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# Commercial Banks' Performance and Monetary Policy in Nigeria: A Causality Treatment (1995-2004)

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## Abstract

*This paper treated causally monetary policy and commercial banks performance in Nigeria over the period 1995-2004. Secondary data, sourced through Central Bank of Nigeria (CBN) and Nigeria Deposit Insurance Corporation (NDIC) publications and financial statements of ten commercial banks, were mainly used. The return on equity (ROE) and liquidity ratio were the operational variables. Data were analysed using multiple regression of Granger causality test approach. It was found among others that liquidity ratio is not a significant factor affecting return on equity even though a relationship exists and the combined past and present values of Return on Equity (ROE) is insignificant meaning that causality is not flowing from ROE to LR. Thus, return on equity is not a significant factor influencing liquidity ratio. It is therefore recommended, among others, that regulatory authorities should be decisive in the implication of monetary policies by ensuring total enforcement of defaulters. Emphasis should be placed on attitudinal change among banks.*

## Introduction

The place of money in lubricating the economy cannot be overemphasized. The extent to which this is achieved depends on how banks especially deposit money and how banks play their intermediation role. This role involves the aggregation and disaggregation of idle and active funds among economic units with a view to achieving financial equilibrium and consequent societal development and growth. The desired national development is achieved only when the deposit money bank accepts, to objectively act as a channel of transmission for government policies especially monetary policy, which has remained a growth stimulant tool.

Basically, deposit money banks are not voluntary agencies. They are in banking business to make profit and maximize shareholders' wealth through provision of financial services and acting as the main conduct for transmitting monetary policies of Central Bank of Nigeria (CBN). In their effort to rendering these services and acting as a transmitor of monetary policies, government broad objective and other sectors of the economy are affected positively or negatively depending on how they carry out their role. Therefore, in order to provide a focus and guide against possible excesses of banks' operation, a number of monetary policy tools are put in place. Studies have shown that interest rate, exchange rate, bank reserve, among others, are dominant policy variables used by CBN (Uchendu, 1995) to guide the operation of banks and align the economic objective of government. Implementation of these policy variables affect the profit objective of banks. Essentially, studies on monetary policy and bank performance have concentrated on general monetary policy tools as in Uchendu, (1995) and Nonye, (1999) without adequate focus on the most critical tools like liquidity ratio especially in the wake of liquid related problems in the banking industry. It therefore becomes important to refocus on liquidity ratio as a monetary policy instrument vis-à-vis the performance of banks in Nigeria, measured by return on equity capital. The result will go a long way in not only revealing the Central Bank of Nigeria's (CBN) role of controlling the banking industry but most importantly in unveiling the strength and ability of banks in the face of stringent policy measures.

To achieve our set objective, this paper is divided into six sections. Section one introduced the paper while section two gives theoretical foundation of the study. The method used in carrying out the study is considered in section three. Data presentation and estimation results are presented in section four. Interpretation and Discussion of Estimation Results, Recommendations and Conclusion are taken in sections five and six respectively.

## 2.0 Theoretical Foundation

Bank's performance is a function of a number of factors ranging from economic, social to political. The economic factor, which is of interest in this paper, is very significant in maximizing shareholders wealth via aggregate profit after interest and tax. Such economic factors have been identified by Uchendu (1995) to include interest rate, exchange rate, bank reserve, labour cost and productivity and most importantly capital adequacy and liquidity.

Liquidity is a critical factor in the survival of any firm including the banks. According to Gitman (1994:113) liquidity refers to the solvency of the firm's (bank's) overall financial position, which portrays the ease with which it can pay bills. Banking industry is very unique because of the nature of their business, which is dependent on other peoples' money that is withdrawn without prior notice. Liquidity of a bank (or any firm) is determined by the composition and quality of its asset portfolio. The more such assets are converted into cash with little or no financial risk, the more the liquidity. Thus, according to Nwankwo (1990:30) liquidity is measured by either stock approach or cash flow approach. The stock approach or ratio approach, as in Okereke (2003:253), is preferred in this work and liquidity ratio is applied.

