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The Impact of Monetary Policy on Micro-Economy and Private Investment in Nigeria

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Abstract
The paper critically evaluated the impact of monetary policy on micro –economy in relation to private investment in Nigeria. The data were collected from the CBN bulletin records 2008. Correlation analysis was performed and showed the empirical relationship between Private Investment (PI) and Money Supply (Ms), Interest Rate (IR), Credit CD, Inflation (INF), Exchange Rate (EXR) and GDP is significant at 0.01level of significance. Ms is significant at 0.01 with PI, CD and GDP but not significant with IR, INF and EXR. The interest Rate IR is only significant with INF. CD is significant at 0.01 level of significance with PI, Ms, Exchange Rate EXR and GDP. Inflation Rate INF is significant with Interest Rate IR. Money supply was found to be effective monetary policy instrument than the interest rate. This is based on the fact that private investment react more to changes in money supply than the interest rate in Nigeria, however the correlation result showed that private investment increase as money supply increase this is because of the direct relation both variable are having, it is so simple in that an increase in money supply.

Keywords: *Private Investment, Keynes, Money, Schools, Measures*

1. Introduction

Monetary policy as the name implies is one of the major economic stabilization weapons which involve measures designed to regulated could control the volume, cost, availability and direction of money and credit in an economy to achieve some specific macro-economic policy objective. it is a deliberate attempt by the monetary authority (Central Bank) to control the money supply and credit condition for the purpose of achieving certain broad economic objective. It is also the control of money and Bank credit thereby regulating cost of credit such a way it will affect aggregate demand in a direction that would continue to the achievement of healthy balance of payment, price stability and job opportunity (Anyawu 1993). However, it will settle in this study that macro-economic stability is a pre-requisite for sustainable growth and poverty reduction. Money supply is been controlled by the government in that firm belief that its rate of growth has something to do with rate of inflation.

Bryan (1971) stated that monetary policy should be directed to interest rate rather than money supply and that monetary policy should be at all time subsidiary to fiscal policy. The monetarist recommended that the

control of money supply should be a major focus of the monetary authority (Klein 1992) defines monetary policy as a rule and regulation imposed by the monetary authority into controlling the money supply inflation and achieve economic growth.

The central Bank of Nigeria (2006) defines monetary policy as that which deal with the terms as condition under which money and credit are provided to the economy by the monetary authority. The term monetary policy include all action of the government central bank and public authority that influences the quantity of money and bank credit thus it include policy relating of choice of the nation monetary standard determination of monetary unit in terms of metal or foreign currencies determination of the types and amount of the government owned monetary issue establishment of the central bank system and determination of its power and rule for its operation and policies earning for the establishment and regulating of financial institution.

According to (Ezenduyi 1994) defines monetary policy as the policy which involve the adjustment of money stock (through different means) interest rate exchange rate as well as expectation to influence he level of economic activities and inflation in desired direction, targeting as the mapping up of excess liquidity armed at ensuring a non-inflationary macro-economic environment.

The objective of monetary policy varies from time to time depending on the economic future of a particular country generally such goals includes.

To promote a stable macro-economic environment for achieving of non-inflationary output growth rate of 5%. To achieve single digit inflation, sustain stability in naira exchange rate and maintenance of relative stability on domestic price- Maintenance of health balance of payment, attainment of a high rate or full employment level, achievement of a high rapid and sustained economic growth.

With these objectives the medium term monetary policy framework for 2007 and 2008 addressed effective control of growth in money stock (m2) and improve on private investment.

The instrument tools of monetary policy have been classified broadly in two categories.

Quantitative instrument: Traditional and non-traditional quantitative instrument (Richard 1979).

2. Theoretical Literature Review

Investment spending is one of the flashpoint economists. While the formal views investment from the standpoint of volatility of returns profitability and future instability, the classical perceive interest rate as the most significant influences on investment (Aigbokhan 1995).

The classical theory or approach to the demand for money otherwise called the quantity theory is the monetary theory hold by he classical economist. Economists that belong to this classical school of though include the followings.

