BANKING SECTOR REFORMS AND THE PERFORMANCE OF THE BANKING SYSTEM IN NIGERIA

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Abstract

This study examined banking sector reforms in Nigeria vis-à-vis the performance of the banking system measured by total credit of banks to domestic private sector (CREP) and banks' return on assets (ROA). The period of study is between 1971 and 2011. The Ordinary Least Square (OLS) estimation technique was used for the data analysis. The cointegration results confirmed the existence of long run relationship among the variables in the models. The study found that lending rate and spread impacted negatively on CREP. ROA impacted positively and significantly on CREP but minimally on financial deepening. The study recommended among others, a gradual and systematic reduction in the minimum rediscount rate as a means of reducing lending rate to encourage borrowing and stimulate private sector investment in Nigeria.

Keywords: Banking Sector Reforms, Banking System Performance, Financial Deepening **JEL Classification Code:** C32, E52, E58

Introduction

Banks have become indispensable based on the fact that they are the main channels of savings and allocation of credit in an economy. The efficiency of banks, therefore, positively affects the financial system and the entire economy and their failures can negatively affect the fortunes of people and businesses and deplete public confidence in the economy. Bank failures or crises occur almost invariably due to distorted management incentives, bad governance, weakness in macroeconomic policies, weak supervision, problems in the real sector, or an amalgam of these (Adhikari and Soo-Nam Oh, 1999).

Reforms mostly follow banking crisis. However, they sometimes precede a crisis situation to proactively create the enabling environment for domestic and international competition among banks. Reforms are also aimed at shoring up the capacities of the banks for effective competitiveness as well as customer confidence building.

Banking sector reforms are all actions by the apex bank of countries geared towards restructuring and stabilizing the banking sector to achieve certain macroeconomic objectives which include churning out the correct policies to enable the banking sub-sector to fulfill its role of empowering private sector as well as creating credit for medium and small scale enterprises.

According to Adhikari and Soo-Nam Oh (1999), banking system failure can be the cause of macroeconomic instability, particularly when it contributes to fiscal deficits, drains foreign exchange reserves; and macroeconomic instability can cause banking failure due to currency devaluation, rise in interest rates, and fall in asset prices, leading to corporate losses and insolvency, etc.

Clearly, for over two decades after Nigeria's autonomy, its financial system was overregulated, as it was designated by the interest rates pegs and growths in credit, high prerequisites for reserves among other policies. This circumstance controlled the workings of the monetary framework and particularly reduced its capacity to assemble reserve funds and encourage gainful investments.

Though the Nigerian financial reforms predate the outset of the Structural Adjustment Programme (SAP) it is however encapsulated in the SAP of 1986. The beginning of the SAP saw the Nigerian banking system transform from one of few banks to that of many banks and other complimentary institutions. However, the growth in the number of institutions was not matched by the capacity to monitor and supervise the financial institutions and banks. Consequently, unethical practices such as frauds were rampant in the sector between 1988 and 1996. It was not surprising that the sector witnessed widespread financial distress during the period 1988 to 1996. The sector was unable to adequately mobilize and allocate resources in the economy to achieve the desired growth set, thereby curtailing the role of the financial industry within the Nigerian economy (Sanusi, 2003).

The recent developments in the Nigerian banking sector have seen it grow from traditional activities into information technology oriented business set up. The contemporary banking sector now provides basic financial needs of the society within the interdependent economy. It also competes favourably with other sectors; in fact, the other sectors of the Nigerian economy depend on banking capital to survive.

There is a consensus amongst Economists that suggested two things which are critical to an effective reform programme: restructure or get policy incentives right, and strengthen key institutions. The major aim of any reform in the financial system is to restructure and reshape the institutions.