Liquidity ratio is the ratio of current assets to current liabilities and it is one of the monetary policy tools of Central Banks of Nigeria. Essentially, monetary policy is expected to impact on the performance of deposit money banks in Nigeria especially in the wake of liquidity crisis in the banking industry. Unfortunately, in the previous work as in Uchendu (1995), Nyong (1995), there is no conscious effort to include liquidity ratio as monetary policy and commercial bank performance in their models. This gap is considered in this study. Our performance index is return on capital as adopted in Nyong (1995). Generally, performance by deposit money banks is governed by a number of theories like expensive preference theory (Williamson, 1963), deposit insurance theory (Flanney, 1989; Keely, 1990). Modern intermediation theory (Boyd and Prescott, 1986, Allien, 1990) and the theory of portfolio regulation (Peltzman, 1970). For purpose of this work, the theory of portfolio regulation is adopted. According to this theory, the regulation of banks (through monetary policy) is necessary to maintain safety and soundness of the banking system, thereby positioning them to meet their liabilities without difficulties. Thus, regulatory authorities are in the habit of enforcing solvency and liquidity on banks through a number of monetary policy tools like liquidity ratio. These regulatory actions of CBN affect the performance of banks. The average liquidity ratio for the selected banks is used in our analysis, as an index for regulation of banks in Nigeria.

## 3.0 Methodology

This study used ten (10) deposit money banks with area offices in Port Harcourt. A random sampling of non-profitable technique was adopted. This involved the selection of samples that are convenient and most accessible to the researcher especially in getting relevant data / information. It must be noted here that all deposit money banks are similar in their characteristics, operations, objectives and they are governed, controlled and regulated by the same regulatory authorities and principles. This implies that studying only ten (10) banks is acceptable for generalization on the target population of 77 deposit money banks in Nigeria.

The data used for the study were mainly secondary data sourced from financial statements (operating income statement and balance sheet) of the ten banks selected, CBN publications, NDIC and covered a period of nine (9) years (1995 – 2003). The selected ten banks and their Return on equity ratio and liquidity ratio calculated from their financial statements are shown in Table I & II. The banks are Afribank Nigeria Plc, First Bank of Nigeria Plc, FSB International Bank Plc, Guranty Trust Bank Plc, Inland Bank of Nigeria Plc, NAL Bank Plc, Union Bank Nigeria Plc and Wema Bank Plc.

Operational variables used in this study are performance of Deposit Money banks measured by Return on Equity Capital (ROE) and monetary policy measured by liquidity ratio (LR). Given these variables, a model is developed as:

ROE = $f$(LR)

Where LR = Liquidity Ratio;

In establishing relationship between the dependent (performance – return on capital invested) and the independent variable (liquidity ratio), a regression analysis is carried out. This is represented in a simple and multiple forms as thus

Y = a + bX................................(1) and

$Y = a + b_1X_1 + b_2X_2 \ldots + b_n X_n + \delta$ ... (2) respectively,

Presenting this to suit our study, we have

$$ROE = a + Q_1LR \quad \ldots\ldots \quad (3)$$

Where a = the intercept i.e the expected value of ROE when LR equals zero.

$Q_1$ = coefficients of the independent variable, which is slope of the regression line.

E = Error terms

All other variables as defined earlier.

