Monetary Policy and Nigeria's Economic Development

(Pp. 153-161)

Akujuobi, Linus Eze - Senior Lecturer, Department of Financial Management Technology, School of Management Technology, Federal University of Technology, Owerri, Nigeria.

Email: leakujuobi@yahoo.com

Abstract

This study investigated the impact of monetary policy instruments on the economic development of Nigeria, using multiple regression technique. It was found that cash reserve ratio was significant in impacting on the economic development of Nigeria at both 1% and 5% levels of significance, treasury bill at 5.6%, minimum rediscount rate at 7.4% and liquidity rate at 7.7%, while interest rate was not significant at all. It is recommended that the country pursues vigorously the development of the money and capital markets so that the monetary policy instruments would be allowed to play more positive impact in addition to combining them with fiscal policies

Key Words*: monetary policy instruments, economic development, transmission parts, economic theories*

Introduction

Countries all over the world are supposed to achieve certain objectives for them to be said to be doing well. Some of these objectives include price stability, high rate of employment, a desirable and sustainable rate of economic growth and balance of payments equilibrium. Governments use their organs and the private sector to achieve these goals, which most times may be complicating.

Nigeria as a developing economy has, since independence in 1960, been striving to achieve these. One of the channels of doing this is through the instrumentality of monetary policy. According to CBN (1979) Central Bank of Nigeria (CBN) has the primary responsibility for formulating monetary policy and has enjoyed a good deal of independence in doing so, although the final authority for the policy rests with the Federal Executive Council. It would be recalled that in Nigeria, it has been the practice that CBN'S monetary policy proposals are made as an integral part of the Federal Government annual budget which combines approved monetary and fiscal measures.

As asserted by Jhingan (2000), monetary policy refers to the credit control measures adopted by the central bank of a country. This policy employs central bank's control of the supply of money as instrument for achieving desired economic goals.

Ridhwan, DeGroot, Henri, Nijkamp and Rietveld (2010) studied the impact of monetary policy on economic development in some economies using vector autoregressive (VAR) models and found that capital intensity financial deepening, the inflation rate model types used and economic size are important in explaining the variation in outcomes across regions and over time. On his own Abdurrahman (2010) studied the role of monetary policy on economic activity in Sudan and found that monetary policy had little impact on economic activity during the period under consideration. Chuku (2009) on the other hand, studied the effects of monetary policy innovations in Nigeria using structural vector autoregressive (SVAR) approach. In this study the monetary instruments he used were broad money (M_2) as quantity-based nominal anchor, minimum rediscount rate (MRR) and real effective exchange rate (REER) as price-based nominal anchors and found that the use of M_2 was the most influential monetary policy instrument used in the country. This study, however, did not show how each of the quantitative monetary policy instruments fared in impacting on economic development of Nigeria. This gap in what this study achieved.

These annual rituals of dishing out the monetary policies in Nigeria are expected to achieve high level of economic development, among other objectives. However, it is believed that inspite of the many years these policies have been used, there appears not to be seen much accompanying and noticeable economic development.

This paper, therefore investigates the impact these monetary policy instruments have had on the economic development of Nigeria for the period 1986 to 2007.

Hypothesis

To do this, the study is based on the null hypotheses that the monetary policy instruments of cash reserve ratio, liquidity ratio, interest rate, minimum rediscount rate and Treasury bill rate do not significantly influence the economic development of Nigeria.

Significance of the Study

This study will be of great importance to the government in achieving the macroeconomic objectives of price stability and a well sustained economic development. It will equally be of ultimate importance to banks and financial institutions in carrying out the macroeconomic objectives of the country where they are operating. This research work suggests ways through which the regulatory authorities can manipulate interest rates and other monetary policy tools to achieve the desired objectives. Students and indeed the general public who are carrying out studies on this subject matter will find this research work very useful. As a matter of fact, it adds to already existing literature.

