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Monetary Policy and its Effectiveness on Economic Development in Nigeria

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Abstract: Monetary policy play special roles in any developing country and one of the special roles is to control the supply of money with the purpose of promoting economic growth and price stability. Monetary policy in a simplified analysis amount to the determination of the optimal quantity of money or in a "dynamic" sense, the optimal rate of growth of money stock in an economy. But there is more to monetary policy than the determination of the optimal stock or growth rate of money. The main thrust of this study was to examine the impact of monetary policy on macroeconomic outcomes in Nigeria, so as to draw useful lessons from her inception. In demonstrating the application of ordinary least square method, the multiple linear regression analysis will be used with gross domestic product, inflation rate while exchange rate, interest rate and money supply as the explanatory variables. The data for the study was therefore obtained from the Central Bank of Nigeria publications. The result gotten shows that while exchange rate, interest rate and money supply is significant in impacting the economy, inflation proves otherwise. Hence the study recommends amongst others that Monetary policies should be used to create a favourable investment climate by facilitating the emergency of market based interest rate and exchange rate regimes that attract both domestic and foreign investments, create jobs, promote non oil export and revive industries that are currently operation far below installed capacity.

Key words: Monetary policy, growth, development, optiaml rate, foreign investment

INTRODUCTION

Successful economic growth in small open economies is dependent upon a high degree of monetary and fiscal policy co-ordination between central banks and government. One of the roles of the central bank of Nigeria is the regulation of the stock of money. This role therefore depends on the use of monetary policy which is targeted towards the achievement of some economic variables which includes: rapid economic growth, price stability, equilibrium, full employment and external balances (Fasanya *et al*., 2013).

After the political independence of Nigeria in 1960, peculiar problems have influenced policy objectives and instrument at different points in time. Policy measures were not clearly defined although they were geared towards mobilization and restoring confidence in the Nigeria currency (Olubusoye and Oyaromade, 2008). During the civil war in Nigeria, (1967-1970) policy measured was tailored towards raising money to finance the war. Immediately after the war, problems of mounting inflation, unemployment, restoring general economic activities deteriorating balance of payments situation became the target of policy measures.

Adeleke and Oyaromade affirmed that, the traditional policy objectives were still addressed but the monsters of unemployment and explosive inflation became the central focus of policy measures because they had attained unimaginable height. The economy has also witnessed times of expansion and contraction but evidently, the reported growth has not been a sustainable one as there is evidence of growing poverty among the populace.

The major problem with macroeconomic policy in Nigeria has not been much with the formulation of the macroeconomics policy but more with the gulf in terms of what government does as opposed to what it ought to carry out. One of the major objectives of monetary policy in Nigeria is price stability. But despite the various monetary regimes adopted over the years, inflation still remains a major threat to Nigeria economic. It is of this thrust that this study seeks to evaluate the effectiveness of the Nigeria's monetary policy on the economy development.

Literature review: In terms of economic history, Nigeria has indeed come a long way. Since political independence in 1960, the country has suffered from civil strife and stop

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go economic policies which have resulted in high inflation and serious macroeconomic instability (Olubusoye and Oyaromade, 2008). Understanding the sources of the instability is an important challenge to empirical macroeconomist and policy makers. The reason for this challenge is related to the vast wealth of natural resources available in the country and particularly crude oil and natural gas whose huge export revenue has driven the Nigerian economy since the 1970s, yet the economy has not experiences substantial growth and development (Omotor, 2009). One of the key monetary policies of the Nigerian government is to target low or moderate inflation rate.

Specifically, the policy objectives were to moderate inflationary pressure, encourage foreign capital inflows, increase export earnings from non oil sources and ensure improvement in the balance of payment. There was estimation that economic growth is largely linked to labour and capital as factors of production. The emergence of the endogenous growth theory has encouraged specialists to question the role of other factors in explaining the economic growth phenomenon. Therefore, monetary policy is considered an important variable economic growth has received much attention among scholars. There are three cardinal indicators of fiscal policy-government expenditure, taxes and deficits (Tanzi and Zee, 1987). It was analyzed that economic policy instruments had been used for fiscal money, foreign trade, price and employment to achieve specific macroeconomic objectives of full employment, production, price stability, balance of payment, development and redistribution of income. It was stressed that fiscal instruments which government holds, are to be used for protection of stabilized economic framework which is purified from cyclical fluctuation and to obtain price stability, full employment, economic growth and development.

