open market operations (OMO) was introduced in 30th June 1993 as the main instrument of monetary policy. Under OMO authorized dealers through discount houses traded government securities. (Tokunbo, 2005).

This exercise is expected to impact on the level of liquidity in the economy as well as the cost of funds, which would influence activities in the real sector. However, because of the peculiar nature of open market operations in Nigeria, namely, one way sale of securities by the Central Bank to authorized dealers liberal rediscount policy, limited participation of non-bank public and perceived unattractive interest rate on OMO instruments, the effectiveness of this mode of transmission of monetary policy has been limited when compared to those in advanced countries (Tokunbo, 2005). In particular, it is generally known that rates emerging from the market do not influence the actual rate of interest in the money market as well as the cost of fund as it should be expected. This notwithstanding, the interest in OMO instruments, among money market operators is rising, especially now that other investment opportunities seem to be dwindling in view of the present low level of economic activities.

### **Exchange Rate**

An exchange rate is the price of a nation's currency in terms of another currency. Thus, an exchange rate has two components, the domestic currency and a foreign currency, and can be quoted either directly or indirectly. In a direct quotation, the price of a unit of foreign currency is expressed in terms of the domestic currency. In an indirect quotation, the price of a unit of domestic currency is expressed in terms of the foreign currency. Exchange rates are quoted in values against the US dollar. However, exchange rates can also be quoted against another nations currency, which are known as a cross currency, or cross rate. (Investopedia, 2017)

Exchange rates can be floating or fixed. A floating exchange rate is where market forces determine a currency rate. This is the norm for most major nations. However, some nations prefer to fix or peg their domestic currencies to a widely accepted currency like the US dollar. Reasons for fixing an exchange rate can be to reduce volatility or better manage trade relations. For example, Nigeria pegs its currency, the Naira, to the U.S. dollar because its main export is oil, which is priced in U.S. dollars (Investopedia, 2017).

## **Inflation**

Inflation is one of the most frequently used terms in economic discussions, yet the concept is variously misconstrued. There are various schools of thought on inflation, but there is a consensus among economists that inflation is a continuous rise in the prices. Simply put, inflation depicts an economic situation where there is a general rise in the prices of goods and services, continuously. It could be defined as a continuing rise in prices as measured by an index such as the consumer price index (CPI) or by the implicit price deflator for Gross National Product (GNP). Inflation is frequently described as a state where “too much money is chasing too few goods”. When there is inflation, the currency loses purchasing power (Chude & Chude, 2015).

Inflation is defined as a generalised increase in the level of price sustained over a long period in an economy (Lipsey & Chrystal, 1995), that is, a persistent rise in the price levels of commodities and services, leading to a fall in the currency's purchasing power. Although inflation is a household word in many market-oriented economies, and there exist a compendium of empirical studies on the over-arching problem of inflation, yet only selected few seem to know about the determinants, mechanics and the real impact of inflation on national economic growth.

Inflation is the rate of increase in prices over a given period of time. Inflation is typically a broad measure, such as the overall increase in prices or the increase in the cost of living in a country. But it can also be more narrowly calculated – for certain goods, such as food, or for services, such as a haircut, for example. Whatever the context, inflation represents how much more expensive the relevant set of goods and/or services has become over a certain period, most commonly a year. (Oner, 2010)

## **Concept of Small and Medium Enterprises**

As early as the late 1940s, Organization for Economic Co-operation and Development, OECD (2004) noted that the notion of small and medium-scale enterprises (SMEs) were introduced into the development landscape, and the primary aim was to improve trade and industrialization in the present developed nations. Ever since, there has been no consistent definition of SMEs (McAdam & Reid, 2005). This has been one of the key difficulties facing researchers in studying SMEs. Different quantitative (such as the number of employees, capital, profit, energy consumption, sales, value-added and market share) and qualitative (such as managed by owner-managers, lower level of hierarchy and specialization, insufficient financial resources and absence of modern managerial techniques) criteria have been used (Dincer, 1996).

