NIGERIAN JOURNAL OF FINANCIAL RESEARCH (NJOFIR)

VOL. 6, NUMBER 1 2008

DEPARTMENT OF FINANCE & BANKING
UNIVERSITY OF PORT HARCOURT

MACROECONOMIC BEHAVIOUR AND DEPOSIT MONEY (COMMERCIAL) BANK LENDING IN NIGERIA (1970 - 2008)

BY

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ABSTRACT

THE paper examined the relationship between deposit money (commercial) banks' credit lending to the economy and macroeconomic behaviour in Nigeria. Time series data on deposit money banks' credit lending and macroeconomic variables in Nigeria sourced from Central Bank of Nigeria (CBN) Statistical Bulletin was used. Employing an econometric data analysis technique of Ordinary Least Squares (OLS), it was found, among others, that there is a positive relationship between Gross Domestic Product (GDP), exchange rate, consumer price index, and deposit money (commercial) banks credit lending to the public with interest not responding to investment. This call for a policy shift and political will by our leaders especially in the area of infrastructural development and increased productive base of the nation in order to improve the stability of macroeconomic variables investigated. This will not only help in enhancing the profitability of banks but also improve the standard of living of the Nigerian people.

Key Words:
Microeconomic Variables, Bank Lending, Exchange Rates

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1.0 Introduction

BANKS are globally known as a major actor in lubricating the economy through their intermediation role. Interestingly, this role constitutes a major source of their income and a means of distributing income and facilitating the payment system. Banks' income is generated from the spread between lending and deposit rates relative to the volume of loans granted. The volume of loans granted by a bank at any point in time is a function of its internal characteristics such as size, deposit base, liquidity, credit policy and other internal and external factors, which may be relatively within the control of the bank. Though these factors or policies are internal, they, however, to a large extent mimic the general macroeconomic environment, such that the general loan behaviours of banks will be a reflection of the signals from the aggregate economy.

Expectedly, if they perceive a stable macro environment they form an expectation that the borrowers will be able pay back because of their ability to predict the economy more accurately and possibly earn a good return on their investment projects. Therefore, since banks do not operate in a vacuum, their overall lending behaviour may generally be influenced by the environmental factors particularly the regulatory and macroeconomic factors. The regulatory environment is more stringent and must be observed but the economic environment is perhaps the more challenging since it affords them the opportunity to exercise their discretion at least relatively, in a manner that will impact positively on their business in the long run.

The economic environment is a systematic risk component that affects every participant within the economy. The general performance of the economy is reflected by the macroeconomic aggregates including the gross domestic product (GDP), employment level, industrial capacity utilization, inflation, money supply and exchange rate. Banks therefore adjust there lending behaviour in response to the signals from these factors, such that positive signals make banks become more favourably disposed to lending and vice versa. Thus, banks' loan portfolio including volume, tenor and structure are generally influenced by their expectations of the performance of economy both in terms of stability and quantum/level of performance. As indicated by Talavera , Tsapin and Zholud (2006) banks make out more loans during periods of boom and reduced level of macroeconomic uncertainty and curtail lending when the economy is in recession. This finding deserves further investigation in Nigeria especially in the wake of frequent macroeconomic instability in the last two decades. This study, therefore seek to examine the relationship between deposit money (commercial) banks' credit lending to the economy and macroeconomic behaviour in Nigeria.

To put the paper into proper perceptive, it is divided into 5 sections. First is the introduction, followed by a review of related literature. Part three looked at the methodology while part four presented and analysed data and gave interpretation to the results thereto. Part five provided recommendations and some concluding remarks.

2.0 Review of Related Literature

There have been studies bothering on lending behaviour and macroeconomic instability, which are internationally dominated. Local literature is scarce in this area because of limited attention. As observed by Baum, Caglayan and Ozkan(2005) a very limited attention has been paid to the area of study even in the developed economies. However, a number of literature has been unveiled here under.