Atuchie (2009) categorised banking reforms in Nigeria into four eras. The first era (1929 – 1951) was characterised by a boom in the banking industry with the establishment of over 100 banks between 1940 and 1950. This was the free banking era. The second era (1952 – 1981) saw the birth of the Banking Ordinance of 1952 and the creation in 1958 of Nigeria's own central bank which became the regulator of the Nigerian banking system. The third era (1982 - 2004) which witnessed the financial distress of the 80s and the 90s saw the government promulgating the Economic Emergency Decree (SAP era). The banking system was deregulated, creating room for many players (especially private sector participation) in the industry. The fourth era (July 2004 – Date) is the era of banking consolidation characterised mainly by the increase in capitalisation requirements by 1150% to N25bn; reduction in number of banks from 89 to 24 with emphasis on regulation, reporting, risk management and the operation of a cashless economy.

The primary objective of these reforms is to strengthen the banking system for better performance in terms of enhancing stability, promoting financial deepening and competitiveness. Previous studies sought out to ascertain the impact of banking reforms on the performance of the Nigerian economy and the profitability of banks. This study, however, seeks to show the extent to which the reforms have enhanced the performance of the banking system in terms of its capacity to provide credit to domestic private sector, in addition to its profitability component.

Literature Review

The aim of reforms in the financial sector is for the most part the same to an expansive degree in many nations of Sub-Sahara Africa. Omoruyi (1991), CBN (1993) and some other experts outlined these aims to include: liberalization of the business sector to advance a more effective distribution of assets; development of funds mobilization base, advancement of speculation and development through business based premium rates. Others are the change of the administrative and reconnaissance system; cultivating sound competition in the procurement of services or more all laying the premise of inflation control and financial development.

In the 1980s, as part of their Structural Adjustment Programmes, many less developed nations embarked on financial sector reforms to eliminate the ruins of financial market repression in order to enhance financial market efficiency and savings mobilization. The government of Ghana, supported by the World Bank and the IMF, launched the Financial Institutions Sector Adjustment Programme (FINSAP) as part of its reforms to address the endemic problems of Ghana's Financial Sector. This was based on the study carried out by Sam Ziorklui (2001). According to the study, the financial system of Ghana has been characterised by excessive governmental regulation, underdevelopment of the financial sector, and encroachment on the authority of the Bank of Ghana (BOG).

In the wake of the Asian financial crisis in the late 1990s, Indonesia was the worst affected. This situation turned the country from being one of the most attractive investment destinations, to a worrying place for investors and fly-in travelers (Halim, 2000). The government's bank reform strategy focused on government-assisted recapitalization programme for potentially viable private banks; resolution of non-viable private banks through liquidation or take-over; merger reform and recapitalization of the state banks; measures to recover liquidity support previously made available to ailing banks by Bank Indonesia (BI); and strengthening the banking supervision system

Reforms in the banking sector as it relates to its performance have attracted world attention over the years due to the important role banks play in the economies of nations. Economists, Analysts, investors and economic observers believe that a sound banking system is a vehicle for economic growth through the mechanism of credit provision to private sector and a high incidence of banking distress could erode confidence of the people in the entire economy. The failure of the banking system to perform its major role of mobilizing funds from surplus units to deficit units can cripple an economy. Thus, central banks as the regulatory agencies are saddled with the responsibility of ensuring stable and sound banking systems for better performance through appropriate banking reforms policies. Many empirical studies abound in several parts of the globe on this subject some of which are reviewed here.

Given a fully liberalized banking environment, competition is likely to reduce spreads and enhance bank performance and efficiency. According to Lin (1990), the capacity of the banks to narrow their lending margins without crippling the financial health of the system is an indicator that the banking system is efficient. Hence, interest margin can be viewed as a gauge of the banks efficiency in financial intermediation.

Proponents of financial liberalization believe that deregulation would bring numerous benefits which would boost economic growth, as well as refining the efficacy and performance

of the pecuniary system, and product innovation and lower prices. However, developments in the banking industry worldwide in the last four decades have revealed the pitfalls that a liberalized regime could bring. Among them are increased use of credit to purchase Assets and finance consumption, asset price inflation and volatility and financial fragility (Fah Yee and Chyetan, 2008). Alba (1999), Akyuz (1993) and a World Bank study (1990) noted that with financial liberalization caused a generalized rise in the bank lending and the exposure of banks to the real estate sector widened. While Agrawal (1992) asserted that financial liberalization often leads to rises in the prices of shares, real estate first rising sharply, inducing many people to invest or speculate in these markets, with some funds borrowed from banks at very high real interest rates. The prices later decline, causing many people who had earlier borrowed at high real interest rates to become broke and this left the banks with a large portfolio of bad loans which eventually caused their insolvency.