The definitions of SMEs are usually derived in each country, based on the role of SME in the economy, policies and programmes designed by particular agencies or institutions empowered to develop SME. For instance, a small business in the developed economies of countries like Japan, Germany and United States of America (USA), maybe a medium or large-scaled business in a developing economy like Nigeria. Moreover, the definition of SME also varies overtime from agencies or developing institutions to another, depending on their policy focus. (Julius, Agbolade, & Johnson, 2016).



In an attempt to separate small enterprises from medium enterprises, a Survey Report on MSMEs in Nigeria (2012) defines small enterprises as those enterprises whose total asset excluding land and building are above 5 Million Naira but not exceeding 50 Million Naira with total workforce of above 10 but not exceeding 49 employees. While the medium enterprises are those enterprises whose total asset excluding land and building are above 50 Million Naira but not exceeding 500 Million Naira with a total workforce of between 50 and 199 employees (Julius, Agbolade, & Johnson, 2016). In regards to the number of workers employed in an enterprise, various scholars and institutions have made notable agitations. According to Small and Medium Enterprises Development Agency of Nigeria (SMEDAN, 2012), a business is defined as small in the manufacturing sector if it employs fewer than 100 employees. As there is no official definition of what constitutes a medium-sized enterprise.

Form the above SMEs concepts; it is evident that growth is an important phenomenon in small and medium enterprises. In fact, their survival essentially depends on their power to participate in the market with other big companies. Growth decreases the possibility of closing small businesses (Rauch & Rijskik, 2013). Strengthening is important not merely for the enterprises and their owners but for all stakeholders since these companies thrust forward the economy by underscoring diversity of products and services.

### **Empirical Studies**

A critical survey at existing empirical studies will provide further insights into the dynamics of monetary policy and growth of SMEs. The effectiveness of the various monetary policy channels in stimulating growth of SMEs remains debatable. Atarere, (2016) examined the influence of monetary policies on the growth of the small and medium scale enterprises in Nigeria. The major goals of monetary policy have been those of attaining price stability and external balance of trade. As such, inflation targeting and exchange rate policy have dominated CBN's monetary policy focus based on the assumption that these are essential tools of achieving macroeconomic stability. In doing this, the CBN uses monetary tools to exercise strict controls over the supply of money in the economy, the rate of interest chargeable to borrowers of credit, amongst which are the small and medium scale enterprises.

Hence, the paper examined the influence of monetary policies on the growth of the Small and Medium Scale Enterprises. Literatures were reviewed in areas of, concept of Small and Medium Scale Enterprises, monetary policy and Influence of Monetary Policies on the Growth of SMEs. The paper is hinged on the finance-led growth theory. The literatures reviewed revealed that monetary policies are very important in the regulation of any economic system. It was however recommended that the Monetary authority (CBN) should implement policies that increase the flow of money and direct it to sectors like SMEs with higher propensity to contribute to national economic productivity and should endeavour to make more use of the cash reserve ratio in regulating the operations of commercial banks; and interest rate policy should be such that banks can efficiently intermediate funds in the economy.

Atarere, (2016) examined the influence of monetary policies on the growth of the small and medium scale enterprises in Nigeria. This study focused on growth of SMEs, which was good but did not explain in-depth how the findings was arrived at, tools of analysis used and these makes the study theoretical in nature and a bit confusing.

Nto, Mbanasor and Osuala (2012) examined the influence of monetary policy variables on banks' credit supply to small and medium scale enterprises (SMEs) in Nigeria. Time series data, which were collected on quarterly basis, were elicited from the Central Bank of Nigeria (CBN) Statistical bulletin and financial statements for five commercial banks. The data covered a period of 1995-2010 and were analyzed using Fully Modified Least Squares (FMOLS). Considering the time series properties of the variables, unit root test was done with Philips Perron test to establish stationarity prior to actual analysis. The result of the FMOLS indicated that policies on interest rate and liquidity ratio were negatively and positively significant at 1 percent probability level respectively.

