
**EFFECTS OF MONETARY POLICY ON SELECTED
MACROECONOMIC VARIABLES IN NIGERIAN ECONOMY**

Nwobia Charles Emeka¹, Ogbonnaya-Udo Nneka², Ezu Gideon Kasie³

¹Department of Banking and Finance
Faculty of Management Sciences
Nnamdi Azikiwe University, Awka, Nigeria

²Department of Banking and Finance
Faculty of Management Sciences
Nnamdi Azikiwe University, Awka, Nigeria

³Department of Banking and Finance
Faculty of Management Sciences
Nnamdi Azikiwe University, Awka, Nigeria

Abstract

This study examined the effects of monetary policy on selected macroeconomic variables in Nigerian economy 1981-2019. Monetary policy aims at achieving certain national goals which have historically included full employment, high output, stable price level (low inflation rate), and a stable exchange rate (desirable balance of payments). The impact of monetary policy on economic growth of Nigeria has always been a subject of controversy owing to different views expressed many authors. The specific objectives of this study are to assess the extent to which monetary policy affects Real Gross Domestic Product and determine the relationship between monetary policy and inflation rate. The study, employed ex-post factor research design. Data for the study were secondary data quantitatively retrieved from the annual reports and accounts of the Central Bank of Nigeria and World Bank database. Unit root test, Johansen Co-integration Technique, Vector Autoregressive as well as least regression analysis techniques were used for data analysis. E-view statistical package Version 9.0, was employed for the analysis. From the analysis conducted, monetary policy have insignificant positive relationship with real gross domestic product but significant positive effect on inflation rate. Based on the findings of the study, the researcher recommends that there is the need for policy adjustment by modifying the core mandate of the Central Bank, which is price stability through inflation targeting to incorporate economic development through employment creation.

Keywords: Inflation, macroeconomics, economic growth, monetary policy

Introduction

The employment of different instruments to achieve stability and long-term growth form the nucleus of macroeconomic management in any economy. Despite these measures undertaken, the target objectives of the various monetary policy regimes employed has failed to achieve its desired objectives of reducing inflation, stabilising exchange rate, reducing unemployment among others. The impact of monetary policy on economic growth of Nigeria has always been a subject

of controversy owing to its implementation. Various researchers such as Udude (2014), Amassoma and Olaiya (2011), are of the opinion that monetary policy did not affect significantly on economic growth of Nigeria. However, this goes against the findings of Adigwe, Echekeba and Onyeagba (2015), Abdulazeez (2016), Ismail, Adegbemi and (2013).

Since the CBN Act of 1958, there have been various regimes of monetary policy in Nigeria (tight and loose monetary policy) and these have been used to influence growth and price stability. The economy has also witnessed business cycles (periods of booms or expansion and recession or contraction). However, there has been the argument that the growth reported has not been sustainable and encompassing as there is evidence of growing poverty among the populace. Low Income Countries (LICs), under the International Monetary Fund (IMF) assistance, place special emphasis on monetary policy as a tool to reach such intents. The trusted mechanism behind this approach as in the classical monetary policy transmission mechanisms in advanced economies is that monetary authorities should manage money growth and policy interest rates to impact credit conditions in the economy to reach programmed targets of single digit inflation and pre-determined levels of net external reserves (IMF 2012).

Monetary Policy refers to the specific actions taken by the Monetary Authority to regulate the value, supply and cost of money in the economy with a view to achieving predetermined macroeconomic goals. The Central Banks in developing countries, seek to achieve price stability through the management of money supply. Monetary policy is not an end in itself, but a means to an end. It involves the management of money and credit for the furtherance of the general economic policy of the government to achieve the predetermined objectives. Ezu (2015) noted that monetary policy can be direct or indirect in its operation. It is indirect when the government decided to use some monetary instruments such as; Open market operations, Reserve requirements, Liquidity ratios and monetary policy rates to regulate money supply in the economy. It can also be direct when the government decided to use instruments such as; Moral suasion, Sectoral allocation and Credit ceiling. As a response to the observed inflationary trend, the CBN adopted a policy of direct control in 1988 aimed at encouraging the DMBs to channel substantial amount of their credit to the productive sectors of the economy. The Banks also issued stabilization securities to reduce the liquidity in the banking system. The end of direct monetary control regime was experienced in 1992. It also introduced additional policy measures that included the special deposit that was intended to sterilize excess liquidity (CBN, 2014). The null hypotheses below will be tested so as to ascertain the findings of this study.