Talavera, Tsapin and Zholud (2006) investigated the macroeconomic uncertainty and bank lending in Ukraine. They found a negative relationship between bank loan to capital ratio and macroeconomic uncertainty as proxied by the conditional variance of consumer or producer inflation or volatility in money supply (M1 and M2) and its component (demand and time deposit) with banks increasing their lending ratios when macroeconomic uncertainty decreases. The reaction of banks to changes in uncertainty is not uniform and depends on bank-specific characteristics particularly bank size and profitability. The result shows that small banks are less able to change their behaviour over time in response to changes in monetary policy and their lending depends to a much greater extent on capital. Also, monetary policy uncertainty factor is significant for bank lending behaviour in the case of more profitable banks but less significant for the less profitable.

Micco and Panizza (2004), tested how bank ownership affects bank lending behaviour over the business cycle in developed and developing countries and measured lending

behaviour as the growth rate of loans by banks in each country. They found that loan growth is indeed correlated with macroeconomic shocks as measured by GDP growth. Specifically, a 1-percent increase (drop) in GDP is associated with a 1.46 per cent increase (drop) in lending by private domestic banks with a similar pattern exhibited by public banks. They also found that credit cyclicality is much lower in industrialized countries than in developing countries (the elasticity goes from 1.4 to 0.5) and that the lending activity of state-owned banks located in industrial countries seems to be counter-cyclical. Nier and Zicchino (2005) in their study concluded that in economic downturns bank experience losses. An increased incidence of loan-loss provision may eat into capital and result into bank capital requirements becoming binding in recessions.

Beaudry, Caglayan and Schiantarelli (2001) investigated the impact of aggregate price uncertainty on the time-variation in cross sectional distribution of investment at the aggregate and industry level using United Kingdom (UK) firm level data. They found that the cross-sectional distribution of investment narrows -implying more homogeneous investment behaviours across firms during times of uncertainty. Whereas, a reduction in inflation uncertainty leads to a widening dispersion as higher quality information allows firms to invest in projects with deferring expected returns. Impliedly the study confirmed that inflation uncertainty hinders efficient allocation of resources.

Gambacorta and Iannoti (2005) investigated the velocity and asymmetry in response of bank interest rates (lending, deposit, and inter-bank) to monetary policy shocks (changes)

in Italy from 1985-2002 using an Asymmetric Vector Correction Model (AVECM) that allows for different behaviours in both the short-run and long-run .The study shows that the speed of adjustment of bank interest rate to monetary policy changes increased significantly after the introduction of the 1993 Banking Law, interest rate adjustment in response to positive and negative shocks are asymmetric in the short run , with the idea that in the long-run the equilibrium is unique. They also found that banks adjust their loan (deposit) prices at a faster rate during period of monetary tightening (easing).

Olaniyan (2000) in his study of the effects of instability on aggregate investment in Nigeria showed that inflation and the variability of inflation rate are part of the important indicators of macroeconomic instability in Nigeria. The study showed that inflation has a negative and significant impact on investment in Nigeria and therefore advocates that appropriate measures be taken not only to stem the trend of rising inflation but also its variability.

Kishan and Opiela (2000) in their study found that lending by banks with a low capital ratio seems to react more strongly to monetary policy shocks. Generally, if bank equity is low, the monetary policy effects on lending via the bank capital channel may be weak initially, but will be much larger after several quarters.

De Young, Gron, and Winton (2005) examined factors influencing debt overhang in the US small banks (banks with assets less than $1billion) and found a support for the loan-supply motivations for the pro-cyclic nature of bank lending.

During an economic expansion demand for lending is high and business profitability is good, resulting in more profitable loans, more bank capital, and an expanding credit environment in which banks lend more at lower rates as they compete for business. Their findings also indicate that risk overhang effects from outstanding loans work to decrease loan supply during a recession even more than would be implied by the reduction in bank capital alone.

As the controversy between bank capital and lending lingers and while there is no much consensus on the relationship between capital and loan supply, Sharpe (1995) in De Young, Gron, and Winton (2005) identified two robust results across studies: (i) bank profitability has a positive effect on loan growth, and (ii) loan losses have the opposite effect. Since profits (loan losses) tend to increase (decrease) bank capital, these findings are consistent with a positive association between bank capital and loan growth. In another study, Beatty and Gron (2001) found evidence suggesting that banks with higher capital growth relative to assets have greater increases in their loan portfolios, with the most significant effects coming from the most capital constrained banks.