Burki and Niazi (2006) in their study on “the impact of financial reforms on efficiency of State-owned and foreign banks in Pakistan” asserted that the performance and efficiency of banks depended on the kind of reform policy. While foreign banks performed better than domestic banks in the first reform period, the case was different during the second reform period due to change in policy. On his part, Balogun (2007:b) in his work on banking sector reforms and the Nigerian economy postulated that proper sequencing of reforms would significantly impact positively on economic growth via the provision of credit to private sector by the banking sector. The correlation between banking reforms and banks’ performance was not quite positive and significant as revealed in the work of Okpara (2011) on Nigeria. The study of Emeni and Okafor (2008) on the effects of bank mergers and acquisitions (M and A) on small business lending (SBL) in Nigeria revealed that M and A impacted negatively on SBL. The study stated that the change in banking focus (e.g. cutting down of branches in local areas) otherwise referred to as restructuring effect, resulted in poor lending to small businesses even with M and A. The works of Ikhide and Alawode (2001) focusing on the importance of timing of reforms found a positive and significant correlation between time and success of financial sector reforms.

According to the European Central Bank, bank performance is the capacity of a bank to generate sustainable profitability. Profitability is the bank’s first line of defence against unexpected losses, as it strengthens its capital position and improves future profitability through the investment of retained earnings. Since banks like any other profit-seeking organization have their ultimate objective of preserving and creating wealth for their owners, their returns on equity must be higher than their cost of equity in order for them to create shareholder value. For the banking system to perform its economic role of fostering economic growth, it must first of all make sustainable earnings to be able to lend to the private sector. Although the banks have become increasingly complex, the key drivers of their performance remain earnings, efficiency, risk-taking and leverage.

It is revealed from the literature that majority of the studies were substantially conducted on the Asian countries. This may be due to the debilitating effect of the early banking crises on the continent’s different countries’ economies. Most of the known studies on banking or financial sector reforms focus mainly on the macroeconomic impact of the reforms. They are not particularly focused on banking sector performance but on macroeconomic stability such as reduction in inflation and price stability. Balogun (2007: b) and Ikhide (2001) which are the

notable Nigerian works concentrated attention on the impact of banking reforms on the performance of the Nigerian macro economy in terms of GDP growth. Okpara (2011) researched on the impact of reforms on the performance of the banking system in Nigeria, using profitability of banks as a measure of their performance. This work, however, focused on the impact of reforms on the banking system's ability to lend to the private sector of the Nigerian economy and the profitability of the banking system measured by banks' return on assets with more elaborate empirical analysis.

Theoretical Framework

The main purpose of theoretical framework is to establish a theoretical foundation and basis upon which the model for the study is specified. For this study, the financial repression theory put forward by McKinnon and Shaw in 1973 shall be relied upon for the model specification.

McKinnon (1973) and Shaw (1973) financial repression hypothesis indicates the unfriendly impacts of "budgetary restraint on financial improvement". Money related suppression alludes to the twisting of household monetary markets through measures, for example, roof on premium rates and credit extension, particular distribution of loans. As noted by the authors, many LDCs have been harmed by unplanned and not-well-thought out policies which encourages declines in savings and inability of the economy to profitably invest in growth-enhancing segments. Thus, it is recommended that real interest rates which are positive should be enshrined in both lending and deposit rates via elimination of credit ceiling and par values as well as lowering of reserve requirements and elimination of selective credit allocation.

Both McKinnon and Shaw indicated that low interest rates lead to capital flight, thereby reducing the availability of lendable funds for investment and growth in the domestic economy. On the other hand, real interest rates hikes will increase the inflow of foreign capital for investment and growth in the domestic economy. McKinnon and Shaw also argued that in repressive economies, where savings is suppressed, self-investment will occur, which will replace efficient investment opportunities. Therefore, financial liberalization, which frees interest rates, will shift savings from low and unproductive projects to higher productive investment.