H₀₁: Monetary policy has no significant effect on Real Gross Domestic Product

H₀₂: Monetary policy has no significant effect on inflation rate.

Conceptual Review

Monetary policy can be defined as the process by which monetary authorities (specifically, Central Banks) use monetary settings in an effort to attain several specified objectives for an economy. Such a simple definition encompasses a range of possibilities and choices. Objectives

might be referred to economic growth, employment, price stability, or some other attributes. Collectively, monetary components seek to condition the supply of money, and less often, the demand in a structural market.

In determining monetary policy, the Central Bank has a duty to maintain price stability, full employment, and the economic prosperity and welfare of the people. To achieve these statutory objectives, the Central Bank has an inflation target and seeks to keep consumer price inflation in the economy to 2–3 percent, on average, over the medium term. The global financial crisis of 2008 affected both advanced and emerging economies. Okoye (2009) stated that inflation and exchange rate were major determinants of the value of currencies and the financial meltdown really affected these variables. It should be noted that world economy is inter-dependent therefore what affects other economies will definitely affect another. Therefore, it has become imperative to ensure that there is stabilization of naira against the dollar so as to stimulate Nigeria's foreign reserve.

Efforts were made to improve communication through more regular dialogue with market and other critical stakeholders, to shape-up market sentiments and to track the pace of economic activity during the review period. The Monetary Policy Committee (MPC) increased the Monetary Policy Rate (MPR) by a cumulative 400 basis points to 12.0 per cent during the review period. CBN (2011), clearly stated that one of the major problems militating against the seamless implementation of monetary control in Nigeria is due to poor regulatory framework and over-reliance in imported goods by Nigerians. The deregulation of the financial sector was carried out to ensure suitable or conducive environment for the emergence of indirect monetary techniques, which is more flexible in ensuring monetary stability although most government parastatals and private companies renege in submitting data to the Central Bank of Nigeria for decision making purposes.

Accordingly, the Bank continued with its tight monetary policy stance, which commenced in the third quarter of 2010, using the Monetary Policy Rate (MPR) as the signalling interest rate to affect money supply and rein-in inflation expectations. In effort to deregulate Nigerian economy for maximum benefit to all her citizenry, Federal government introduced the Structural Adjustment Programme in 1986 to ensure that market forces determines prices and to open the economy further to international communities for greater business transactions with Nigerians. The deregulation of 1986 brought about massive importation of goods into the country, which made Nigeria a dumping ground for foreign goods. The value of naira to a dollar nosedived and unemployment rose very high. Deregulation was a well-thought idea but implementation was done shabbily thereby putting Nigeria economy in jeopardy. It should be noted that different monetary policies were used to mitigate the effects deregulation in Nigeria. They include, minimum rediscount rate, monetary policy rate and moral suasion.

The short-to-medium term outlook for the domestic economy indicates that inflation would rise moderately, and breach the upper band of the Bank's inflation target range of 6-9 per cent, towards the end of the second half of 2015. The uptick in inflation would be due mainly to the combined effect of the pass-through from import prices, and rise in food prices due to supply

shortages, occasioned by adverse weather conditions and disruptions in distribution channels, arising from the effects of the insurgency in the northern parts of the country. Nevertheless, monetary policy would remain proactive to minimize threats to the sustenance of efforts towards the achievement of price stability conducive to growth (Godwin, 2015).

Theoretical Review

This study is hinged on the theory of monetarism as propounded by Alfred Marshall. Monetarism has been found to be more favourable to the Nigerian economic and political landscape. Monetarists warn that increasing the money supply only provides a *temporary* boost to economic growth and job creation. Over the long run, it will increase inflation. As demand outstrips supply, prices will rise.