Van den Heuvel (2005) argued that monetary policy affects bank lending through two channels. According to the thesis of the bank lending channel, monetary policy has a direct effect on the supply of bank loans, and thus the real economy, because banks finance loans in part with liabilities that carry reserve requirements. By lowering bank reserves, contractionary monetary policy reduces the extent to which banks can accept reservable deposits, if reserve

requirements are binding. The decrease in reservable liabilities will, in turn, lead banks to reduce lending, if they cannot easily switch to alternative forms of finance or liquidate assets other than loans.

Another approach is the capital-adequacy regulations and an imperfect market for bank equity, is the maturity transformation performed by banks, exposing them to interest rate risk. A consequence of this is that a monetary tightening, by raising the short-term interest rate, lowers bank profits. Unless the bank can reduce dividends substantially, this will result over time in lower bank capital and, given the failure of the Modigliani-Miller logic, less lending. Thus, monetary policy affects the supply of bank loans through its effect on bank equity.

Baum, Caglayan and Ozkan (2005) studied the behaviour of US banks using quarterly data from 1979-

view that macroeconomic uncertainty distorts the efficient allocation of funds across potential borrowers.

To what extent do these findings fit into the Nigerian environment? This is the gap craving for attention in this study.

3.0 Methodology

The study utilized secondary time series data on deposit money (commercial) banks' credit lending, Economic growth/Gross Domestic Product (GDP), exchange rate, Interest rate (lending rate) and consumer price index in Nigeria sourced from Central Bank of Nigeria (CBN) Statistical Bulletin. It covered a period from 1970-2008 and presented in Table 1 of Appendix A. Macroeconomic variables constitute our independent variables while commercial bank's credit lending is the dependent variable.

The study employed an econometric data analysis technique of Ordinary Least Squares (OLS). Test of parameter estimates were carried out at 5% level of significance.

Model Specification

For the purpose of this study, we specify a deposit money (commercial) bank interest rate model thus;

$$LnBlen = a_0 + a_1 lnGdp + a_2 lnIrr + a_3 lnPci + a_4 lnExr + e$$

A priori expectation: $a_1>0$, $a_2>0$, $a_3<0$, $a_4<0$.

Where
Ln = Natural logarithm
a_0 = Autonomous determinant of commercial bank credit lending.
Blen = Commercial bank credit lending to the economy
Irr = Interest rate (commercial banks lending rate)
Gdp = Gross domestic product/ economic growth
Exr = Exchange rate (Naira = US Dollar)
Cpi = Consumer price index (proxy for inflation rate)
E = Stochastic term/ other factors that affects commercial banks lending outside the model specified above.

4.0 Analysis and Interpretation of Empirical Result

In our data analyzes, the multiple regression variant of Ordinary least square method (OLS) was used to estimate the relationship and contribution of deposit money (commercial) bank credit lending and macroeconomic behaviour in Nigeria. The result of our regression analysis of E-View version is presented in the Table 2 of Appendix B.

The regression result in Table 2 of Appendix B reveals that economic growth (GDP), exchange rate, and consumer price index are positively related to deposit money (commercial) bank credit lending. This implies that an increase in these variables stimulate commercial credit lending while a fall retards bank's credit lending during the period under review. On the other hand, interest rate on lending by commercial banks has a negative sign, which shows that a rise in interest rate reduces bank lending while a fall stimulates deposit money (commercial) banks lending.

Our result also indicates that about 99 percent of the total variation in commercial banks lending is determined by macroeconomic behaviour during the period of this study. The test of significance of the overall regression model revealed that it is statistically significant at 5 percent level because F-calculated 67663.6 is greater than F- table 2.4 while serial correlation is minimal with Durbin Watson statistic of 1.12.