Correlation Coefficient (R) is used to test for relationship while the t-test is used for significance. Causality test, as adopted in Granger (1969) and Okereke (2004), were used to test the direction of the relationship. Studies have shown that ordinary correlation coefficient is incapable of providing the direction of effect of variables on a regression model. A more directional model like Granger causality test is preferred (Okonkwo, 1989; Ezirim, 1999 and Okereke, 2004). Accordingly, causality flows from the independent to the dependent variable if the coefficient of the combined (present and past) values of the independent variable is positive. Otherwise causality is not flowing. This implies that variations in the dependent variable (bank performance) are caused by the independent variable. Otherwise, it is not. Thus, from equations 4 & 5, causality flows from liquidity ratio to equity capital if coefficient of the joint present and past values of liquidity ratio is significant at the conventional level of significant (0.05). This means that liquidity ratio is a significant factor influencing return on equity. Otherwise causality is not flowing implying that liquidity ratio is not a significant factor affecting return on equity. On the other hand, equations 6 & 7 are expressing the opposite of equations 4 & 5 which automatically makes ROE an explanatory variable to LR. Consequently, causality flows from ROE to LR if the combined value of ROE is significant which implies that ROE is a significant factor influencing liquidity. Otherwise it is not significant. It is expected that causality flows from LR to ROE but not flowing the other way thereby giving a one-way causation. It is also expected to have an inverse relationship between ROE and LR. This has been applied successfully in the work of (Pierch, 1977; Ezirim, 1999 and Okereke, 2004). Given this, our equation 3 is translated to be

$$ROE_t = ROE_{t-1} + Q_1(LR_t + LR_{t-1}) + E \quad \ldots\ldots\ldots \quad (4)$$

$$= ROE_{t-1} + Q_1(LR_{t-1+1}) + E \quad \ldots\ldots\ldots \quad (5)$$

$$LR_t = LR_{t-1} + Q_2(ROE_t + ROE_{t-1}) + E_t \quad \ldots\ldots\ldots \quad (6)$$

$$= LR_{t-1} + Q_2(ROE_{t-1+1}) + E_t \quad \ldots\ldots\ldots \quad (7)$$

Where t–1 = value a year ago (past year's value)

t = current year's value

t-1+1 = past and present year's values combined

These (Eqs. 4-7) are modified versions and is our operational models, which are regressed using SPSS. The data used are average values, as shown in Tables I & II, which are adjusted to suit our causality test.

# 4.0 Presentation of Data and Estimation Results

## 4.1 Presentation of Data

**Table I: Liquidity Ratio**

| S/No | Banks | 1995 | 1996 | 1997 | 1998 | 199 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Afrik | 79.7 | 83.5 | 88.6 | NA | 91.3 | 91.9 | 91.3 | 92.2 | 92.7 | 91.7 |
| 2 | Frist Bank | 92.6 | 95.4 | 91.1 | 97.6 | 97.5 | 98.3 | 100.4 | 99.4 | 106.1 | 100.5 |
| 3 | FSB | 102.3 | 101.8 | 103.7 | 105.5 | 98.9 | 103.3 | 1208.2 | 95.3 | 81.2 | 79.6 |
| 4 | Guaranty | 100.5 | 104.1 | 102.8 | 98.1 | 101.1 | 75.8 | 93.4 | 90.1 | 95.5 | 94.4 |
| 5 | Inaland | 88.1 | 94.9 | 95.6 | NA | 86.9 | 99.8 | 102.7 | 96.5 | 88.1 | 93.9 |
| 6 | NAL | 79 | 114.3 | 108.8 | 97.5 | 106.7 | 99.4 | 109.9 | 104.7 | 97.0 | 104.1 |
| 7 | Trans Int | 76.1 | 75.2 | 71.8 | 82.5 | 103.5 | 84.5 | 98.3 | 99.5 | 104.3 | 107.8 |
| 8 | Trade | 88.8 | 90.3 | 101.2 | - | 83.0 | 94.5 | 89.5 | 96.7 | 89.4 | 71.9 |
| 9 | Union | 133 | 95 | 94.8 | 95.4 | 97.2 | 98.3 | 103.1 | 102.9 | 102.8 | 98.5 |
| 10 | Wema | 96.3 | 92.4 | 93.9 | 96.1 | 96.9 | 96.5 | 99 | 97.9 | 105.0 | 101.3 |
| | Average | 93.64 | 94.69 | 95.23 | 94.67 | 96.3 | 94.23 | 99.58 | 97.52 | 96.2 | 97.37 |