Empirical Review

Ikechukwu (2014), use the multivariate Vector Autoregressive Model to analyze the effects of monetary policy rate on other rates in Nigeria. The study makes use of monthly data from M1:2007 to M9: 2012 to evaluate the cause effect relationships between monetary policy rate and short term and long term rates in Nigeria.

Okpanachi (2013), employs a simple analytical framework to estimate the intensity (and effectiveness) of monetary sterilization by the Central Bank of Nigeria (CBN) in response to increased capital inflows in recent years. Rising cost of sterilization, especially, could soon undermine the sustainability of the current approach, predicated on a heavy reliance on market operations, should inflows of the magnitudes observed in the past persist. The situation calls for adoption of supplementary measures.

Amassoma and Olaiya (2011) appraised monetary policy development in Nigeria and also examined the effect of monetary policy on macroeconomic variables in Nigeria for the period 1986 to 2009. The study adopted a simplified Ordinary Least Squared technique and also conducted the unit root and co-integration tests. The findings of the study showed that monetary policy have witnessed the implementation of various policy initiatives and has therefore experienced sustained improvement over the years. The result also shows that monetary policy had a significant effect on exchange rate and money supply while monetary policy was observed to have an insignificant influence on price instability. The implication of this finding is that monetary policy has had a significant influence in maintaining price stability within the Nigeria economy. The study concluded that for monetary policy to achieve its other macroeconomic objective such as economy growth; there is the need to reduce the excessive expenditure of the government and align fiscal policy along with monetary policy measure.

Opaluwa, Umeh and Abu (2010) examined the impact of exchange rate fluctuations on the Nigerian manufacturing sector during a twenty (20) year period (1986–2005). The econometric tool of regression was used for the analysis. Using data from 1986 to 2005, the estimated model used e-views software package. The finding of this study is that fluctuations in the rate of exchange are not favourable to economic activities in the manufacturing sector. It was

discovered that the performance of the manufacturing sector was affected by factors such as high cost of foreign exchange for procuring raw materials and machineries required for production, availability of financial capital, technological underdevelopment, inadequate socio-economic infrastructure, shortage of technical manpower and foreign domination; following the implementation of exchange rate devaluation; the manufacturing sector has not performed any better because of the influence of the earlier mentioned factors which affect the manufacturing sector performance. There is an inverse relationship between exchange rate fluctuations and the manufacturing sector performance.

The paper recommends greater diversification of the economy through investment in key productive sectors of the economy to guard against the vicissitude of oil price shock and exchange rate volatility.

Methodology

The quantitative effect of a policy change is hard to estimate and depends on the degree to which the policy change has been projected, along with the expectations of policy changes in the future (Hwee Kwan Chow, 2004). Hence, this study employs ex-post facto design method. The data for this study are secondary data, which are Real Gross Domestic Product (RGDP), Inflation rate (INF), Industrial Output (INDOUTPUT), and Employment rate (EMPR) that constitute the independent variables. Others include Interest Rate (INTR), Exchange Rate (EXR), Deposit Rate (DEPR) and Lending Rate (LR), which constitute dependent variables. These data are secondary in nature and were obtained from Central Bank of Nigeria online publications.

3.3 Model Specification

This study therefore employs SVAR approach. The SVAR approach used in this study mainly stems from seminal studies by Sims (1992), and Bernanke and Gertler (1995); and is particularly based on Kim and Roubini (2000) and Raghavan, Silvapulle, and Athanasopoulos (2012) as the application for the case of a small, open economy.

Applying SVAR to is a challenging task for several reasons: data availability and quality, unclear objectives, and frequent changes in monetary policy operation Camen (2006). This study therefore applied a modified model of Ajaude, Nkamare, James,(2015).

$$INF=f(GDP, MS,)\text{-----}(1)$$

Where;

- INF = inflation
- MS = Money supply

The model employed the following variables for estimation:

$$Y = \beta_{0i} + \beta_{1i}RGDP + \beta_{2i}INT + \beta_{4i}EMP + \mu_t \text{ --- (1)}$$

Where Y stands for independent variables

Therefore for the estimation we will have four models owing to the four dependent models used for the study which include

$$INT = \beta_{0i} + \beta_{1i}RGDP + \beta_{2i}INF + \beta_{3i}INDOOUTPUT + \beta_{4i}EMP + \mu_t \quad --(2)$$