Finally, the suggestions offered in this research work will help the Central Bank of Nigeria (CBN) as the chief superintendent of the financial system in carrying out its tasks aimed at proper management of macro economy.

This first part of this work is the introduction, the second part is literature review, and the third part is empirical analysis of the study while the fourth and fifth sections are for conclusion and recommendations.

Review of Related Literature

Economic theories exist that tend to explain the role of money in the economy. Notable among them according to Luckett (1984), are the Keynesian theory and the quantity theory. Within them, however, are subgroups of variants of each. Keynesians are of the opinion that money is only one financial asset among many, that changes in the quantity of money affect the real sector only indirectly via portfolio adjustments, and the economic stabilization requires the use of fiscal policy as well as monetary policy. On the other hand, modern quantity theorists believe that changes in the quantity of money directly affect the real sector and that monetary policy alone is sufficient to stabilize the economy.

In line with one form of these theories or the other, Nigeria and other developing economies use monetary policy as expected means of promoting desired economic goals. The monetary policy instruments are either quantitative or qualitative. While quantitative ones can be of general type or indirect type, the qualitative ones may be selective or direct. These instruments affect the level of aggregate demand through the supply of money, cost of money and the availability of credit. Quantitative instruments include bank rate changes, open market operations and reserve requirements changes. They are expected to regulate the overall level of credit in the economy through commercial banks. In selective credit controls specific types of credit are aimed to be controlled. These include margin requirements and regulation of credit to the different sectors of the economy of the concerned country. According to Onoh (2007) and CBN (1979) Nigeria has used these instruments at different stages of the country's development. Baumol and Blinder (1979), Wonnacott and Wonnacott (1979), Jingan (2000), Gordan (1981) believe that the effective use of the monetary policy instruments depend on a number of factors, including the level of development of the money markets. The situation is worse, Jingan (2000) asserted, because of large non-monetized sector, under-developed money and capital markets, large numbers of non-bank financial institutions (NBFIS), high liquidity nature of most of the money-deposit banks, small percentage of bank money vis-à-vis money supply and the culture of most people not having banking habit. This is so because monetary policy instruments work though transmission paths.

However, it is believed that when an economy gets deep into depression, monetary policy becomes less effective. In line with that Onoh (2002) asserts that monetary policy plays better roles in boom or recession but should unavoidable depression eventually set in, monetary policy instruments become less effective and to deal with the situation and restore macro-economic goals, well-articulated internal and external monetary policy measures as well as fiscal and economic interventions would be required.

Empirical Analysis of the Study
Sources of Data
Due to the nature of the study, the researcher used secondary data from Central Bank of Nigerian statistical Bulletin for the variables namely – GDP (dependent variables) and the following independent variables –cash reserve ratio (CRR). Liquidity ratio (LQR), interest rate (INTRAT), Minimum Rediscount Rate (MRR) and the treasury bill rate (TREBR)

Sampling Size

A twenty two year data of 1986 to 2007 were used. This covered the very active period of monetary policy instruments starting from 1986-SAP beginning time to very recent time of 2007.

Model Development

The model used in developing the relationship between the various monetary policy instruments and the gross domestic products (GDP) of the country is the multiple regression analysis. The regression analysis determines the existence of any relationship between the monetary policy instruments and GDP. The objective is to determine the impact of each of the monetary policy instruments on the gross domestic product of the country for the period under review.

The model is specified thus:-

GDP	=	Gross Domestic Product in year t
CRR	=	Cash Reserve Ratio in year t
LQR	=	Liquidity Ratio in year t
INTRAT	=	Interest Rate in year t
MRR	=	Minimum Rediscount rate for year t
TREBR =		Treasure bill rate for the year t

In other words mathematically

$$GDP = F(CRR_t, LQR_t, INTRAT_t, MRR_t, TREBR_t + \mu)$$

That is the Gross Domestic Product in a given year is a function of the above stated variables in that particular year. The Ordinary Least Squares regression model (Multiple Regression Model) adopted for the study can be mathematically represented as follows:-

$$GDP_t = B_o + B_1 CRR_t + B_2 LQR_t + B_3 INTRAT_t + B_4 MRR_t + B_5 TREBR_t + \mu_t$$