David Ricardo (1823-1872) John Stuart mill (1806-1873) jean Baptist says major principle of the school are build around the work of early English economist. The classical school is a heterogeneous grouping of economist theorist each which heads his own different view about the nature and working of the economy thus it is impossible to name all their assumption that vary in relation to the desired objective of each economist. However close security will show that they all have some generally accepted view and it is their view with regard to the role of money that is are major focus. The assumptions are: The economy is always intervention, Absence of government intervention, Wages prices and rate of interest are flexible, There is perfectly competition in labour and product market, Total out of the economy is divided between consumption and investment expenditure.

Adding to the aforementioned statement there exist two important released but various nation to which the classical economist were strongly attached and they are. Says law of market and the quantity theory of money

According to the say's law of market which is the core of the classical theory, jean Baptist say's an early 19^{th} century French economist emaciated the preposition that supply created its own demand "this is called say's law". In say's world, it is productions that create market for goods and this guaranteed that all goods produce in the economy will be purchased. Also any increase or decrease in output will equally lead to an equivalent maintained.

According to (Pierce & Shaw 1977) say's law was the heart beat of the Classifical School but for it to be valid it require two major assumptions.

i) The aggregate cost of producing the economy's total output must be equal to the value of the aggregate factors income generated in the production process i.e total cost equal total income ($TC = TI$) in the economy.
ii) The aggregate value of factors income generate must equal the level of aggregate expenditure in the economy i.e total income must equal total expenditure in the economy ($T1 - TE$) thus there were no room for leakages in the economy.

Say's law identity has been criticized by some classical who believed that it ensured adequate demand for output but did not ensure full employment. Also (Brain 1981) opined that say's law identifies can only hold in a bailer economy and it introduce into monetized economy it will fail. The classics restated say's law in term of monetary economy and it was this extension of say's law identify into monetary system, which led to the rejection of the more simplistic version.

The quantity theory of money is basically a theory prices. This is on the basic that it states that the quantity of money is the major determinant of the price level or value of money. Most where of the opined that the quantity of money determines the aggregate demand which in term determine the price level.

To the classical simple model output level is determine to be that output which is produced by a fully employed labour force and the price of which that output sell is determine by the quantity of money although the classical do not explicitly mentioned aggregate demand like Keynesians theory, the price is made a function of the money supply and relationship between the money supply and the price level is strictly proportional in the identify.

$$MV = PY$$

Where

M = The Supply of money
V = The Velocity
Y = the Output Level
P = Price Level

The identify simple implies that the quantity of money multiply by the number of times each unit of money on the average is spent for final output in anytime period equal the quantity of final goods and source sold dump the period times the price level. $MV = PY$ is also refer to as exchange equation and is quite different from the quantity theory of money. It is on a converted into the quantity theory of money when certain assumptions are made.

i) Y is fixed in the short run because the economy is at full employment level.
ii) V is a stable and constant in the short run because the structural and institutional condition that determine variations in V are constant in the short run or change gradually.
iii) M is exogenously controlled by the monetary authority.
iv) The theory is applicable in the long run.
v) P is passive factor in the equation of exchange which is affected by the other factor.

To fisher, under the condition assumed, the price level (P) varies directly as the velocity of circulation (V) and inversely as the volume of trade done by it (Y).

The aforementioned assumptions are as a result of the classical assumption of fixed output and fill employment some economist have argue without the assumption any increase or decrease in on will inevitably result to an increase on decrease in P. this assumption are met necessary, adding to the above assumptions, the classical also believe that household will not held money in "Idle" balance this was considered as the basic of rational behaviour by the classical economist. This meant that no matter the size of money supply the full amount was always on circulation. Also they assumed that household consume all there money and money was spend on capital goods.

All the aforementioned statement ensure that money was always in active circulation and V remain constant while V is called MV or total spending on goods and services is know once M is know. The aggregate demand curve will shown the different amount of goods and service that will be purchased at price level will a fixed amount of total spending i.e at each price level all the money is spend competitive condition in the market for output as well as labour will ensure that that equilibrium output will be fixed full employment level. Any deficiency in aggregate demand is promptly remove by competitive force during the price up and down output cannot change.