Where;

RGDP = Real Gross Domestic Product

INF = Inflation rate

INDOOUTPUT = Industrial Output

EMP = Employment Rate

INTR = Interest Rate

EXR = Exchange Rate

DEPR = Deposit Rate

LR = Lending Rate

4.1 Data Presentation

Data on research variables RGDP (Real Gross Domestic Product), INF (Inflation rate), INDOOUTPUT (Industrial Output), EMP (Employment Rate), INTR (Interest Rate), EXR (Exchange Rate) DEPR (Deposit Rate) LR (Lending Rate) were presented in table 4.1 below

Table 4.1 Data on the effects of monetary policy on selected macroeconomic variables in Nigerian economy

YEARS	RGDP (%)	INF (%)	INDOUTPUT (Billions)	EMP (%)	EXR (%)	DEPR (%)	LR (%)	INTR (%)
1981	20.83	20.81	40.00		0.62	74.5	38.5	3.2
1982	-1.05	7.70	38.21		0.67	84.6	40.5	1.94
1983	-5.05	23.21	39.12		0.72	83.8	54.7	2.57
1984	-2.02	17.82	37.02		0.77	81.9	65.1	1.99
1985	8.52	1.0	51.14		0.89	66.9	65.0	0.32
1986	1.90	13.7	51.08		1.75	83.2	36.4	0.72
1987	0.17	9.7	65.50		4.02	72.9	46.5	0.87
1988	6.23	61.2	86.08		4.54	66.9	45.0	3.67
1989	6.66	44.7	122.73		7.36	80.4	40.3	5.77
1990	11.63	3.6	147.96	57	8.04	66.5	44.3	5.52
1991	-0.55	23.0	187.38	56.9	9.91	59.8	38.6	5.13
1992	2.19	48.8	303.28	56.9	17.3	55.2	29.1	6.72
1993	1.57	61.3	365.92	56.9	22.07	42.9	42.2	8.41
1994	0.26	76.8	487.57	56.8	22	60.9	48.5	7.39
1995	1.87	51.6	862.24	56.7	21.9	73.3	33.1	6.7
1996	4.05	14.3	1,153.53	56.6	21.88	72.9	43.1	6.78
1997	2.89	10.2	1,171.35	56.5	21.89	76.6	40.2	10.63
1998	2.50	11.9	1,053.41	56.3	21.89	74.4	46.8	8.08
1999	0.52	0.2	1,314.29	56.2	92.34	54.6	61.0	7.48
2000	5.52	14.5	2,100.51	56	101.7	51.0	64.1	9.58
2001	6.67	16.5	1,964.89	55.7	111.23	65.6	52.9	8.18
2002	14.60	12.2	2,178.51	55.5	120.58	62.8	52.5	8.1
2003	9.50	23.8	2,902.81	55.1	129.22	61.9	50.9	6.5
2004	10.44	10.0	3,992.28	54.8	132.89	68.6	50.5	5.48
2005	7.01	11.6	5,080.16	54.9	131.27	70.8	50.2	7.42
2006	6.73	8.5	6,157.84	55.1	128.65	63.6	55.7	7.16
2007	7.32	6.6	6,800.15	55.2	125.81	70.8	48.8	6.65
2008	7.20	15.1	8,072.50	55.4	118.55	80.9	44.3	3.51
2009	8.35	13.9	7,513.88	55.5	148.9	85.7	30.7	5.07
2010	9.54	11.8	12,033.20	55.6	150.3	74.2	30.4	11.06
2011	5.31	10.3	15,626.42	55.8	153.86	44.8	42.0	10.32
2012	4.21	12.0	16,975.34	55.9	157.5	42.3	49.7	8.39
2013	5.49	7.96	17,614.29	56.1	157.31	38.0	63.2	8.78
2014	6.22	7.98	18,402.19	56.2	158.55	61.9	38.3	7.21