Gross Domestic Product (GDP) complies with a priori expectation with a positive sign. However, it is very insignificant at 5 percent level. This implies that a rise in economic growth (national income) will spur bank lending to the economy but its level is inadequate to meet up banks required fund for improved lending to the economy. Per capita income of Nigeria is below $1000. This is very low to enhance effective deposit mobilization which commercial banks need for an improved credit lending to the borrowing public. It worthy to note that income level at both national and individual levels determine significantly the level of savings and deposit mobilization of commercial banks which are major ingredients for credit lending. It is obvious that income accruing to individuals end up for consumption purposes thereby making it difficult for savings, upon which banks mobilize for lending. At the national level, income ends up in the pockets of unpatriotic politicians, who transfer these monies abroad without any injection to the local economy.

Exchange rate deviates from our expectation with a positive sign. However, it is significant at 5 percent level.

This indicates that a rise in exchange rate stimulates bank lending while a fall retards it. Theoretically, a fall in exchange rate makes foreign borrowing by commercial bank profitable and vice versa. It depicts a strong Naira and a sound productive base. Our result here shows that a rise in exchange stimulate banks lending while a fall reduces banks lending to the public. This is expected especially in the wake of wide gape between official and unofficial exchange rates. The high exchange rate of the naira to other major world currencies like USD, GBP, EUR, JPY etc, which is very unhealthy, may have accounted for this result.. Round tripping among banks can also be responsible for this result. It has been found that exchange fluctuations is not a significant factor influencing macroeconomic variables in Nigeria except for the level of government influence on the economy (Okereke, 2005).

Interest rate on commercial lending does not conform to our expectation with a negative sign but it is very significant at 5 percent level. This implies that interest rate significantly retards commercial bank credit lending to the economy. Higher interest rate on lending makes loan business more profitable to the banks but interest rate in Nigeria has undergone a number of metamorphoses ranging from regulated to deregulated and managed deregulated by different governments through the monetary authority, Central Bank of Nigeria (CBN). Each of these regimes affects interest rate differently. From the supply side, high interest rate encourages lending while from the demand side, it discourages the borrowing public. In an environment that encourages both the supply and demand sides, deregulated interest rate regime provides a market

that determines interest rate that can enhance efficiency in credit administrative and curb mismatch that most time characterized credit policy in Nigeria.

Consumer price index (proxy for inflation level) also deviates from our theoretical expectation by bearing a positive sign. It is however significant at 5 percent level. This indicates that as inflation level goes up, banks also increase their lending level to investors since interest on lending (as a source of income) encourage banks to lend to the extent investors are willing to borrow. Theoretically and from the demand side, a rise in price level (interest) discourages borrowers during inflationary period. Given high inflationary rate in Nigeria, the borrowing public has been reluctant to borrow leading to the poor lending ability of banks to investors in Nigeria during the reviewed period. Targets of credit to the private sector have rarely been met. For instance credit *targets*, in 1985, 1996, 2002 and 2006 were 7.4, 29.5, 34.9 and 30.0 as against the *actual* of 5.9, 21.9, 11.8 and 28.2 respectively.

5.0 Concluding Remarks/Recommendations

THIS study showed some mixed results. The insignificant relationship between economic growth, exchange rate and bank lending is very worrisome and the non response of interest rate to investment is most disturbing. However, the positive relation recorded in some of the variables, mainly GDP (national income level), exchange rate, consumer price index, to commercial banks credit lending to the public calls for their objective manipulations with a view to ensuring that these variables spur commercial bank

lending to the economy especially the private sector. Given that interest rate retards bank lending, it calls for interest rate management strategy that will make interest rate responsive to investment. Thus an understanding of how banks adjust their credit behaviour in the face of volatile macroeconomic environment will guide bank credit policy formulations and serves as an appropriate guidance for macroeconomic policy makers.

Specifically, our result also revealed that macroeconomic behaviour has serious implications on the lending ability and credit administration on deposit money (commercial) banks in Nigeria. The high level of policy inconsistencies and macroeconomic instability in the polity may have accounted for this result. For an improved financial sector performance and proper credit administration in Nigeria, there is the urgent need for a policy shift and political will by our leaders especially in the area of infrastructural development and increased productive base of the nation in order to improve the stability of macroeconomic variables investigated. This will not only help in enhancing the profitability of banks but also improve the standard of living of the Nigerian people.

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