Where β_o = intercept parameter, and β_1 ----β_5 (Betas) are the regression coefficients or the slope parameters for the various regressors (explanatory variables stated above. The term μ_t, otherwise known as the stochastic term of the regression was introduced to represent the random or unexplained variation encountered in the model since in real life which we try to mimic

through this estimation, chance events do occur which will make the model not to be 100% deterministic.

It should however be noted that the disturbance term μ_t in the model has the assumption of randomness, zero mean, constant variance and normal in distribution. Others include the assumption that there is no covariance between the disturbance terms of different observations, no covariance between the disturbance term and the explanatory variables, no covariance between explanatory variables (No multicollinearity), among others.

Conclusion

The study has shown that Nigeria has used extensively monetary policy instruments such as cash reserve ratio, minimum rediscount rate and treasury bills rate. The use of these instruments depended much on how developed the monetary policy channels are. For instance, because of the lack of depth of the money and capital markets in earlier years of Nigeria, manipulation of interest rates was mainly relied on. However, this instrument appears not to have impacted much on the economic development of the country, unlike cash reserve ratio that impacted significantly. The apparent low development of the money and capital market which are the main channels of the monetary policy instrument to development activities may not be unconnected with the findings.

From the result of the test, only cash reserve ratio is significant at both 1% and 5% probability level. This is followed by treasury bill rate at 5.6%, minimum rediscount rate at 7.4% and liquidity rate at 7.7%. Interest rate was not significant at all. That interest rate was not significant in impacting on Nigeria's gross domestic product may not be unexpected. This is because most Nigerians do not react much to changes in interest rates, as most in cases, other factors are behind their taking loans. Such factors, at times, may not be economic as some may even take loans to marry more wives, promote political interests and this crowd out the loans from the promotion of economic development.

The general poor impact of the monetary policy instruments studied in the promotion of Nigeria's economic development may not be unconnected with what happened along the transmission paths of the monetary policy instrument's such as monetary base, bank liabilities and assets.

How effective the policies are depends of what happens along the paths, because when monetary policy instruments are activated they impact directly

and indirectly and with varying degrees of intensities on the indicator variables.

These also depend on how developed the channels, such as money and capital markets are.

 Nigeria has used extensively monetary policy instruments in the promotion of the development goals of the nation, among others. This study found out that apart from cash reserve ratio, others did   not impact much on the economic development of the nation and this may be as a result of the underdevelopment of the paths of these instruments such as the money and capital markets.

Recommendations
It's recommended that the country pursues vigorously the development of the money and capital markets. In addition, regulatory, frameworks of these institutions should be instituted and re-enforced. Moreover, other reforms, such as the on-going banking reforms should be carried out to their logical conclusion. It is further recommended that good fiscal policy measures should be undertaken alongside monetary policy, as both are re-enforcing and complementary.

References

Abdulrahman, B.M.A. (2010), "The Role of Monetary Policy on Economic Activity in Sudan: An Empirical Investigation, 1990-2004" *Journal of Human Science*, Issue 44, Jan.

Baumol, W.J. and Blinder, A.S. (1979), *Economics: Principles and Policies* New York, Harcourt Brace Jovanovich, Inc.

Central Bank of Nigeria, CBN (1979), *Twenty Years of Central Banking in Nigeria*, Lagos, Research Department of CBN

Chuku, C.A. (2009), "Measuring the Effects of Monetary Policy Innovations in Nigeria: A Structural Vector Autoregressive (SVAR) Approach, *African Journal of Accounting, Economics, Finance and Banking Research* vol. 5. No 5.

Gordan, R.J. (1981), *Macroeconomics,* Boston, Little, Brown and Company.