2015	2.79	9.55	15,073.78	53.5	192.44	68.6	39.6	7.7
2016	-1.51	18.55	14,372.78	53.6	253.49	69.0	39.9	9.37
2017	5.31	10.3	15,626.42	55.8	305.06	44.8	42.0	10.32
2018	4.21	12.0	16,975.34	55.9	305.59	42.3	49.7	8.39
2019	7.20	15.1	8,072.50	55.4	365.55	80.9	44.3	3.51

Source: CBN statistical bulletin, World banks Database

Table 4.3 co-integration Table				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.999956	498.5149	159.5297	0.0000
At most 1 *	0.947364	247.7098	125.6154	0.0000
At most 2 *	0.923684	174.1010	95.75366	0.0000
At most 3 *	0.857495	109.7792	69.81889	0.0000
At most 4 *	0.628370	61.06965	47.85613	0.0018
At most 5 *	0.597270	36.32324	29.79707	0.0077
At most 6	0.349622	13.58599	15.49471	0.0950
At most 7	0.107062	2.830961	3.841466	0.0925
Trace test indicates 6 cointegrating eqn (s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

The result of the co-integration test using the Johansen (1991) shows that at 5 percent level of significance, there exists 6 co-integrating equations. Specifically, at 5 percent level of significance, at none the trace statistics 498.5149 is higher than the critical value 159.5297. Also, at most 1, trace statistic 247.7098 is higher than 125.6154. In addition at most 2, trace statistic 174.1010 is higher than 95.75366. At most 3, trace statistic 109.7792 is greater than critical value 69.81889. at most 4, trace statistic 61.06965 is higher than critical value 47.85613 and at most 5, trace statistic 36.32324, is greater than critical value 29.79707. Overall, the result indicates that a long run relationship exists between the dependent and independent variables.

4.5 Correlational Analysis

Table 4.6 Correlation

	RGDP	INF	IND OUTPUT	EMP	INTR	EXR	DEPR	LR
RGDP	1.000000	-0.432499	0.218134	-0.175918	-0.157708	0.215629	0.198521	0.158044
INF	-0.432499	1.000000	-0.492264	0.400681	-0.062434	-0.467721	-0.158869	-0.293205
INDOUTPUT	0.218134	-0.492264	1.000000	-0.697637	0.262722	0.905299	-0.000279	0.104236
EMP	-0.175918	0.400681	-0.697637	1.000000	-0.062426	-0.842881	-0.257334	-0.097529
INTR	-0.157708	-0.062434	0.262722	-0.062426	1.000000	0.218431	-0.349439	0.099548
EXR	0.215629	-0.467721	0.905299	-0.842881	0.218431	1.000000	-0.035805	0.140691
DEPR	0.198521	-0.158869	-0.000279	-0.257334	-0.349439	-0.035805	1.000000	-0.438622
LR	0.158044	-0.293205	0.104236	-0.097529	0.099548	0.140691	-0.438622	1.000000

From the matrix, it was observed that (dependent variable) has negative relationship with interest rate (-0.157708), while it has a positive relationship with exchange rate (0.215629), deposit ratio (0.198521), and lending rate (0.158044). The negative relationships between the dependent and independent variables is indicated by the negative signs associated with the negative coefficients. This implies that interest rate has 15.7% negative relationship on real gross domestic product. While exchange rate, deposit ratio and lending rate has 21.5%, 19.8% and 15.8% positive relationships with real gross domestic product respectively.

The matrix also shows that there exist a negative relationship inflation and the independent variables. Inflation has 62.4%, 46.7, 15.8% and 29.3% negative association respectively with interest rate exchange rate, deposit ratio and lending rate.

In conclusion, the correlation matrix shows that interest rate, exchange rate, deposit ratio, and lending rate has negative relationship with inflation and employment. While interest rate and deposit ratio was found to have a negative relationship with real gross domestic product, and industrial output. Exchange rate, deposit ratio and lending rate were found to have positive relationship with Real gross domestic product.