**Source:** Calculated from Banks Annual Reports 1995 -2004.

**Table II: Return on Equity Ratio (ROE)**

| S/No | Banks | 1995 | 1996 | 1997 | 1998 | 199 | 2000 | 2001 | 2002 | 2003 | 2004 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Afrik | 83.0 | 39.7 | 37.5 | - | 58.2 | (104) | 197.5 | 303.3 | 143.3 | 175.4 |
| 2 | Frist Bank | 65.4 | 78.5 | 129.8 | 231.7 | 332.4 | 368.2 | 313.3 | 812.8 | 873.7 | 959.4 |
| 3 | FSB | 14.1 | 23.8 | 42.8 | 55.0 | 86.1 | 89.3 | 92.0 | 51.8 | (248.3) | 22.3 |
| 4 | Guaranty | 28.0 | 62.1 | 63.5 | 50.1 | 70.0 | 81.4 | 120.3 | 246.5 | 256.9 | 324.6 |
| 5 | Inaland | 0.3 | 2.9 | 9.3 | - | 15.9 | 7.9 | 17.2 | 32.7 | 19.7 | 20.8 |
| 6 | NAL | 14.1 | 20.3 | 39.0 | 36.3 | 48.5 | 49.3 | 37.0 | 4.0 | 17.9 | 154.5 |
| 7 | Trans Int | 5.3 | 4.8 | 5.6 | 8.7 | 4.3 | 38.4 | 73.1 | 72.1 | 25.3 | 86.7 |
| 8 | Trade | 7.1 | 6.3 | 3.9 | - | 17.1 | 12.4 | 34.9 | 72.5 | 78.4 | (310.4) |
| 9 | Union | 45.7 | 103.1 | 90.8 | 137.8 | 248.6 | 400.2 | 375.7 | 524.6 | 616.1 | 745.2 |
| 10 | Wema | 14.6 | 17.5 | 13.0 | 18.7 | 26.9 | 16.2 | 39.8 | 91.9 | 94.9 | 62.1 |
| | Average | 27.71 | 35.9 | 43.52 | 76.9 | 90.8 | 95.93 | 128.3 | 221.2 | 187.8 | 224.1 |

**Source:** Calculated from Banks Annual Reports 1995 -2004.

## 4.2 Estimation Results

$$ROE_t = -85.342 + .351\ ROE_{t-1} + .456LR_{t-1+1}$$

( -.614) (1.107) (1.447)

(.556) (.305) (.186)

$R = .571$ $R^2 = .326$ $AR^2 = .113$

$F = 1.690$ F-sig .252

$$LR_t = 95.236 - .258LR_{t-1} + .223ROE_{t-1+1}$$

t 71.325 – .644 .558

Prob (.000) (.540) (.954)

$R = .419$ $R^2 = 175$ $AR^2 = -.060$

$F = .744$ F.sig .509

continued to post greatest challenge in liquidity management in Nigeria. According to Lemo (2004:6) monetary policy implementation faced daunting challenges in two years 2002 and 2003 mainly due to the problems of excess liquidity and increased demand pressure in the Foreign Exchange Market (FEM). Compliance with monetary and external policy targets fell short of expectation. Concluding, he said "overall, the performance of the domestic economy in 2003 is characterized by the same problems as in the previous year. Monetary expansion was excessive, giving rise to high demand pressure in the FEM and persistent depreciation of the naira in all segments of the market".

It is also important to report the signs of lagged values of the two models. Both models have different signs. In model I, the result of lagged value of return on equity showed a positive sign which implies that the previous years value of ROE affects the current year's value in an increasing trend. It means that the current year's performance of ROE can be used to predict the next year's performance. This is opposite of the result of model II which showed negative sign. It indicates that liquidity ratio is not a good predictor. Thus, the current year's performance of LR cannot be used to predict the next year's performance. This is expected since it is volatile and mainly a regulatory tool.