Beautiful study from Nto Philips, Mbanasor and Osuala (2012) who examined the influence of monetary policy variables on banks' credit supply to small and medium scale enterprises (SMEs) in Nigeria. But they did not state what was used to measure SMEs and the names of the five banks were not mentioned

Suleyman (2014) examined the effects of credit channel on the real sector examined for SME's in the manufacturing sector. For this purpose, monetary policies of the Central Bank of the Republic of Turkey was analyzed to detect correlations between credit growth and money supply as firm size changes, between 2003-2011. For a lack of balance between credit growth and firm size implies an asymmetric distribution of credit, which needed to be criticized by policy makers. As a result of this essay, in Turkey, money supply has a strong effect for manufacturing sector credit volume. Also, this paper shows that, increase in the credit volume of large enterprises does not have any effect on the credit volume for SMEs, in that analyzed data shows no clear correlation. On the contrary, as credit volume of SMEs increases, credit volume of large enterprises decreases, which reveals a reverse causality between credit volume tendencies of different size firms.

This study of Suleyman was theoretical in nature, for there was no tools of analysis used, the number of manufacturing firms also was not stated and no findings was carried out but the study went ahead to reveal a reverse causality between credit volume tendencies of different size firms.

Kalu (2017) analyzed the nature of the relationship between monetary policy and private sector credit in Nigeria. The co integration regression results revealed evidence of a long-run relationship between monetary policy and credit to private sector. The long-run parameter estimate stability tests support cointegration in the presence of structural breaks. On the contrary, error correction model (ECM) results showed that changes in credit have positive and significant short-term influence on changes in monetary policy. The findings further indicate unidirectional causality running from credit to monetary policy.

The study of Kalu did not state the scope of the study, what was used to measure monetary policy and what private sector was he referring to was not mentioned. Rather he went straight to findings and results, which was not appropriate for the study.

Fu and Liu (2015) investigated the monetary policy effects on corporate investment adjustment, using a sample of China's A-share listed firms within the period 2005 and 2012. The results showed that corporate investment adjustment is faster in expansionary than contractionary monetary policy periods. The study showed that an increase in the growth rate of money supply or credit accelerates adjustment. The monetary channel was also found to have significant asymmetry, whereas the CRDT has none.

The study of Fu and Liu (2015) stated the scope of the study, what was used to measure monetary policy and what private sector was he referring to was not mentioned. Rather he went straight to findings and results, which was not appropriate for the study.

Moreira, Chaiboonsri, and Chaitip (2016) applied the Markov-switching models and a Bayesian VAR to verify empirical linkage between expected and effective short-term interest rates in Brazil. The main findings support the theoretical idea which argues that Central Bank can smooth adjustments of effective short-term interest rates, given that these last ones have effects on expected short-term rates, thereby influencing long-term interest rates, which are essential for controlling output activity and price changes. Also, the MS-models showed that the magnitude or significance of these empirical relationships is more under a "higher response regime."

Bawuah, Yakubu and Alhassan (2014) investigated the effects of interest rate on micro, small and medium enterprises' (MSMEs) access to funds and their financing decision in Wa municipality of Ghana. A multiple research method and descriptive survey were employed to permit the study to make use of both quantitative and qualitative data collection techniques and data analysis procedures. This is because we wanted to portray an accurate profile of the enterprises, events and situations in order to obtain information, which can be analysed and patterns extracted and comparisons made in all, 200 enterprises were chosen for the research. Evidence from the analysis shows that majority of MSME businesses have resorted to the use of equity financing for their operations. This was attributed to several factors of which interest rate was the leading cause. It emerged that interest rate affects choice of financing decision of MSMEs in Wa municipality.

Afolabi (2013) evaluated the effect of SMEs financing on economic growth in Nigeria between 1980 and 2010 the study employed Ordinary Least Square (OLS) method to estimate the multiple regression models. The estimated model results revealed that SMEs output proxy by wholesale and retail trade output as a component of gross domestic product and commercial banks' credit to SMEs exert positive and significant impact on economic development proxy real gross domestic product while lending rate is found to exert negative effects on economic growth.