On the basis of this if the money supply is increase by the monetary authority this would mean increase spending of the household in that money is for spending alone. The increase in spending will lead to an increase in the wages and increase price will include employer to attempt to expend output. Competition for labour increases the wages rate proportional with the price level is the net result of an increase in supply of money in employment via investment. As for the classical the quantity of money determines the level of price and for a given real income the level of nominal income. This monetary policy was useful in stabilization of the economy for making sure there is stable price.

The Cambridge approach which is an alternative to the fisher's quantity theory of money Cambridge economist like, Alfred Marsha, U Pigou, Robetson and Keynes formulated the cash balance approach. To them they regarded the determinant of money in term of supply and demand.

Robertson wrote in this convection "money is only one of many economics things, its value therefore is primarily determined by exactly economic things, in addition to the former assumption of the quantity of money they assumed that:

The individual household may hold idle balance for transaction convenience or securely. He demand for money's proportionality to wealth or income was n assumption basis.

$$M^d = KPY$$

Where

M^d	=	Money demand
P	=	level of prices
Y	=	the aggregate real income
K	=	the proportion of money income people wish to hold as income.

Given the above equation, money demand $M^d = KPY$, (M^d) was assumed to be a proportion of nominal income. The price level times the level of real income. The proportion of money (K) hold from income was controlled exogenously and relatively stable in the short run. Also the Cambridge school approach equally assumed that the total stock of money always in circulation and at equilibrium money supply (M) was equal to quantity demanded i.e $M = Md = KPY$. Hence K assumed constant in the short run and the volume of output fixed of fall employment the price level is again proportional to the money supply.

The term Keynesian is a generic term that has to do with those economists who subscribe to those ideas of John Maynard Keynes about the feature, characteristic of the working of the economy (Anyanwu 1995). Keynes truly find he solution to the problem of great depression (1929-1936) which gave him the title "Apostle of the great depression" the early Keynesian model is a starting simplification whereby the only determinant of the level of national income are consumption and investment. Consumption spending happens to deepen on the level of income and investment and investment could be antonymous or induced. There is the attainment of the equilibrium level when the realize income resulting from the level of consumption and investment expenditure equals anticipated income i.e $Y = I + G$. the most common and more sophisticated Keynesian model was brought forward in his book "the general theory of employment interest and money" the following are the assumption of the Keynesians school of thought.

3. The Neo-Classical School

The monetarist introduces an additional factor in the determination of interest rate, which is price expectation; an increase in supply of money has a liquidity effect on income effect and price effect. Also in the monetarist thinking, is that they felt it more important of money in explaining macro-economic behaviour monetarist important of money and therefore monetary policy was given attention in the neo-classical school.

4. Monetary Policy and Growth In Nigeria

The central bank of Nigeria (CBN) is mandated by the CBN act of 1958 to promote and maintain monetary stability and a sand financial system in Nigeria. Just like other central banks, the CBN has the "end" of achieving price stability and sustainable economic growth through the "means" of monetary policy (Chuku 2009).

Embedded in this twin objective are:

i) The attainment of full employment
ii) Maintaining stability in the long – term interest rate
iii) Pursuing optimal exchange rate targets.

To achieve these multiple objective, the CBN operate through a system of target these are the operational target the intermediate targets and the ultimate target. (Ibeabuch 2007).

5. Objectives of Study

The overall aim of the research study is to examine the impact monetary policy on investment in Nig
eria. Other specific objectives are:

i) The effectiveness of money supply on aggregate private investment sector in Nigeria.
ii) The effectiveness of GDP, Ms, interest rate, credit, inflation and aggregate exchange rate on aggregate private investment in Nigeria

6. Hypothesis

Ho: There is no significant relationship between GDP and Micro-economy measures.
H1: There is significant relationship between GDP and private investment.