Test of Hypothesis

Hypothesis 1

H₀₁: Monetary policy has no significant effect on Real Gross Domestic Product

H₀₂: Monetary policy has a significant effect on Real Gross Domestic Product

Decision rule: From the multiple regression analysis table, we accept the null hypothesis when the probability (p) vale is greater 0.05

Table 4.7 Regression table for Model 1

Dependent Variable: RGDP				
Method: Least Squares				
Sample: 1981 2019				
Included observations: 39				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.468454	10.61155	0.609567	0.5466
INTR	-0.086863	0.447229	-0.194224	0.8473
EXR	0.014314	0.015188	0.942434	0.3533
DEPR	-0.009578	0.091598	-0.104568	0.9174
LR	-0.030771	0.100244	-0.306958	0.7609
R-squared	0.036499	Mean dependent var	4.958611	
Adjusted R-squared	-0.087824	S.D. dependent var	5.040509	
S.E. of regression	5.257190	Akaike info criterion	6.285316	
Sum squared resid	856.7794	Schwarz criterion	6.505250	
Log likelihood	-108.1357	Hannan-Quinn criter.	6.362079	
F-statistic	0.293582	Durbin-Watson stat	1.277738	
Prob(F-statistic)	0.879887			

The result shows a negative relationship between real gross domestic Product, interest rate, deposit ratio and lending rate with coefficients of -0.086863, -0.009578 and -0.030771 respectively. While exchange rate was found to be positive.

However non of the independent variables was found to be significant with real gross domestic product during the period under review. The goodness of fit measure, R^2 (R-squared) was found to be low (3.6%). The F-statistics, which test for joint influence of the explanatory variables on the dependent variable, shows that the entire regression plane was quite insignificant as the Prob (F-statistic) 0.879 was found to be greater than 0.05 (i.e. the entire regression equation taken as whole, does not significantly explain variations in real gross domestic product). However, the value of Durbin-Watson stat at 1.277 shows a positive correlation in the model.

On this premise we accept the null hypothesis Monetary policy has no significant effect on Real Gross Domestic Product.

4.6.2 Test of Hypothesis 2

H_{02} : Monetary policy has no significant effect on inflation rate.

H_{12} : Monetary policy has significant effect on inflation rate.

Decision rule: From the multiple regression analysis table, we accept the null hypothesis when the probability (p) vale is greater 0.05

Table 4.8 Regression table for Model 2

Dependent Variable: INF				
Method: Least Squares				
Sample: 1981 2019				
Included observations: 39				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	82.80678	32.60322	2.539834	0.0163
INTR	0.901107	1.374079	0.655790	0.5168
EXR	-0.135187	0.046665	-2.896951	0.0069
DEPR	-0.432848	0.281429	-1.538038	0.1342
LR	-0.634168	0.307994	-2.059030	0.0480
R-squared	0.319848	Mean dependent var		19.78833
Adjusted R-squared	0.232086	S.D. dependent var		18.43228
S.E. of regression	16.15233	Akaike info criterion		8.530252
Sum squared resid	8087.835	Schwarz criterion		8.750185
Log likelihood	-148.5445	Hannan-Quinn criter.		8.607015
F-statistic	3.644511	Durbin-Watson stat		1.242868
Prob(F-statistic)	0.015152			

Table 4.8 shows an evidence of a negative relationship between inflation and the independent variables (exchange rate -0.135, deposit ratio -0.432 and lending rate-0.634) with the exception of interest rate that bears a positive coefficient of 0.901. However exchange rate and lending rate were found to have a significant relationship with the dependent variable, inflation, while interest rate and deposit ratio were found to have no significant relationship with inflation. The goodness of fit R^2 (R-squared) was found to be reasonably high 31.9%. The probability of (F-statistic) value 0.01 is less than the acceptable 0.05 region. Which implies that the entire regression equation taken as whole significantly explains variations in inflation rate. In addition, the value of Durbin-Watson stat been 1.242 shows a positive correlation in the model. Based on the forgoing, the null hypothesis is rejected and the alternate accepted which implies that monetary policy has significant effect on inflation rate.

