CHAPTER ONE
INTRODUCTION

1.1   Background to the Study

In attempting to tackle the problems associated with the development challenges facing Nigeria through better policies and programmes and their effective/transparent implementation, better laws and strict adherence to the rule of law. The Federal Government came up with its home grown reform/development strategy, National Economic Empowerment and Development Strategy (NEEDS). This was in response to the country's development challenges arising from the country's social, political and economic decay. The reform programme was intended to lay a solid foundation for sustainable poverty reduction, employment, wealth creation, and value re-orientation (National Planning Commission, 2004). NEEDS involves sectoral reforms, notable among which include the banking industry reforms.

Banking sector reforms involves adjustments, reviews and restructuring of operations, management, ownership, supervision and regulations of banks aimed at improving the effectiveness and efficiency of banks. The focus of reforms in the banking sector is to among others; improve the efficiency of operations by way of checkmating the activities of banks which will in no means enhance public confidence in the banking sector thereby increasing banking activities such as borrowing/lending activities, and so increasing the of economic activities and enhancing economic growth and development.

Financial institutions including banks are conceived as important conduits for the mobilization of funds from domestic and foreign sources. The essence of the intermediation activities of these financial institutions is to positively and significantly impact on macroeconomic magnitudes, such as aggregate output, for the ultimate growth and development of the economy. This much has been argued in Ojo (1994), Odedokun (1987), Ezirim and Emenyonu (1997), Ezirim (1999, 2003) and Ofanson (2010).

The Nigerian experience documents that, on a general note, interest rates were highly regulated by the Central Bank of Nigeria (CBN). This was evidenced from the 1987 and 1993 interest rate deregulation. Thus in the quest to achieve rapid growth, the economy was sub-divided into "preferred and non-preferred" sectors. Accordingly, borrowers in the preferred sectors, which included agriculture and manufacturing were subsidised for the purpose of getting access to bank loan as well as borrow at a preferential lower rate of interest than other borrowers in the economy. The objective was to enhance rapid growth in these preferred sectors of agriculture and manufacturing. If the level of economic activity grows, it is expected that savings would generally grow. Nigeria has been classified as a low savings and even lower investment economy (Ajakaiye, 2002). Nigeria like most other countries in Sub-Saharan Africa adopted a myriad of reform policies in the 1980s as panacea to declining output, mounting unemployment, and growing dependence on the external sector as revealed by increased need for aid and crushing debt burdens. These reform policies were aimed at liberalizing various controls and other rigidities that had hitherto affected competition and efficiency in the financial system. In order to strengthen the reform policies, the Central Bank

of Nigeria Act Number 24 and Banks and Other Financial Institutions Act (BOFIA) Number 25 both of 1991, allowed for more flexibility in regulating and supervising the financial intermediaries including banks. This was with the ultimate goal of promoting the growth and deepening of the financial sector. Indeed, this development assigned a greater role to the financial sector in the allocation of resources particularly in areas of more efficient and productive use as launch pad for the overall growth of the economy (Adeoye, 2003). Financial systems help mobilize and pool savings, provide payment services that facilitate the exchange of goods and services, produce and process information about investors and investment projects to enable efficient allocation of funds, monitor investments and exert corporate governance after these funds are allocated, and help diversify, transform and manage risk (Levine, 2000; Merton & Bodie, 2004).

Banking is a key sector of any modern economy, thus its reform are necessary accompaniments of the developmental process of an open and emerging economy like Nigeria. In terms of national assets control and contribution to GDP, it is the major facilitator of overall economic growth and this is done through the provision of necessary funding. Evidently, the impact of financial sector reform designed to provide the institutional framework and "process mechanism" for creating and channelling loanable funds and domestic credit to the private sector has also been little. While banks continue to flaunt and declare obscene figures as profits, the productive sector of the economy lies comatose either from loan-starvation or loans given out at a stifling thirty-to-forty per cent interest rates (whereas interest on saving deposit was pegged at two or five per cent). In addition, the slow growth of the

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economy has been critical to the failure of the Nigerian economy to develop faster and attract more foreign capital.

Financial reform entails building more efficient, robust and deeper financial systems, which can support the growth of private sector enterprises (Ajilore, 2003). The proponents of financial reforms argued that such reform would bring about significant economic benefits through improved bank operational efficiency and effectiveness in order to guarantee a more effective mobilization and efficient allocation of resources among various economic units. Whether or not bank actually achieves these expected performance gains, remain critically an empirical question. If reforms do in fact, lead to efficiency gains, then shareholder wealth could be increased. On the other hand, if reforms do not lead to the promised positive effects, then reforms may lead to a less profitable and valuable banking industry.

Monetary policy transmission mechanism and economic growth mechanism permeate through the banking sector. In the light of the role of banks in the financial landscape, it becomes imperative that technical and technological innovations meant for positive adjustment be introduced at any little porous signal of anomaly. Thus, the reforms in the banking sector are necessary to ensure the safety of depositors' money, deepen the financial system for soundness and efficiency of the system in order to engender growth of the economy. Kama (2006) observed that a feeble banking system is repressive, discretionary and discounts the intermediation process thereby precipitating macroeconomic instability. Reforms therefore involve the articulation of robust policies that will deepen the financial system to enable banks play their roles most efficiently.