7. Significant of Study

This research examines the length at which monetary policy as a tool of public policy has been successfully applied in Nigeria and showed it's relevant and effectiveness in raising aggregate private sector in Nigeria economy. Among other things to be looked into is how the luck will be of use to financial investment investors as it will give a just indication of how they can be affected by monetary policies.

8. Research Methodology

The period covered by this research is between 1980 and 2008. This is because the monetary policy (monetary aggregate) has taken a different shape since the period of structural adjustment programme (SAP) monetary policy since 1986 annual and quarterly reports from the Central Bank of Nigeria (CBN) were used, data firm federal office of statistics (FOS), CBN Economic and financial review, journal and magazines and other federal government publications were also used.

9. Model Specification

Attempt is made to investigate the relationship between the identified independent and dependent variables using the econometric technologies as a source of regression models were formulated and regressed using a time series data of major macro-economic variables furthermore, test were conducted to confirm the significance of the model used.

The simple implicit of model specification are stated below:

$$GDP = F(PI.ms, Ir, Cd, Inf, Ext, R)$$

Symbol Used

$P1$ =Private Investment
Ms = Money Supply
Ir = Interest Rate
Cd = Credit
Inf = Inflation
$Ext.R$ = Exchange rate
GDP = Gross domestic product

9.1 Significant of Variables

Economic and statistical test shall be carried out in order to ascertain the significance or otherwise of each variable in the above model as well as the significant of the overall Correlation analysis.

1

2 9.2 Economic Appriori Criteria

For the purpose of this study, it is expected that interest rate should have a negative relationship with private investment. This is because a higher interest will reduce the ability to invest, while a lower interest rate will encourage investors to borrow fund, thereby promoting output, where $Ms, Cd, \inf, Ext.R$ are expected to be positively related PI. An increase in any of the independent variable will increase investment in the economy.

10. Presentation and Analysis of Data

In the analysis we shall try to establish a quantitative and empirical relationship between the various variables such as private investment, money supply, interest rate credit, inflation rate, exchange rate and gross domestic product. Also a test shall be conducted it there is existence of any positive or negative relationship between monetary policy, private investment sector and Nigeria economy. The result of the empirical investment of the test between the identified dependent and independent variable are summarized below.

11. Interpretation of Results

The correlation analysis shows the empirical relationship between private investment PI and money supply Ms, Interest Rate IR, Credit CD, Inflation INF, Exchange Rate EXR and GDP is significant at 0.01level of significance. Ms is significant at 0.01 with PI, CD and GDP but not significant with IR, INF and EXR. The interest Rate IR is only significant with INF. CD is significant at 0.01 level of significance with PI, Ms, Exchange Rate EXR and GDP. Inflation Rate INF is significant with Interest Rate IR. The significance is indicated in the analysis by **.
The correlation of the variable shows a positive sign (+) or (-) which indicate that positive relationship or negative relationship exists between or among the variables and this confirm with the appriori assumptions.

12. Findings

The research showed that the aggregate private investment has not followed any specific trend. It has been rising and falling in sporadic manner as had very unpredictable. The study equally revealed the impact of monetary policy on aggregate private sector investment in Nigeria. In particular it focused on the impact of monetary aggregate money supply, interest rate, credit, inflation and exchange rate on private investment and also in GDP.

i Money supply is quite effective among all monetary policy trolls in stimulating private investment in Nigeria. The correlation between money supply and private investment was found to be reliable.

ii. Interest rate on the other had is most effective of all the monetary policy tools and may works against private investment of interest rate as the underdeveloped and unwearied native of the financial markets which limit the participation of non – bank public.

iii Credit was found to be ineffective of all the monetary policy tools under reviewed it accounted for a little variation or change in the investment than other variable under study.

iv. Inflation rate was equally discovered to be more ineffective than the interest rate of all the monetary policy tools. It accounted for a lesser variation in private investment and it was having a negative relationship with private investment.

v. Exchange rate on the other hand was equally discovered to be most effective just as money supply of all the monetary policy under reviewed, it equally accounted for a more variation in private investment than other variation. The relationship it is having with private investment was equally positive.