According to the monetarist approaches of inflation, observed rates of inflation in different countries is ascribe to the respective growth rate of money supply per unit of national product. This school of thought believes that inflation is mainly a monetary phenomenon. However, this may not be totally true of the Nigerian situation as there are other factors responsible for inflation in the country. It was argued that inflation in Nigeria moves with fluctuation in money supply. Thus, growth of broad money between 1970-1981 were associated with double digits inflation and since 1984 to date, the rate of inflation has grown faster than that of growth in money supply. This trend suggests that although growth in money supply may be significant in explaining inflation in Nigeria, however, it is not the only factor.

The structuralized economists further argued that inflation may not be the outcome of excess demand, high and raising costs or the willful desire of businessmen to earn more profits by raising prices of their products but the manifestation of structural rigidities in the system when supply create bottlenecks as there are shortages and persistence fiscal deficit. Some of these structural factors that include managerial, technological, infrastructural deficiencies and climate change are themselves reflection of the state of the economies under development (Emmanuel, 2000).

The impact of monetary policies on inflation in Nigeria for the period of 1980-1995 was examined by Chuku, 2009. The study employed domestic credit, exchange rate, gross domestic product and money supply.OLS techniques was employed and findings showed that exchange rate and money supply had a negative impact on inflation, however, while exchange rate was significant in explaining inflation for the period, money supply was not. Meanwhile, both domestic credit and gross domestic product were positively significant in explaining inflation in Nigeria.

Fielding (2008) showed that effort of the monetary regulating authorities to stabilize the domestic prices would continuously be disrupted by volatility in the international price of crude oil. Akinnifesi further identified a strong positive correlation between inflation rate and expansion in domestic credit. His other study showed that government deficit expenditure among other factors had a strong influence in explaining inflation in the country. It was established that increase in government expenditure financed by monetization of oil revenue and credit from the banking system was responsible for expansion of money supply which in turn, with a lag in effect contributed immensely to inflationary tendencies. These views were similar to the findings of Adeyeye and Fakiyesi. The duo established that there exists some significant positive relationship between inflation and growth in bank credit, money supply and government expenditure, although the relationship was not specified and not clear.

Serkan investigated the role of macroeconomic factors in other to explain the growth rate of industrial production index, change in exchange rate, interest rate, growth rate if international crude oil prices and return on world equity index. The study found out that inflation rate is significant for only three out of the twelve portfolios examined. Also, industrial production, money supply and oil prices do not appear to have significant effect on stock returns and other macroeconomic indicators.

Devereux argues that the best monetary policy rule in an open economy should be one that stabilizes non

traded goods price-inflation and that policy of strict inflation targeting is much more desirable in an economy with limited pass through, if the monetary authorities are concerned with consumer prices inflation, then the flexible mechanism for exchange rate determination and the policy instruments designed and applied to register the course of exchange rate movements. In order words, the movement from a fixed regime to a flexible regime was among other things reported to stimulate growth and maintain a healthy external balance which is what is generally referred to as macroeconomic stability.

MATERIALS AND METHODS

To examine the effectiveness of monetary policy on economic development of Nigeria, the research will make use of secondary type of data; all data are sourced from various publications of central Bank of Nigeria, such as statistical Bulletin, annual reports and statement of account. In demonstrating the application of OLs method, linear regression analysed will be Gross domestic product, exchange rate, interest rate, money supply and inflation rate. Hence, data between the periods of 1999-2013 will be analysed (Table 1). The equation can, therefore be written as:

$$GDP = f(EXR, INTR, M2, INFR)$$

Where:

GDP = The Gross Domestic Product
f = The functions of
EXR, INTR, M2 INFR = Exchange rate, interest rate, money supply and inflation rate

The equation can be re written in its linear form as:

$$GDP = \alpha + B1\ EXR + B2\ INTR + B3\ M2 + B4\ INFR + e$$

This research is based on the following hypothesis that clearly defines the research criterion:

- H_1: Exchange rate has a significant effect on economic development
- H_2: Interest rate has a significant effect on economic development
- H_3: Money supply has a significant effect on economic development.
- H_4: Inflation rate has a significant effect on economic development

Table 1: Data at different period of time

Year	ERTE	M2	Interest rate	Inflation rate	GDP
1970	0.7143	789.56	7.00	13.757080	4219.00
1971	0.6955	971.93	7.00	15.999110	4715.50
1972	0.6579	1,055.82	7.00	3.457650	4892.80
1973	0.6579	1,265.99	7.00	5.402664	5310.00
1974	0.6299	1,753.72	7.00	12.674390	15919.70
1975	0.6159	3,031.33	6.25	33.964190	27172.02
1976	0.6265	4,510.55	6.50	24.300000	29146.51
1977	0.6466	6,147.00	6.00	15.087830	31520.34
1978	0.6060	7,392.76	6.75	21.709250	29212.35
1979	0.5957	9,185.80	7.79	11.709730	29947.99
1980	0.5464	11,856.60	8.43	9.972262	31546.76
1981	0.6100	14,471.17	8.92	20.812820	205222.10
1982	0.6729	15,786.74	9.54	7.697747	199685.30
1983	0.7241	17,687.93	9.98	23.212330	185598.10
1984	0.7649	20,105.94	10.24	17.820530	183563.00
1985	0.8938	22,299.24	9.43	7.435345	201036.30
1986	2.0206	23,806.40	9.96	5.717151	205971.40
1987	4.0179	27,573.58	13.96	11.290320	204806.50
1988	4.5367	38,356.80	16.62	54.511220	219875.60
1989	7.3916	45,902.88	20.44	50.466690	236729.60
1990	8.0378	52,857.03	25.30	7.364400	267550.00
1991	0.9095	75,401.18	20.04	13.006970	265379.10
1992	17.2984	111,112.31	24.76	44.588840	271365.50
1993	22.0511	165,338.75	31.65	57.165250	274833.30
1994	21.8861	230,292.60	20.48	57.031710	275450.60
1995	21.8861	289,091.07	20.23	72.835500	281407.40
1996	21.8861	345,853.96	19.84	29.268290	293745.40
1997	21.8861	413,280.13	17.80	8.529874	302022.50
1998	21.8861	488,145.79	18.18	9.996378	310890.10
1999	92.6934	628,952.16	20.29	6.618373	312183.50
2000	102.1052	878,457.27	21.27	6.933292	329178.70
2001	111.9433	1,269,321.61	23.44	18.873650	356994.30
2002	120.9702	1,508,172.91	24.77	12.876580	433203.50

Table 1: Continue

Years	ERTE	M2	Interest rate	Inflation rate	GDP
2003	129.3565	1,952,922.28	20.71	14.031780	477533.00
2004	133.5004	2,131,820.08	19.18	14.998030	527576.00
2005	132.1470	2,637,913.73	17.95	17.863490	561931.40
2006	128.6516	3,799,538.05	16.90	8.239527	595821.60
2007	125.8331	5,138,700.94	16.94	5.382224	634251.10
2008	118.5669	8,029,088.61	15.48	11.577980	674889.00
2009	148.9017	9,456,480.31	18.36	11.537670	721122.00
2010	150.2980	11,034,940.93	17.59	13.720200	775400.00
2011	154.7400	13179000000.00	16.02	10.840000	4887.00
2012	157.5000	15391200000.00	16.79	12.220000	4275.00
2013	157.3100	17426500000.00	16.72	8.480000	5394.00

CBN Statistical Bulletin (2013)

Table 2: The variables estimation

Variable	Coefficient	SE	t-Statistic	Prob.
C	11.34117	1.025142	11.063020	0.0000
LEXR	-0.011146	0.506865	2.060754	0.0176
LINT	0.168953	0.039879	4.236638	0.0001
LMS2	0.218807	0.110231	-1.091538	0.0546
LINF	-0.002316	0.014203	-0.163050	0.8714

Eviews 7 Estimation (2015); $R^2 = 0.43$; Adjusted $R^2 = 0.41$; F-statistics = 7.16; Durbin-Watson test = 1.78

A priori expectations: It is expected that all the variables (exchange rate, interest rate, money supply and inflation) will positively and significantly impact the gross domestic product of the economy (Table 2).