1.2   Statement of the Problem

Over the years banks have not been able to effectively service the so-called "high priority sectors" which are known to be growth drivers in Nigeria. Not only was industrial finance appalling, the cost of borrowing for productive investment was incredibly prohibitive. Evidently, the link between the real and financial sectors has been a serious hindrance to growth in Nigeria. Clearly, financial institutions in Nigeria largely ignored their expected role of resourcefully and creatively mobilizing domestic resources and attracting foreign capital while allocating credit, monitoring and supervising their borrowers effectively and pricing their products and services to reflect more appropriately the perceived net benefits and risks to the institution (Soludo, 2004). Despite the various reforms initiative by the monetary authority in Nigeria, banking operations and performance still remains comatose leaving much to doubt as to whether the reforms initiative have really yielded result because banking industry still find it difficult to extent credit facilities to the deficit sector for improved investments thereby giving rise to economic growth and development. This research work is therefore intended to find out what impact the various reform initiative on banking operations and performance.

Apart from the fact that the contribution of the banking industry to Nigeria's economic growth is controversial, the debate on the effect of reforms on performance of the banking industry is still ongoing. Igbino, Ogbeide and Akanji (2017) and Olajide, Obafemi and Jegede (2011) have documented that banking reforms through increase in capitalization has negative effect on return on assets and return on equity of the Nigerian banking industry. On the contrary, Alalade, Adekunle and Oguntodu (2016), Alejekwu and Obialor

(2014) and Nwosu (2013) countered that assertion as they empirically established that banking capitalization reform of the Central Bank of Nigeria has positive effect on return on assets and return on equity of the Nigerian banking industry. It is further conflicting as Fatan (2013) using ten (10) largest European banks of France, Germany, United Kingdom and Greece, dispel that banking reforms has negative effect on return on assets and return on equity which is attributed to the weaknesses of financial reforms with particular reference to the global financial crisis of 2007 – 2009. From the literature reviewed in the context of Nigeria, researchers such Ilori and Ajiboye (2016), Igbino, Ogbeide and Akanji (2017), Alalade, Adekunle and Oguntodu (2016), Olawumi, Lateef and Oladeji (2017), Nwosu (2013), Kanu and Isu (2013) and Olajide, Obafemi and Jegede (2011) predominantly apply return on assets, return on equity and profit before tax to measure banking industry performance and neglected critical variables like yield on earnings assets and net interest income. Yield on earnings assets and net interest income are relevant performance indicators that is not seen in banking industry annual report but are computed and made available in only Central Bank of Nigeria supervision reports (not annual report or statistical bulletins) and Nigerian Deposit Insurance Commission (NDIC). Apart from Alajekwu and Obialor (2014) whom utilized yield on earning assets in addition to return on assets, return on equity and profit before tax, to the best of my knowledge, no study has applied net interest income as a measurement of banking industry performance in Nigeria. This study filled the lacuna noticed in previous studies by including net interest income in addition to return on assets, return on equity, profit before tax and yield on earnings assets, and used up-to-date

data in determining the effect of banking sector reforms variables on banking industry performance in Nigeria.

1.3   Objectives of the Study

The main objective of the study is to ascertain the banking industry operations in the light of monetary reforms and their impact on financial performance. Having highlighted the overall aim, the specific objectives are to:

a. Examine the impact of bank capitalization, liquidity ratio, spread of interest rate and exchange rate on return on assets of the banking industry in Nigeria.

b. Ascertain the impact of bank capitalization, liquidity ratio, spread of interest rate and exchange rate on return on equity of the banking industry in Nigeria.

c. Determine the impact of bank capitalization, liquidity ratio, spread of interest rate and exchange rate on yield on earning assets of the banking industry in Nigeria.

d. Assess the impact of bank capitalization, liquidity ratio, cash reserve ratio, loans and advances, spread of interest rate and exchange rate on profit before tax of the banking industry in Nigeria.

1.4   Research Questions

The following questions derived from the objectives of the study are designed to foster detailed discussion on the topic and to bring to fore the main points of the study.

i. To what extent do bank capitalization, liquidity ratio, spread of interest rate and exchange rate impact on return on assets of banking industry in Nigeria?

ii. To what magnitude is the effect of bank capitalization, liquidity ratio,

spread of interest rate and exchange rate on return on equity of banking industry in Nigeria?

iii. To what degree do bank capitalization, liquidity ratio, spread of interest rate and exchange rate impact on yield on earning assets of banking industry in Nigeria?

iv. To what extent have bank capitalization, liquidity ratio, spread of interest rate and exchange rate influenced profit before tax of banking industry in Nigeria?

1.5   Research Hypotheses

The hypotheses of the study were stated in the null form to achieve the following objectives:

a. H_O: Bank capitalization, loans and advances, spread of interest rate and exchange rate have no significant impact on return on assets of banking industry in Nigeria.

b. H_O: Bank capitalization, liquidity ratio, spread of interest rate and exchange rates have no significant effects on return on equity of banking industry in Nigeria.

c. H_O: Bank capitalization, liquidity ratio, spread of interest rate and exchange rate have no significant effects on profit before tax of banking industry in Nigeria.

d. H_O: Bank capitalization, liquidity ratio, spread of interest rate and exchange rate have no significant impact on yield on earning assets of banking industry in Nigeria.