Summary of Findings

From the findings it was established that there is a significant long-run relationship between monetary policy (interest rate, exchange rate deposit rate and lending rate) and the macroeconomic variables. (Real gross domestic product, inflation industrial output and employment rate). Which implies that on the long run, monetary policy transmission mechanism is capable of bringing about significant changes in Real gross domestic product, inflation industrial output and employment rate. There is also an absence of short-run relationship between monetary policy (interest rate, exchange rate deposit rate and lending rate) and the macroeconomic variables (Real gross domestic product, inflation industrial output and

employment). As a result of poor policy implementation, political instability and corruption among others.

Conclusion

From the study, it was discovered that monetary policy transmission of Nigeria has not significantly improved the economic wellbeing of Nigeria. Also on the short-run the monetary policy transmission have not shown the capability of bring about any significant changes in real gross domestic product, inflation industrial output and employment rate. However, on the long run it was found that monetary policy is capable of bringing about significant changes in economic wellbeing, reducing inflation rate, improving industrial output and creating employment.

From the study conducted, the researcher concludes by saying that inflation rate can best be targeted through exchange rate and lending rate mechanism. The inability of monetary policies to effectively maximize its policy objective most times is as a result of the shortcomings of the policy instruments used in Nigeria as such limits its contribution to growth even though monetary policies had brought impressive contribution over the years.

Recommendations

Based on the findings of the study it is recommended that there is the need for policy adjustment by modifying the core mandate of the Central Bank which is price stability through inflation targeting to incorporate economic development not just growth. In addition, since the core mandate of the Central Bank of Nigeria, which is achieving price stability through inflation targeting is far from been achieved as inflation rate continues to grow quite above the single digit target, the Central Bank should stabilise exchange rate and lending rate as these two variables were found to have a significant influence on the rate of inflation. Exchange rate volatility can be improved through improving on the ease of doing business in Nigeria, and reducing the lending rate to make funds available for investment.

REFERENCES

- Acha, I., Ikoh, I. & Nsien, C. (2016). The efficacy of Nigeria monetary policy: a comparative analysis. *Research Gate*, 23:1-2.
- Ajayi, O. (2014). Comparison of macroeconomic performance of selected African countries: an econometric analysis of economic growth of the countries. *International Journal of Innovative Research and Development*, 3, 2:1.
- Ajayi, S.I.(1974). An economic case study of there lative importance of monetary and fiscal policy in Nigeria. *Bangladesh Economic Review*, 2(2): 559-576.
- Amassoma, D. Wosa, P. I. & Olaiya, S. A. (2011). An appraisal of monetary policy and its effect on macroeconomic stabilization in Nigeria. *Journal of Emerging Trends*, 2(3): 232-249
- Asian Development Bank (2001). *Asian Development Outlook 2001 Asian Development Outlook*. ADB.
- Barro, R.J.(1995).*Inflation and economic growth*. National Bureau of Economic Research, Inc.
- Bernanke, B.,& Blinder, A.(1992).The federal funds rate and the channels of monetary