13. Conclusion

Money supply was found to be effective, monetary policy instrument than the interest rate. This is on the grand of that private investment react more changes in money supply than the interest rate in Nigeria, however the correlation result shows that private investment increase as money supply increase this is because of the direct relation both variable are having, it is so simple in that an increase in money supply, more money will be made available for investors to borrow for the purpose of investment. But due to underdeveloped and cannot ensure that increase in money supply get to the investors. Conclusively money supply as a monetary tool has been ineffective inmost less developed contribute like Nigeria.

Finally, it showed that private investment as naira exchange rate had strong association, this agrees with the result obtained by Esion as Onwioduki (1999). This finding is very consistent especially when one discovered that part of the foreign capital must be converted to the naira equivalent in the country.

16. Recommendation

This study has a lot of implication for policy in the country. The major one is that there is need for authority to improve on the monetary aggregate in order to attract private investment. These follow the fact that monetary aggregate indicators we studied have study the impact on the flow of private investment sector.

Due to this the indices need to be closely monitored monetary and fiscal policies at improving the economy performance need to be vigorously pursued. Also in improving the effectiveness of monetary policy as a public policy which aim at boosting private investment in Nigeria certain adjustment are necessary.

i. There should be encouragement of money supply by the government could not vary money supply arbitrarily.

ii. Effort should be geared towards improving in the structure of the financial market that is institution about broken and intermediary transacting purchase and sales securities. In this case emphasis should be on interest rate stabilization thereby reducing the risk which investor are encoder with and boost their confidence in the financial markets. If there is stabilization in interest rate, it will create good acineophore for right/accurate signals to investors to the private sector to invest, stimulating growth in the economy.

iii. As for credit, time should be effort towards ensuring a fair distribution of credit among different sectors so that some sectors do not reap all the benefit or incentives alone. This implies that government should consist to control as distribute credit to sector where it is mostly need. This will enhance the less developed sector and enable them have a chance to avail themselves to credit for investment which will in turn stimulate economic growth.

iv. There is equally need for proper management of foreign exchange market and reduction of inflation. Pressure on the economy even though inflation is interest rate exerted the least influence or private investment sector yet it is recommended that government should design and implement policy meant to check their drift. Such measures would include among others, controlling monetary aggregate and allowing the market forces to determine and control resources allocation in the economy. Under government inflation will definitely match whatever measure it takes to ensure economic stability. In the face of economic is political uncertainty government need to introduce a package of incentive to attract and retail private investors. We feel that mere insurance are not enough? Government must do more than verbal pronouncement, corruption which has made Nigeria our country one the most unsafe and risk least country in the world seriously curb and tacked.

v. Conclusively, on the part of GDP there is equally need to improve on the private investment so as to increase the level of GDP as revealed by the empirical study and thereby improvingly the economy. This could only be achieved though government intervention i.e by subsidizing given incentives like holiday to private investment sector especially the newly invested ones.

Reference

Aigborkhan, B.E. (1995) Macro-Economic Theory Policy and Evidence Idelojie Publishers, Benin City

Anyanwu, J.C & H.E Oaikhena (1995) Modern Macro Economic Theory of Appreciation in Nigeria Joane Educational Publishers Limited Onitsha.

Anyanwu, J.C (1993) Monetary Economic Theory Policy and Institute(Onitsha Hybind Publishers)

Bryan M. (1981) Monetarist and Keynesian theories Contribution to Monetary Policy Macmillan Press Ltd London.

Bryan M. (1971) "Monetary and Keynesian" Monetary Theory Macmillan Press London.
Central Bank of Nigeria, Statistical Bullentine 1960 – 2008 (Anniversary Edition)

Ezenduyi, F.U (1994) The Effects of Monetary Policy in Performance of Banking Industry in Nigeria CBN Economic and Financial Review Vol, 32 No 3 September.

Nnanna, O.J (2003) "Appraisal of Financial Sector Performance and Monetary Policy, Messiness Central Bank of Nigeria Bullion July/ September vol 27, No3."

Richard J.T (1979) Monetary Policy and Theory Player Publishing Inc. New York.