Ajagbe (2012) study is to ascertain the impact of inflation in the growth of small and medium enterprises in Ogbomoso area of Oyo State, Nigeria. The data considered was secondary as obtained from Central Bank of Nigeria and Federal Office of Statistics. The results showed that the parameters estimates associate with the independent variable inflation rate is positive (i.e.  $0.164X_1$ ). Also, there is a positive relationship between parameter estimate associate with capacity utilization (i.e.  $0.048X_2$ ) and parameter estimate associate shows positive relationship with environmental factors. It is conclusive that there is a direct relation between growth rate in real GDP (i.e. productivity) and inflation rate in Nigeria.

Nneka (2012) examined the performance of monetary policy on the manufacturing index performance in Nigeria. The data collected from the CBN 2010 bulletin were subjected to econometric test procedures such as unit root for stationarity of series, diagnostic test and granger causality to investigate the impact of some macroeconomic variables on the Manufacturing index (MANDEX) in Nigeria while VEC and OLS estimation were used to study the models for significance, magnitude, direction and relationship. The study revealed that money supply (MS) positively affect MANDEX by 0.5% while others played negative impact to the performance of the manufacturing sector over the years.

## **Theoretical Framework**

### **Monetarism Theory**

The theoretical base found adequate for this work is the monetarism theory. This school of economic thought monetarism, maintains that the money supply (the total amount of money in an economy) is the chief determinant of current dollar GDP in the short run and the price level over longer periods. Monetary policy, one of the tools governments have to affect the overall performance of the economy, uses instruments such as interest rates to adjust the amount of money in the economy. Monetarists believe that the objectives of monetary policy are best met by targeting the growth rate of the money supply. Monetarism gained prominence in the 1970s—bringing down inflation in the United States and United Kingdom—and greatly influenced the U.S. central bank's decision to stimulate the economy during the global recession of 2007-09.

Today, monetarism is mainly associated with Nobel Prize-winning economist Milton Friedman. In his seminar work *A Monetary History of the United States, 1867-1960*, which he wrote with fellow economist Anna Schwartz in 1963, Friedman argued that poor monetary policy by the U.S. central bank, the Federal Reserve, was the primary cause of the Great Depression in the United States in the 1930s. In their view, the failure of the Fed (as it is usually called) to offset forces that were putting downward pressure on the money supply and its actions to reduce the stock of money were the opposite of what should have been done. They also argued that because markets naturally move toward a stable centre, an incorrectly set money supply caused markets to behave erratically. Monetarism gained prominence in the 1970s. In 1979, with U.S. inflation peaking at 20 per cent, the Federal Reserve switched its operating strategy to reflect monetarist theory. But monetarism faded in the following decades as its ability to explain the U.S. economy

seemed to wane. Nevertheless, nonmonetary economists have adopted some of the insights monetarists brought to economic analysis. (Sarwat, & Papageorgiou, 2014)

### Methodology

The research design adopted for this study is ex post facto, because the events the researchers are studying had already taken place. This design can also be applicable for studies geared toward ascertaining the cause-effect association between the independent and dependent variables (Onwumere, Onodugo, & Ibe, 2013). Determining cause-effect relationships among the selected variables is the major aim of this study; hence, the data are of secondary nature, collated from SMEDAN, National Bureau of Statistics and the Central Bank of Nigeria (CBN) statistical bulletins for thirty-one years, covering the period 1986-2016. The annualized time series data will be analyzed using the Error Correction Model (ECM), whereas the Johansen co-integration approach will be employed to test for the long-run relationship among the series. In other words, the underlying assumption is that all variables are integrated of Order 1 or I(1). The speed of adjustment will be ascertained based on the ECM and will be able to tell the rate at which the previous period disequilibrium is adjusted toward equilibrium path on an annual basis.