The effect of financial reforms is to free the financial markets from excessive government regulation in order to foster a free market-based system that mobilizes savings and allocates private sector credit. It is expected to enhance the development of an efficient financial sector with an effective banking sector at its core. Successful financial sector reforms should be able to promote banking system competition. Furthermore, the removal of interest rate controls and credit ceilings can greatly enhance the efficiency of financial intermediation by channeling credit to high yielding investment opportunities.

Methodology

Time series data on relevant variables covering the study period 1970-2011 were collected from 2012, 2013 and 2014 editions of CBN bulletin. This period was so selected due to data availability and because studies show also that it witnessed most of the crises as well as the most reforms in the sector. The variables include financial deepening (M2/Y), total credit to domestic private sector (CREP), return on assets (ROA), economic growth (RGDP) as banking

performance indicators; and minimum rediscount rate (MRR), maximum lending rate (LENDR), exchange rate (EXCHR), spread (LRSD), capital adequacy requirement (CAPBASE), liquidity ratio (LQDTY) as the banking system reforms indicators. These variables were subjected to empirical analysis, using different econometric tests as shown in the subsequent sections of the study. Basically, the Ordinary Least Square (OLS) technique was used to estimate the models.

Model Specification

The banking sector reforms are expected to contribute to a better functioning and/or performance of the sector. Thus, the regression model was based on the McKinnon and Shaw financial repression theory. The CAMEL framework of analysis was adopted. It is important to state that the CAMEL framework analyses five criteria which are the adequacy of capital, quality of management, earnings capability, profitability and liquidity. Model specification was based on economic theory as well as any available information related to the phenomenon being studied. We concentrated on total credit to the economy (CREP) and return on assets (ROA) because they are seen as the important channels through which performance of the banking sector could be assessed. To this end, the following linear econometric models were stated and estimated to ascertain the impact of banking sector reforms on the performance of the banking system in Nigeria.

$$\text{CREP}_t = a_0 + a_1\text{MRR}_t + a_2\text{LENDR}_t + a_3\text{EXCHR}_t + a_4\text{LQDTY}_t + a_5\text{LRSD}_t + a_6\text{CAPBASE}_t + a_7\text{ROA}_t + U_1 \dots \dots \dots 1$$

$$a_1 < 0; a_2 < 0; a_3 > 0; a_4 > 0; a_5 < 0; a_6 > 0; a_7 > 0$$

$$\text{ROA}_t = b_0 + b_1\text{MRR}_t + b_2\text{LENDR}_t + b_3\text{EXCHR}_t + b_4\text{LQDTY}_t + b_5\text{LRSD}_t + b_6\text{CAPBASE}_t + b_7\text{CREP}_t + U_2 \dots \dots \dots 2$$

$$b_1 < 0; b_2 < 0; b_3 > 0; b_4 > 0; b_5 < 0; b_6 > 0; b_7 > 0$$

$$\text{M2/Y}_t = c_0 + c_1\text{MRR}_t + c_2\text{LENDR}_t + c_3\text{LQDTY}_t + c_4\text{LRSD}_t + c_5\text{CAPBASE}_t + U_3 \dots \dots \dots 3$$

$$c_1 < 0; c_2 < 0; c_3 > 0; c_4 < 0; c_5 > 0$$

where, CREP_t = total credit of banks to domestic private sector; ROA_t = return on assets (net income/average total assets); M2/Y_t = financial deepening; MRR_t = minimum rediscount rate; LENDR_t = maximum lending rate; EXCHR_t = exchange rate; LQDTY_t = liquidity ratio; LRSD_t = spread (Maximum Lending Rate – Savings Deposit Rate); CAPBASE_t = capital adequacy requirement of commercial banks; U_1, U_2, U_3 = the random error terms which represent all the other factors that affect banking performance but not explicitly introduced in our model; and a, b, c , represent the various parameter estimates.