Jhingan, M.L. (2000), *Monetary and Banking International Trade*, Delhi, Vrinda Publications (P) Ltd.

Luckett, D.G. (1984), *Money and Banking*, London, McGraw-Hill Book Company.

Onoh, J.K. (2007), *Dimensions of Nigeria's Monetary and Fiscal Policies: Domestic and External* Aba, Astra Meridian Publishers.

Onoh, J.K (2002), *Dynamics of Money, Banking and Finance in Nigeria – An Emerging Market*, Astra Meridian publishers.

Ridhwan, M.M, DeGroot, H.L.F., Nijkamp, P and Rietveld, P. (2010), "Impact of Monetary Policy on Economic Activity – Evidence from a Meta-Analysis," Timbergen Institute Discussion paper 10043/3 Available at SSRN: http://ssrn.com/abstract=1594036

Wonnacott, P, and Wonnacott, P. (1979), *Economics* New York, McGraw Hill Book Company.

Table 1 Monetary Policy Instruments and GDP Data

	YEAR	GDP	CRR	LQR	INTRAT	MRR	TREBR
1	1986	3859.80	1.70	36.40	12.00	10.00	8.50
2	1987	4168.40	1.40	46.50	19.20	12.75	11.75
3	1988	5138.60	2.10	45.00	17.60	12.75	11.75
4	1989	7261.00	2.90	40.30	24.60	18.50	17.50
5	1990	11260.00	2.90	44.30	27.70	18.50	17.50
6	1991	11710.40	2.90	38.60	20.80	14.50	15.00
7	1992	12178.80	4.40	29.10	31.20	17.50	21.00
8	1993	12641.60	6.00	42.20	18.32	26.00	26.90
9	1994	13020.90	5.70	48.50	21.00	13.50	12.50
10	1995	13567.70	5.80	33.10	20.79	13.50	12.50
11	1996	14110.50	7.50	43.10	20.79	13.50	12.25
12	1997	14703.10	7.80	40.20	23.32	13.50	12.00
13	1998	15438.20	8.30	46.80	21.34	14.31	12.95
14	1999	15978.60	11.70	61.00	27.19	18.00	17.00
15	2000	16601.70	9.80	64.20	21.34	14.31	12.95
16	2001	17348.83	10.80	52.90	21.34	14.31	12.95
17	2002	22452.84	10.60	52.50	23.90	19.00	18.90
18	2003	20377.30	10.00	50.90	20.48	15.75	15.02
19	2004	15617.82	8.60	50.20	20.62	15.00	14.21
20	2005	21408.90	9.70	50.20	19.47	13.00	7.00
21	2006	21602.20	9.90	50.50	20.20	13.00	8.50
22	2007	22103.40	9.60	50.30	21.63	13.20	8.60

Sources: (CBN) Annual report and statement of Account (various issues) and Statistical Bulletin, Vol 15 December 2004 and Vol. 16 December, 2005.

Table 2: ANOVA

Model	Sum of Squares	df	Mean Squares	F	Significance
Regression Residual Total	6E+008 87295678 7E+008	5 16 21	114360897.67 5455979.864	20.661	1.000[a]

    a.   Predictors (Constant), CRR, INTRAT, LQR, MRR

    b.   Dependent Variable: GDP

Table 3: Results of Tests of significance of the parameter estimates of the regression

Explanatory variable	CRR	LQR	INTRAT	MRR	TREBR
Regression coefficients of parameters	1566.7	-164.6	162.28	921.37	-758.5
Standard errors	222.29	87.01	156.92	482.89	368.7
T-ratio (calculated)	7.043	-1.832	1.034	1.908	-2.057
T-tabulated (Z tailed)					
∂f = 5% ie 0.025 tail	2.120	2.120	2.120	2.120	2.120
∂f = 1% ie 0.005 tail	2.921	2.921	2.921	2.921	2.921
At (5.16) decision	Sig	Not sig	Not sig	Not sig	Not sig