### Model Specification

It is the aim of the researchers to derive the output effect of monetary policy. To achieve this, the researchers estimate for the growth of small and medium enterprises in the linear regression equation:

$$GSME = \alpha_0 + \alpha_1 INR + \alpha_2 EXR + \alpha_3 INF + \varepsilon_t \text{-----(1)}$$

Where:

GSME is the real output (measured as SMEs contribution to GDP), INR is the interest rate (this is the real lending rate), EXR is the exchange rate and INFL is measured as inflation.

- $\varepsilon_t$  = Error term
- $\alpha_1 - \alpha_3$  = The coefficients of monetary policies measuring the slopes
- $\alpha_0$  = Intercept parameter estimate

Equation (1) is the baseline long run model for determining the effect of monetary policy in Nigeria. It has been vastly emphasized in recent literature of financial econometrics that upon the establishment of a long-run relationship, there is need to integrate a model which fits in with short-run dynamic adjustment process, which is the speed of adjustment (ECT) from short-run disequilibrium to long-run equilibrium. Based on this, the researchers develops ECM by modifying equation 1 as follows:

$$\Delta GSME = \alpha_0 + \sum_{j=0}^n \alpha_{1j} \Delta INR_{t-j} + \sum_{k=0}^o \alpha_{2k} \Delta EXR_{t-k} + \sum_{l=0}^p \alpha_{3l} \Delta EXR_{t-l} + \sum_{m=0}^0 \alpha_{4m} \Delta INF_{t-m} + ECT_{t-1} + \varepsilon_t \text{----(2)}$$

## Results and Analysis

### Unit Root Test

To ensure that the data for the variables used in the model is trendy, unit root test is conducted to ascertain the stationary status of the variables, using Augmented Dickey – Fuller (ADF) technique. Running regression with non-stationary data series produces spurious results that may not be reliable.

Results of the unit root tests are presented in table 1:

**Table 1: Summary of Unit Root Test Results**

Variables	ADF Test Statistic	Order of Integration
<i>GSME</i>	-3.355482(-3.229230)**	<i>I(1)</i>
<i>INR</i>	-3.296853(-3.229230)***	<i>I(1)</i>
<i>EXR</i>	-7.332791(-4.440739)**	<i>I(0)</i>
<i>INFR</i>	-5.415015(-4.374307)*	<i>I(1)</i>

**Notes:** \*\*\*, \*\* and \* indicate statistical significance at 10%, 5% and 1% levels, respectively

**Source:** Authors Compilation (2018), E-views10

The ADF test indicates that three of the variables (*GSME*, *INR* and *INF*) were found stationary at first difference and at 5% level of significance and 1% respectively. Hence, the unit roots for ADF test were rejected at the first difference for the three variables. However, *EXR* was found stationary at levels and at 5 percent level of significance. Since they were all found stationary at different orders, they satisfy the condition for using bound cointegration test.

### Cointegration Test

Cointegration is the statistical implication of the existence of a long-run relationship between economic variables. The test stipulates that if variables are integrated of the same order, a linear combination of the variables will be integrated of that same order. The idea behind cointegration analysis is that, although macro variables may tend to trend up and down over time, groups of variables may drift together.

**Table 2: Summary of Co-integration Estimates**

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	5.048309	10%	2.37	3.2
k	3	5%	2.79	3.67
		1%	3.65	4.66

**Source:** Authors Compilation (2018), E-views 10

Using the bound test, it indicates the F-statistic value of 5.048 is greater than the upper and lower bound of 3.67 and 2.79 at 5%. This implies that long run relationship exists among the variables. This led to the rejection of the hypothesis of no co-integration among the variables. The result thus shows that there is a long run relationship between monetary policy and SMEs growth in Nigeria.