The variables were first tested for stationarity since the study relied on time series data. Both the Augmented Dicky-Fuller (ADF) and the Phillip-Perron (PP) tests were carried out to ascertain the unit root properties of the variables. The Johansen cointegration test and the error correction mechanism were then used to test for the long run relationships between the variables in the multiple regression models.

Discussion of results

The results of the tests carried out in this study are presented and discussed in the following sections.

Table 1: Results of Stationarity tests

Variable	ADF	Decision	Phillips-Perron	Decision
CREP	-9.7127*	I(1)	-3.9306*	I(1)
ROA	-9.0026*	I(1)	-9.4089*	I(1)
M2/Y	-4.8524*	I(1)	-4.8547*	I(1)
MRR	-8.6604*	I(1)	-9.0009*	I(1)
LRSD	-8.4865*	I(1)	-13.2875*	I(1)
LQDTY	-3.5664**	I(0)	-3.5671**	I(0)
LENDR	-7.2756*	I(1)	-8.5405*	I(1)
EXCHR	-3.5268**	I(1)	-3.3320**	I(1)
CAPBASE	-5.4567*	I(1)	-6.3544*	I(1)

Source: Author's Computation

The results in table 1 show that liquidity ratio (LQDTY) is stationary at levels both in the ADF and PP tests. The other variables credit to private sector (CREP), return on assets (ROA), financial deepening (M2/Y), minimum rediscount rate (MRR), spread (LRSD), lending rate (LENDR), exchange rate (EXCHR), and capital base (CAPBASE) are non stationary at levels but stationary at first difference I(1) both in the ADF and the PP tests.

Table 2 Johansen cointegration result for Credit to domestic private sector

Series: CREP MRR LENDR EXCHR LQDTY LRSD

CAPBASE ROA

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.891738	309.2663	159.5297	0.0000
At most 1 *	0.863707	220.3383	125.6154	0.0000
At most 2 *	0.793491	140.6203	95.75366	0.0000
At most 3 *	0.642672	77.52385	69.81889	0.0107
At most 4	0.392942	36.35976	47.85613	0.3784
At most 5	0.198775	16.39452	29.79707	0.6843
At most 6	0.144552	7.529979	15.49471	0.5169
At most 7	0.031609	1.284793	3.841466	0.2570

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.891738	88.92803	52.36261	0.0000
At most 1 *	0.863707	79.71801	46.23142	0.0000
At most 2 *	0.793491	63.09644	40.07757	0.0000
At most 3 *	0.642672	41.16409	33.87687	0.0057
At most 4	0.392942	19.96524	27.58434	0.3436
At most 5	0.198775	8.864539	21.13162	0.8432
At most 6	0.144552	6.245186	14.26460	0.5820
At most 7	0.031609	1.284793	3.841466	0.2570

Max-eigenvalue test indicates 4 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Author's computation

The results from the cointegration tests in Table 2 show the existence of a relationship between the variables in the long run which means that the null hypothesis was rejected and the

alternative hypothesis accepted meaning that the variables in the model are cointegrating. The parsimonious ECM results for the models are presented in Table 3.

Table 3 Impact of banking reforms on Credit to domestic private sector
Dependent Variable: Δ CREP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	98771.70	96884.88	1.019475	0.3167
Δ CREP(t-1)	0.891936	0.139747	6.382515	0.0000
Δ MRR	56598.68	34070.51	1.661222	0.1078
Δ LENDR	-26106.28	52532.98	-0.496950	0.6231
Δ LENDR(t-1)	-23771.25	18591.06	-1.278639	0.2115
Δ EXCHR	21299.23	13023.78	1.635411	0.1132
Δ EXCHR(t-1)	-38242.30	12245.24	-3.123033	0.0041
Δ LQDTY	1460.731	8910.250	0.163938	0.8710
Δ LRSR	-21342.71	51072.79	-0.417888	0.6792
Δ CAPBASE	-29.84621	30.37619	-0.982553	0.3342
Δ ROA	196949.7	123917.7	1.589359	0.1232
ECM(t-1)	-0.276407	0.146464	-1.887202	0.0695
R-squared	0.684112	Mean dependent var		248001.7
Adjusted R-squared	0.560013	S.D. dependent var		682068.5
S.E. of regression	452426.6	Akaike info criterion		29.12596
Sum squared resid	5.73E+12	Schwarz criterion		29.63263
Log likelihood	-570.5193	Hannan-Quinn criter.		29.30916
F-statistic	5.512627	Durbin-Watson stat		1.816321
Prob(F-statistic)	0.000125			