RESULTS AND DISCUSSION

Coefficients: The slopes of the coefficient of LINT (interest rate) and LMS2 (money supply) is in line with a priori expectation as it has a positive significant relationship with LGDP (gross domestic product), thus showing a positive working relationship between them. The slope of LEXR (exchange rate) though significant is negative thus negating the a priori expectation. This shows an inverse relationship between LEXR and LGDP meaning that there are other factors too that affect LGDP. Finally, both the sign and significance of LINF (inflation rate) totally negates the a priori expectation as it is negatively non-significant in explaining LGDP.LNEP (net profit) falls opposite with a priori expectations as it has an inverse relationship with LMKT.

Goodness of fit test (R^2): The R^2 is equal to 0.43 that is 43% of the endogenous variable LGDP (gross domestic product) is explained by all the independent variables.

Test of significance

t-statistics: The probability value must be ≤10% for the variable to be statistically significant. Looking at the probability value from Table 2, LEXR (exchange rate), LINT (interest rate) and LM2 (money supply) have their p<10% thus making them significant in explaining LGDP (gross domestic product). Only LINF (inflation) is not significant in explaining LGDP (gross domestic product) as its p-value is 87%.

F-statistics: This measures the overall significant of all the independent variables in explaining the dependent variable. The value must be less than 50% including 0% for all the variables to be significant. The F-statistics shows a value of 7% which is <50% thus showing that all the variables are statistically significant in explaining the dependent variable GDP.

Hypothesis testing

Hypothesis 1:

- H_0: Exchange rate has no significant impact on economic development
- H_1: Exchange rate has a significant impact on economic development

From the result gotten above, it is clear that exchange rate is significant in explaining economic development. This is because exchange rate facilitates international trade which in turn improves the external reserves and exports of the country. It also opens a country to economic significance in the open world.

Hypothesis 2:

- H_0: Interest rate has no significant effect on economic development
- H_1: Interest rate has a significant effect on economic development

This also is significant in affecting economic development as shown from the result. Interest rate on loans serve as a source of deposit mobilization for banks because the rate which serves as profit is sometimes ploughed back into the loan portfolio and thus lend to other customers also. Those who collect the loan use it for business or project purposes which add value to the economy.

Hypothesis 3:

- H_0: Money supply has no significant effect on economic development.
- H_1: Money supply has a significant effect on economic development

Money supply also has a significant effect on economic development as it is the main thrust of monetary policy. Money supply which is the total currency in circulation is the oil that greases the economic wheel of a country hence its significant effect on the economy.

Hypothesis 4

- H_0: Inflation rate has no significant effect on economic development
- H_1: Inflation rate has a significant effect on economic development

Inflation, from the result, proves to be non-significant in impacting economic development. This shows that there are other variables that significantly affect the economy though not used for this study for example total Small and Medium Scale businesses in Nigeria (SMEs).

CONCLUSION

This study is all about how monetary policies have been effective in driving economic development in Nigeria. The multiple regression technique along with annual time series data that span over a forty-three year period (1970-2013) was used to study this impact. Exchange rate, interest rate, money supply and inflation rate (independent variables) were regressed alongside the dependent variable (gross domestic product). From the results obtained, only inflation proved to be insignificant in explaining GDP while exchange rate, money supply and interest rate were all significant in explaining GDP.

RECOMMENDATIONS

Based on the findings in section four, the researcher has favoured the implementation of the following recommendations: Monetary policies should be used to create a favourable investment climate by facilitating the emergency of market based interest rate and exchange rate regimes that attract both domestic and foreign investments, create jobs, promote non oil export and revive industries that are currently operation far below installed capacity.

Money supplied to the economy should be maintained at the level that will keep driving the economy to development level. Low interest rate should be charged on loans to small and medium scale business men in order to drive SMEs and which in turn will reduce unemployment, crime and other social vices, thus pushing the economy to grow and develop.

There is the need to grant greater flexibility to the monetary authority; reduce the excessive expenditure of the government and align the objectives of fiscal and monetary policy of the government. In order to strengthen the financial sector, the Central Bank has to encourage the introduction of more financial instruments that are flexible enough to meet the risk preferences and sophistication of operators in the financial sector.

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