**Table 3: ARDL Error Correction Regression**

Dependent Variable: D(GSME)  
 Selected Model: ARDL(3, 4, 3, 2)  
 Case 2: Restricted Constant and No Trend  
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 Sample: 1986 2016  
 Included observations: 27

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GSME(-1))	0.163707	0.148540	1.102107	0.2939
D(GSME(-2))	-0.234570	0.140659	-1.667652	0.1236
D(INR)	-361.5074	107.2347	-3.371180	0.0062
D(INR(-1))	-474.6020	126.6210	-3.748210	0.0032
D(INR(-2))	140.0775	112.1156	1.249403	0.2374
D(INR(-3))	168.6163	79.03869	2.133339	0.0563
D(EXR)	-34.62581	16.52317	-2.095591	0.0601
D(EXR(-1))	-5.485552	21.24471	-0.258208	0.8010
D(EXR(-2))	-106.1555	25.23092	-4.207356	0.0015
D(INF)	-171.4197	26.80888	-6.394139	0.0001
D(INF(-1))	135.1266	26.51614	5.096014	0.0003
ECM(-1)*	-0.061348	0.010457	-5.866881	0.0001
R-squared	0.824769	Mean dependent var	1578.709	
Adjusted R-squared	0.696267	S.D. dependent var	2619.087	
S.E. of regression	1443.431	Akaike info criterion	17.68854	
Sum squared resid	31252382	Schwarz criterion	18.26446	
Log likelihood	-226.7952	Hannan-Quinn criter.	17.85979	
F-statistic	5.048309			
Prob. F-statistic	0.000121			
Durbin-Watson stat	2.018329			

**Source:** Authors Computation, 2018 (Eviews-10)

As expected, the lagged error correction term is negative, less than unity and statistically significant at 5 percent. The coefficient of (-0.06) revealed that once there is disequilibrium in the system, it takes an average speed of 6% to adjust itself back towards long-run equilibrium level.

The coefficient of determination (R-Bar-square), which was used to measure the goodness of fit of the estimated model, indicates that the model is reasonably fit in prediction. It showed that 82.47 percent changes in SMEs growth were collectively due to INR, EXR and INF while 17.53 percent unaccounted variations was captured by the error term. It showed that monetary policy has an impact prediction on the SMEs growth within the period under review.

### Statistical Test of Hypothesis

The three hypotheses formulated in this study were tested using Wald test and the associated p-value. The decision rule for accepting or rejecting the null hypothesis was based on the Probability Value (PV). If the PV is less than 5% or 0.05 (that is,  $PV < 0.05$ ), it implies that the regressor in question is statistically significant at 5% level; otherwise, it is not significant at that level.

**H<sub>01</sub>:** There is no significant effect between interest rate (INR) and the growth of small and medium enterprises in Nigeria.

**Table 4: Results of Wald Test of interest rate (INR) and the growth of small and medium enterprises in Nigeria**

Test Statistic	F-Value	df	Probability
F-statistic	4.050767	(4, 11)	0.0294
Chi-square	16.20307	4	0.0028

**Source:** Authors Computation, 2018 (Eviews-10)

The Wald-test in Table 4 indicated that the calculated F-value for interest rate is 4.05 and its probability value is 0.0294. Since the probability value is less than 0.05 at 5 percent level of significance, it thus falls in the rejection region and hence, the first null hypothesis (**H<sub>01</sub>**) was rejected. The result thus shows that there is a significant effect between interest rate (INR) on the growth of small and medium enterprises in Nigeria

**H<sub>02</sub>:** There is no significant effect between exchange rate (EXR) and the growth of small and medium enterprise in Nigeria

**Table 5: Results of Wald Test of exchange rate (EXR) and the growth of small and medium enterprise in Nigeria**

Test Statistic	F-Value	df	Probability
F-statistic	1.829053	(3, 11)	0.2002
Chi-square	5.487158	3	0.1394

**Source:** Authors Computation, 2018 (Eviews-10)

The Wald-test in Table 5 indicated that the calculated F-value for exchange rate was found to be 1.82 and its probability value is 0.2002. Since the probability value is greater



than 0.05 or 5percent level of significance, which fell in the acceptance region and hence, we accepted the second null hypothesis ( $H_{02}$ ) and conclude that there is no significant effect between exchange rate (EXR) and the growth of small and medium enterprise in Nigeria

$H_{03}$ : There is no significant effect between inflation (INFL) and the growth of small and medium enterprise in Nigeria.