Source: Author's Computation

The ECM result in table 3 shows that MRR has a positive and significant impact on CREP but LENDR has a negative and insignificant impact on CREP which corroborates the findings of Balogun (2007:b). He found in his study that the kind of exchange rate policy operated in Nigeria does not favour lending to the productive sector of the economy. EXCHR and ROA impacted positively and significantly on CREP. However, EXCHR at the lagged period was negative and significant. The result also revealed that LQDTY, LRSR, CAPBASE have negative effects on CREP which implies that increase in capital base of banks only helped to stabilise the banking system but did not translate to the provision of credit to domestic private sector for the stimulation of domestic investment in Nigeria. This is consistent with the findings of Somoye (2008) who examined the “performance of commercial banks in post consolidation period in Nigeria” and discovered that the consolidation exercise did not remarkably improve the

performance of the banks. ROA which is one of the measures of banking system performance is well signed and its significant impact on CREP is in line with *a priori* expectation. This means that the banking system will lend to private sector when the ratio of net income to total assets is high.

The ECM is negative and significant also at the 5 per cent level but the value suggests a slow adjustment process. The ECM value of -0.276 indicates that approximately 28 per cent of the previous year's shock adjusted back to the long run equilibrium in the current period. The adjusted R² of 0.560 implies that about 56 per cent of variation in CREP is explained by combined effect of the regressors in the model. This value suggests that the model has a goodness of fit that is satisfactory. Both the F-statistic value and the DW-statistic value showed that the overall model is significant at the 5 per cent level and has a good fit.

Table 4 **Impact of banking reforms on Return on Assets**
Dependent Variable: Δ ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.074216	0.110678	-0.670559	0.5078
Δ ROA(t-1)	-0.117770	0.139548	-0.843935	0.4056
Δ MRR	-0.050400	0.036041	-1.398383	0.1726
Δ LEND	0.057833	0.054406	1.062985	0.2966
Δ EXCHR	0.013512	0.002850	4.741053	0.0031
Δ LQDTY	-0.009370	0.003181	-3.138321	0.0085
Δ LRSD	0.027213	0.053465	0.508987	0.6146
Δ CAPBASE	-6.111215	2.50020	-2.444310	0.0214
Δ CREP	3.310001	1.330001	2.481067	0.0191
ECM(t-1)	-0.535276	0.100151	-5.344701	0.0000
R-squared	0.688327	Mean dependent var	0.062750	
Adjusted R-squared	0.580853	S.D. dependent var	0.773444	
S.E. of regression	0.500740	Akaike info criterion	1.682955	
Sum squared resid	7.271464	Schwarz criterion	2.147397	
Log likelihood	-22.65910	Hannan-Quinn criter.	1.850883	
F-statistic	6.404612	Durbin-Watson stat	1.822670	
Prob(F-statistic)	0.000040			

Source: Author's Computation

The result in table 4 revealed that CREP impacted positively and significantly on ROA at the 5 per cent level. This means that credit to private sector enhances banks' profitability. Since interest rate is relatively high, lending to private sector will increase banks' profit via interest on loans. CAPBASE has a negative impact on ROA, implying that increase in capital base did not substantially affect the profitability of banks. This is because most of the capitalised banks actually met their capitalisation obligation through the selling of shares to the public and

borrowing from the capital market and other sources. This is in line with the findings of Okpara (2011) who concluded that recapitalisation only increased equity capital without a corresponding effect on profit after tax of the banks. LENDR has positive and significant impact on ROA in line with *a priori* expectations. MRR and LQDTY impacted negatively on ROA while EXCHR positively and significantly impacted on ROA. LRSD also impacted positively but insignificantly on return on assets.