- transmission. *American Economic Review*, 82(4), 901-921.
- Bernanke, B., & Mihov, I. (1998). Measuring monetary policy. *The Quarterly Journal of Economics*, 113(3), 869-902.
- Bernanke, B., Boivin, J., & Elias, P. (2004). Measuring the Effects of Monetary Policy: A Factor-Augmented Vector Autoregressive (FAVAR) Approach. *National Bureau of Economic Research Working Paper Series, No. 10220*.
- Bernanke, B., Laubach, T., Mishkin, F., & Posen, A. (2001). *Inflation Targeting: Lessons from the International Experience*: Princeton University Press.
- Blanchard, O., Dell'Ariccia, G., & Mauro, P. (2010). Rethinking macroeconomic policy. *Journal of Money, Credit and Banking*, 42, 199-215.
- Dickey, D.A. & Fuller, W.A. (1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root. *Journal of the American Statistical Association*, 74, 427-31.
- Dickey, D.A., & Fuller, W.A. (1981), likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica*, 49:1057-1072.
- Easterly, K. (2001). *The elusive quest for growth: Economists' Adventures and Misadventures in the tropics*. Cambridge, MA: MIT Press.
- Eichenbaum, M. & C. Evance (1995). Some empirical evidence of the effects of monetary policy shocks on exchange rates. *Quarterly Journal of Economics*, November, 975-1009.
- Engle, R.F. & Granger, C. W.J. (1987). Co-integration and error correction: representation, estimation, and testing. *Econometrica*, 55, 251-276.
- Epstein G. & Heintz J. (2006). *Monetary policy and financial sector reform for employment creation and employment reduction in Ghana*, Political Economy Research Institute, University of Massachusetts, Working Paper N0.113, 2006.
- Ezeji, C.E. & Michael, N. (2013). the impact of monetary and fiscal policies on Nigerian economic growth: 1990-2010. *European Journal of Business and Management*, 5 (2):13-26.
- Ezu, G.K; Sarah J.E & Ananwude A.C (2019), Government expenditure and industrial development in Nigeria: Long and short run dynamics from ARDL Approach. *Journal of Scientific Research and Reports*, 23(6): 1-9.
- Fischer (1993). The role of macroeconomic factors in economic growth. *Journal of Monetary Economics*, 32:485-512.
- Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics*, 32(3), 485-512.
- Fisher, I., & Brown, H.G. (1912). *The purchasing power of money*: The Macmillan Company.
- Friedman, M. (2001). *Oneworld, onecurrency options Politiques*: Institutefor Research on Public Policy.
- Fry, M. J. (1997). In favour of financial liberalization. *Economics Journal*, 107:754-770.
- Gertler, M. & Gilchrist, S. (1993). The role of credit market imperfections in the monetary transmission mechanism: arguments and evidence. *Scandinavian Journal of Economics*, 95, 1, 43-64.
- Gujarati, D. N. (2004). *Basic econometrics*. New York: McGraw-Hill Companies.
- Hammond, G. (2012a). Pros and cons of inflation targeting. Retrieved from World Bank website: <http://siteresources.worldbank.org/PGLP/Resources/Session8.pdf>

- Hammond, G. (2012b). *State of the art of inflation targeting*: Centre for Central Banking Studies, Bank of England.
- Johansen, S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive model. *Econometrica*, 59, 6, 1551-1580.
- Keynes, J.M. (1936). *The general theory of employment, interest, and money*. United Kingdom: Palgrave Macmillan.
- Kim, S., & Roubini, N. (2000). Exchange rate anomalies in the industrial countries: A solution with a structural VAR approach. *Journal of Monetary Economics*, 45 (3), 561-586.
- Mundell, R. (2001). *One World, One Currency Options Politiques*: Institute for Research on Public Policy.
- Nguyen, T. P. & Nguyen, D. T. (2010). Vietnam exchange rate policy and implications for its foreign exchange market, 1986-2009.
- Nwosa, P.I. & Saibu, G. (2012). The monetary transmission mechanism in Nigeria: a sectoral output analysis. *International Journal of Economics and Finance*, (4)1:204- 213
- Obamuyi, T.M, Edun, A. T & Kayode, O.F. (2010). Bank lending, economic growth and the performance of the manufacturing sector in Nigeria. *European Scientific Journal*, 8(3):19-36.
- Rasheed, M. A. (2011): The relationship between money and real variables: Pakistan's Experience 1972-2008. *Pakistan Business Review*, Jan, 2011.
- Rokon, B. (2008). Monetary Transmission mechanism in a small open economy: A Bayesian Structural VAR Approach *Working Papers*: Queen's University, Department of Economics.
- Samuelson, P.A., & Solow, R.M. (1960). Analytical aspects of anti-inflation policy. *The American Economic Review*, 50(2), 177-194.
- Sims, C., J. & Mark, W.W. (1990). Inference in linear time series models with some unit roots, *Econometrica*, 58, pp. 113-144
- Tulip, P., & Wallace, S. (2012). Estimates of uncertainty around the RBA's Forecasts *RBA Research Discussion Papers* Reserve Bank of Australia.
- Ukoha, O. O. (2000). Determinants of manufacturing capacity utilization in Nigeria, 1970-1998. *The Nigeria Journal of Economics and Social Studies*, 42 (2): 121-130.
- Vizek, M. (2006). Econometric analysis of monetary transmission channels in Croatia. *Politika*, 109 (16):28-61.
- World Bank. (2011). *World development indicators database*: World Bank.