## Conclusion

The independent posture of our causality result means that neither of the two variables affect each other. One expects a constraining effect of monetary policy instrument of liquidity ratio on the profitability of deposit money banks. The result of this study depicts a weak monetary policy tool, poor implementation and/or infusion of other monetary measures that renders the original tool(s) ineffective. The recommendations offered herein will go a long way in improving the performance of our banks and achievement of monetary policy objective.

## Recommendations

- Regulatory authorities should be decisive in the implementation of monetary policies. Enforcement of defaulters should be total. This will help to increase compliance rate among banks and achievement of monetary policy objectives well as set targets.
- Regulatory authorities / agencies in the financial sector should be fully empowered to perform their functions.
- Monetary policy authorities should not formulate policies that would unduly constrain banks from achieving their profitability objective, as this may not only drive away investors from investing in this sub-sector of the Nigeria economy but also may force operators to engage in unethical practices.
- There must be emphasis on attitudinal change among banks which will help to build their compliance attributes namely transparency, solvent, liquid, viable, ethically sound and regulatory responsiveness.

## 5.0 Interpretation and Discussion of Estimation Results

From the result, correlation coefficient (R), which measures the degree of relationship between the dependent variable and independent variables shows that there is a direct significant positive relationship between Return on equity and liquidity ratio in the first model (equations 4 & 5) but without the expected sign. A priori, one would expect an inverse return on equity, as more funds will be available for loans and investments from where higher returns accrue to equity holders. Reversing the equation, the second model (eqns. 6&7) shows that R = .419 which indicates that the degree of relationship is about 42%. This means insignificant positive direct relationship between liquidity ratio and return on equity capital. The low explanatory power of the model (17.5%) buttresses this result.

The causality test for the first model shows that the joint present and past values of liquidity ratio is insignificant. This means liquidity ratio is not causing return on equity. Thus liquidity ratio is not a significant factor affecting return on equity even though a relationship exists. The cause and effect relationship for the second model (equations 6&7) shows that the combined past and present values of Return on Equity (ROE) is insignificant meaning that causality is not flowing from ROE to LR. Thus, return on equity is not a significant factor influencing liquidity ratio. This is expected as ROE is only an output variable arising from mix of input variables including liquidity ratio. The direction of relationship or causality showed an independent causality as against two-way causality when capital adequacy is used as a monetary policy tool, as found in Nyong (1955:86).

The two models are statistically insignificant in explaining the performance of deposit money banks and monetary policy in Nigeria. Thus there is no fitness in models, although model I is superior to model II.

The positive sign recorded in the regulatory variable is an indication that CBN has not been able to use liquidity ratio effectively since a priori an inverse relationship is expected. Thus monetary policy of LR has not helped in managing liquidity but has helped in the probability of banks against monetary stability of CBN. This is the findings of Nyong (1995) when he applied capital adequacy as a regulatory measure. He concluded that "the fact that sign or the regulatory variable is negative implies that bank regulation measure may not have been sufficiently effective". Although the signs contradict each other, the variables behave differently in effecting money policy objective. Thus, effective liquidity management is reflected in inverse relationship. The result is therefore an aberration in liquidity management. The high return in equity may be accounted to other unconventional sources. A situation where revenue from crude oil is monetized in naira value before allocation with the result that excess naira is left in the accounts of beneficiaries put pressure on available liquidity. In a bid to take care of this excess liquidity, Federal Government through Central Bank of Nigeria (CBN) float treasury bills and certificates at a discount rate ranging from 14 percent to 15 percent. This is rather high for a risk-free investment and a good source of excess liquidity in the system which has

> Revenue generated in foreign currencies should be allocated to beneficiaries in the same currency. The beneficiaries should be allowed to open a domiciliary account, from where expenditure can be made but monitored by monetary authorities. This will help to reduce the frequent excess liquidity arising from conversion especially in the wake of high exchange rate and complicated by fiscal depreciation which has become a routine occurrence.

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