The adjusted R^2 of 0.580 shows that about 58 per cent of variation in the regressand, return on assets of the banking system, is explained by the combined effect of the regressors. The DW statistic of 1.8 and the F-statistic of 6.4 indicate that the overall regression is significant at the 0.05 level. The ECM is well signed and its coefficient and t-statistic values indicate a feedback of approximately 54 per cent of the previous year's disequilibrium from the long run elasticity. The t-statistic value indicates that the ECM is significant and the variables in the model are indeed cointegrated. The speed of adjustment is relatively high. The coefficient of ECM (t-1) implied that about 54 per cent of the previous year's shock adjusted back to long-run equilibrium in the present period. The cointegration result for ROA and financial deepening models are contained in the appendix of this study.

Table 5 Impact of banking reforms on financial deepening

Dependent Variable: $\Delta M2/Y$

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.316578	0.229247	1.380946	0.1772
$\Delta M2/Y_{(t-1)}$	0.175210	0.119778	1.462791	0.1536
$\Delta LRSD$	0.066593	0.133771	0.497810	0.6221
$\Delta LQDTY$	-0.022954	0.024875	-0.922755	0.3633
$\Delta LENDR$	-0.020073	0.129475	-0.155037	0.8778
ΔMRR	-0.016362	0.083569	-0.195794	0.8460
$\Delta CAPBASE$	8.82E-05	3.95E-05	2.481495	0.0346
$ECM_{(t-1)}$	-0.311292	0.091971	-3.384657	0.0019
R-squared	0.675423	Mean dependent var	0.070492	
Adjusted R-squared	0.503596	S.D. dependent var	1.832125	
S.E. of regression	1.290840	Akaike info criterion	3.543571	
Sum squared resid	51.65432	Schwarz criterion	3.923569	
Log likelihood	-61.87143	Hannan-Quinn criter.	3.680967	
F-statistic	5.945638	Durbin-Watson stat	2.248022	
Prob(F-statistic)	0.000122			

Source: Author's Computation

The adjusted R^2 value of 0.5036 in the result in table 5 above implies that 50 per cent of variation in the regressand, $M2/Y$, is explained by the combined effects of all the variables in the

model while the F-stat of 5.9 indicates that the overall regression is significant at the 5 per cent critical level. The DW-statistic value of 2.248022 indicates absence of serial correlation in the model. The ECM (t-1) is well signed and significant at the 5 per cent level. However, the speed of adjustment from previous year's shock to long-run equilibrium in the current year is slow given by the coefficient value of the ECM (t-1) which is -0.3113. This means that about 31 per cent of the previous year's disequilibrium adjusted back to current period's long-run equilibrium.

The result further revealed that CAPBASE is positive and have significant impact on financial deepening, M2/Y, in Nigeria. This is in line with *a priori* expectation. With a stronger capital base, banks are able to expand branch network to parts of the country hitherto not covered by banking services. However, most rural areas are still without access to banking services. The expansion of branch network is still concentrated in urban centres. The impact of the other variables in the model (LQDTY, MRR, and LENDR) on M2/Y was negative, though not significant.

Policy Implications of Findings

Based on our findings, the following policy implications are evident:

- i. The increase or reduction in minimum rediscount rate by the Monetary Policy Committee (MPC) of the CBN affects the exchange rate which, by implication, affects the purchasing power of the Naira. The CBN will have to tinker with its management of the MRR (MPR in Nigeria) to avoid exchange rate volatility.
- ii. The results revealed that banking sector reforms have strengthened the banks' potentials of risk management and have reduced their exposure to shocks, especially with the increase in capital base of the banks. The banking system, however, has not been able to provide funds adequately to the domestic private sector to boost investment and economic growth, by extension. This is as a result of high lending rate prevailing in the banking system due largely to high minimum rediscount rate or the MPR in Nigeria.
- iii. Increase in capital base of banks has a positive and significant relationship with financial deepening as revealed by the results. However, because the other variables impacted negatively on M2/Y, financial services are still concentrated more in urban areas leaving a large number of rural dwellers without access to such services.