**Table 6: Results of Wald Test for inflation (INFL) and the growth of small and medium enterprise in Nigeria.**

Test Statistic	F-Value	Df	Probability
F-statistic	3.400507	(2, 11)	0.0708
Chi-square	6.801015	2	0.0334

**Source:** Authors Computation, 2018 (Eviews-10)

The Wald-test in Table 6, indicate that the F-value for inflation (INFL) rate was found to be 3.40 and its probability value is 0.07. Since the probability value is greater than 0.05 or 5percent level of significance, and fell in the acceptance region, we accept the third null hypothesis ( $H_{03}$ ) and conclude that there is no significant effect between inflation (INFL) and the growth of small and medium enterprise in Nigeria

### Discussion of Findings

Findings from the study revealed that that there is a significant effect between interest rate (INR) and the growth of small and medium enterprises in Nigeria. This may be attributed to prime lending rate that witnessed relative stability after consolidation of 2005 and post-consolidation period of 2007. The findings however are not in agreement with Ishioro (2013) who observed that negative monetary shocks posed a constraint to the banking system's capability to dispose deposits due to adjustability of price that lead to a fall in real money balances causing interest rates to rise thereby increasing the cost of capital. In addition, the finding is in tandem with that obtained by Nto, Mbanasor and Osuala (2012) showed that policies on interest rate and liquidity ratio were negatively and positively significant at 1 percent probability level respectively.

However, it was discovered from the study that there is no significant effect between exchange rate (EXR) and the growth of small and medium enterprise in Nigeria. It showed that frequent depreciation of the naira due to fluctuations in exchange rates had adverse effects on the growth of small businesses in Nigeria. This is in-line with Nneka (2012) whose study revealed that exchange rate had a negative impact to the performance of the manufacturing sector over the period of study. More so, result obtained by Suleyman (2014) supported our study outcome as they revealed that there was no evidence of a strong direct relationship between changes in exchange rate and output growth.

In addition, the study revealed that there is an insignificant effect between inflation (INFL) on the growth of small and medium enterprise in Nigeria. This is not surprising as rising inflationary trend huge have a dampening effect on the growth of SMEs due to rising cost of production. This agrees with the findings of Blume (2017) whose result revealed that higher inflation contracts the supply of credit available to fund capital investment damaging the economy. This results in lower SMEs investment levels, production and loss socially positive interactions.

### **Conclusion and Recommendations**

Having examined the influence of monetary policy on the growth of small and medium scale enterprises in Nigeria, the results have shown that major determinants of SMEs growth are policies directed on interest rate stabilization, exchange rates management and inflation rate targeting. The implication is that the interplay of these variables is important to keep SMEs alive in Nigeria. The policy insinuation therefore, is that monetary policy should be set in such a way that the objective it wants to achieve is clearly and transparently defined in response to the dynamics of the domestic and global economic developments.

Based on the findings, the following recommendations were raised:

- i. High interest rates have the tendency of making SMEs to collapse within a short period of time and thereby discourage prospective investors from borrowings. Hence, there is the need for monetary authorities to make more reasonable policy decisions on interest rates on loans granted to the SMEs sector, so as to encourage borrowers to undertake profitable ventures for business expansion, SMEs sales growth and improvement in added value.
- ii. There is need for a consistent monetary policy framework that should bring about realistic exchange rate with emphasis on its role to directly promote output and productivity of the SMEs. Policy makers should consider exchange rate policies as a long-run fix to the problem of growth in foreign goods demand.
- iii. Lastly, there is the need to curtail the rate at which domestic price levels fluctuate with the economy. The monetary authorities could micro-manage that through inflation targeting approach to avoid rising cost of SMEs productions.

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