Appendix

Source: CBN statistical Bulleting Millennium Edition, 1980 - 2008

Descriptive Statistics

	Mean	Std. Deviation	N
PI	1.0376E5	1.16783E5	29
Ms	2.1135E6	8.96742E6	29
IR	18.0124	6.58252	29
CD	8.1691E5	1.71972E6	29
INF	20.9931	18.10203	29
EXR	47.6170	53.99260	29
GDP	1.0261E5	35980.43987	29

Correlations Analysis Result

		PI	Ms	IR	CD	INF	EXR	GDP
PI	Pearson Correlation	1	.517**	.105	.827**	-.203	.898**	.791**
	Sig. (2-tailed)		.004	.588	.000	.292	.000	.000
	Sum of Squares and Cross-products	3.819E11	1.515E13	2.257E6	4.653E12	-1.200E7	1.585E8	9.309E10
	Covariance	1.364E10	5.409E11	8.060E4	1.662E11	-4.286E5	5.662E6	3.324E9
	N	29	29	29	29	29	29	29
Ms	Pearson Correlation	.517**	1	-.053	.839**	-.122	.313	.484**
	Sig. (2-tailed)	.004		.785	.000	.528	.098	.008
	Sum of Squares and Cross-products	1.515E13	2.252E15	-8.734E7	3.623E14	-5.544E8	4.247E9	4.370E12

	Covariance	5.409E11	8.041E13	-3.119E6	1.294E13	-1.980E7	1.517E8	1.561E11
	N	29	29	29	29	29	29	29
IR	Pearson Correlation	.105	-.053	1	-.039	.477**	.184	.166
	Sig. (2-tailed)	.588	.785		.842	.009	.339	.390
	Sum of Squares and Cross-products	2.257E6	-8.734E7	1.213E3	-1.224E7	1.591E3	1.833E3	1.098E6
	Covariance	8.060E4	-3.119E6	43.330	-4.370E5	56.818	65.447	3.923E4
	N	29	29	29	29	29	29	29
CD	Pearson Correlation	.827**	.839**	-.039	1	-.250	.626**	.725**
	Sig. (2-tailed)	.000	.000	.842		.191	.000	.000
	Sum of Squares and Cross-products	4.653E12	3.623E14	-1.224E7	8.281E13	-2.179E8	1.626E9	1.256E12
	Covariance	1.662E11	1.294E13	-4.370E5	2.957E12	-7.782E6	5.808E7	4.486E10
	N	29	29	29	29	29	29	29
INF	Pearson Correlation	-.203	-.122	.477**	-.250	1	-.294	-.105
	Sig. (2-tailed)	.292	.528	.009	.191		.122	.589
	Sum of Squares and Cross-products	-1.200E7	-5.544E8	1.591E3	-2.179E8	9.175E3	-8.038E3	-1.910E6
	Covariance	-4.286E5	-1.980E7	56.818	-7.782E6	327.684	-287.087	-6.820E4
	N	29	29	29	29	29	29	29
EXR	Pearson Correlation	.898**	.313	.184	.626**	-.294	1	.714**
	Sig. (2-tailed)	.000	.098	.339	.000	.122		.000
	Sum of Squares and Cross-products	1.585E8	4.247E9	1.833E3	1.626E9	-8.038E3	8.163E4	3.882E7
	Covariance	5.662E6	1.517E8	65.447	5.808E7	-287.087	2.915E3	1.386E6
	N	29	29	29	29	29	29	29
GDP	Pearson Correlation	.791**	.484**	.166	.725**	-.105	.714**	1
	Sig. (2-tailed)	.000	.008	.390	.000	.589	.000	
	Sum of Squares and Cross-products	9.309E10	4.370E12	1.098E6	1.256E12	-1.910E6	3.882E7	3.625E10
	Covariance	3.324E9	1.561E11	3.923E4	4.486E10	-6.820E4	1.386E6	1.295E9
	N	29	29	29	29	29	29	29

**. Correlation is significant at the 0.01 level (2-tailed).