Conclusion and recommendations

In this study, we analysed the relationship between various reforms that have been put in place to salvage the Nigerian banking system to enhance its performance. We found out that the reforms are skewed towards strengthening the banks themselves against possible failure. The profitability of the banks as a result of the reforms does not translate to making credit available for investment to promote economic growth because of the high lending rates. A deliberate policy that will persuade the banks to evolve competitive interest rates that will attract private sector borrowing should be made by the CBN. This will trigger domestic investment and increase the Gross Domestic Product of Nigeria.

For a better performance of the banking system, this study further made the following policy recommendations:

- i. The CBN should gradually cut down the monetary policy rate (MPR) or the MRR to a single digit. This will translate to lower lending rate and increase private sector's access to loanable funds to boost production for the growth of the domestic economy.
- ii. There is a huge spread between lending rate and savings rate which discourages savings and inhibits the banking system's capacity to create credit. The CBN and the banks should reduce the spread by the lowering of the lending rate and increasing the saving deposit rate simultaneously. This will help the banking system to create more credit which will increase the profitability of banks. Policies such as rural banking schemes should be pursued to enable rural dwellers have access to banking services. This study showed that reforms have not substantially encouraged financial deepening. Therefore, the promotion of regional and rural banking will make financial services spread to all parts of the country and accessible to the rural populace.
- iii. As much as reforms are inevitable to avoid a collapse of the banking system, there should be caution to avoid over regulation so as not to repress the banking system as this hinders the competitiveness of banks. A liberalized banking system will engender healthy competition among banks and promote innovation. A competitive lending rate regime will reduce the adverse effects of bad and non-performing loans that often threaten the collapse of the banking system in Nigeria.

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Appendix

Table A1: Cointegration result for Return on Assets model

Series: ROA MRR LENDR EXCHR LQDTY LRSD

CAPBASE CREP

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.891738	309.2663	159.5297	0.0000
At most 1 *	0.863707	220.3383	125.6154	0.0000
At most 2 *	0.793491	140.6203	95.75366	0.0000
At most 3 *	0.642672	77.52385	69.81889	0.0107
At most 4	0.392942	36.35976	47.85613	0.3784
At most 5	0.198775	16.39452	29.79707	0.6843
At most 6	0.144552	7.529979	15.49471	0.5169
At most 7	0.031609	1.284793	3.841466	0.2570

Trace test indicates 4 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.891738	88.92803	52.36261	0.0000
At most 1 *	0.863707	79.71801	46.23142	0.0000
At most 2 *	0.793491	63.09644	40.07757	0.0000
At most 3 *	0.642672	41.16409	33.87687	0.0057
At most 4	0.392942	19.96524	27.58434	0.3436
At most 5	0.198775	8.864539	21.13162	0.8432
At most 6	0.144552	6.245186	14.26460	0.5820
At most 7	0.031609	1.284793	3.841466	0.2570

Max-eigenvalue test indicates 4 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Author's Computation

Table A2: Cointegration result for Financial Deepening model

Series: M2/Y MRR EXCHR LENDR LQDTY LRSD
CAPBASE

Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.786936	216.0887	159.5297	0.0000
At most 1 *	0.738044	154.2421	125.6154	0.0003
At most 2 *	0.627827	100.6590	95.75366	0.0220
At most 3	0.496450	61.12308	69.81889	0.2025
At most 4	0.374968	33.68021	47.85613	0.5194
At most 5	0.197770	14.88208	29.79707	0.7877
At most 6	0.134405	6.067683	15.49471	0.6876
At most 7	0.007327	0.294141	3.841466	0.5876

Trace test indicates 3 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.786936	61.84655	52.36261	0.0041
At most 1 *	0.738044	53.58317	46.23142	0.0070
At most 2	0.627827	39.53588	40.07757	0.0574
At most 3	0.496450	27.44288	33.87687	0.2404
At most 4	0.374968	18.79812	27.58434	0.4303
At most 5	0.197770	8.814402	21.13162	0.8471
At most 6	0.134405	5.773541	14.26460	0.6425
At most 7	0.007327	0.294141	3.841466	0.5876

Max-eigenvalue test indicates 2 cointegratingeqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Author's Computation

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