1.6   Scope of the Study

The deposit money banks (DMBs) in Nigeria constituted the scope of the study. The reason for focusing on DMBs is that they dominate the financial

sector. This supports the assertion of Mordi (2004) and Adeoye (2007) that in any economy, be it advanced or developing economies, the financial sector comprises an impressive network of banks and other financial institutions. The time frame for the study is 1990 to 2016, the choice of which was be informed by the availability of data.

1.7   Limitations of the Study

Secondary data obtained from Central Bank of Nigeria supervision reports, statistical bulletin and National Insurance Corporation of Nigeria were used in the analysis. Consequently, the output of the regression analysis depends entirely on the accuracy of data from the sources stated. However, data such as return on asset and return on equity were sourced from the banking supervision report on deposit money banks which were hitherto not made public and thus required movement to some specific deposit money banks for the data collection. It is worthy to note that this is not to cast a doubt on the quality of data from these regulatory agencies of the banking system in Nigeria.

1.8   Significance of the Study

This study will be of benefit to the following:

Policymakers: The findings of this research will provide decision makers with appropriate postulations to reposition the Nigeria banking industry into one of the most reliable and stable financial system among emerging economies through the manifestation of well-articulated and strategized financial policies.

Investors/Shareholders: The outcome of this study will be helpful to investors and shareholder as it will throw more light on the role that reforms in the banking sector plays in performance of the banking industry.

Researchers, Students and Scholars: This study would contribute to knowledge by helping to strengthen existing understanding of the possible effects of banking reforms on the performance of the Nigerian economy. The intellectual gaps that still exist in this area will encourage further research into the study. It is hoped that the processes and outcome of this study along with its expected findings are significant in that they will serve as a reference document to determine whether the performance indicators of banking would have impact on the Nigerian economy.

CHAPTER TWO
LITERATURE REVIEW

2.1   Conceptual Issues

2.1.1   Banking Reforms in Nigeria

The word "reform" is simply viewed as alteration of defects/lapses to achieve better performance/improve an existing institution/system (Echekoba, Adigwe, Ananwude & Osigwe, 2017). Banking especially commercial banking which is a large component of the Nigerian financial sector started in 1892 with the establishment of the first banking firm, Standard Bank Nigeria Ltd. (now First Bank Plc). Since then, the number of commercial banks in Nigeria has changed. The banking industry is effectively dominated by a few banks. Moreover, the rash of financial distress resolution options including outright liquidation, mergers and holding action had profound consequences on competition in the commercial banking market. For ease of exposition, major elements of banking reforms then can be bifurcated into credit and interest rate. Indirect measures to reduce the ability of banks to extend loans and the adjustment of credit ceiling to deal with received credit were the credit policy measures put in place. These measures include mopping up excess liquidity by the re-introduction and modification of stabilization securities, increase in commercial banks reserve ratio and introduction of cash reserve ratio for merchant banks (Ofanson, 2010).

Banks were compelled to maintain certain percent points between average cost of funds and their maximum lending rates as a performance criterion. Other financial sector reform measures included raising the capital base of banks, improving the structure of regulations and supervision, adoption of mandatory uniform accounting standards and prudential

guidelines, identification of ailing banks and adoption of programmers for resolution of their problems, adoption of the auction system for issuing treasury securities, and the establishment of discount houses. These measures were put in place to encourage and foster the growth of banks and other financial institutions so that they could play their expected roles in an economy. Further, foreign exchange management policy was put in place to maintain adequate level of foreign exchange reserves and appropriate naira exchange rate by subjecting the determination of the naira exchange rate to market forces (Ojo, 1993).

2.1.2 Banking Sector Policy Reforms

2.1.2.1 Risk-Based Capital Adequacy

Capital is an important internal insurance to cover losses of loans, and, hence capital adequacy is a measure of soundness and financial health of a bank, which deserves very much importance in current competitive and innovative banking to command credibility with bankers and customers at home and abroad. The risk based capital system primarily deals with credit risk and explores the possible ways to handle other risks. It is, in fact, a significant prudential regulatory instrument in assessing bank's capital position and disciplining their market behaviour. This dimension of banking sector reforms was captured using bank capitalization as it is geared toward capital adequacy of banks.

2.1.2.2 Loan Classification and Provisioning

There is a crying need for banks to systematically and realistically identify their problem assets and provide adequate reserves for possible losses. To accomplish this, Central Bank of Nigeria issued guidelines to be implemented by banks. The introduction of this program is aimed at bringing loan loss

provisioning and classification in line with the international standard. In a majority of cases, banks simply did not identify problem assets, establish realistic provisions for potential losses or suspend interest on non-performing assets. As a result, the balance sheet did not reflect the bank's actual condition and the income statement overstated profit upon which dividends and taxes were paid. Credit to private sector otherwise called loans and advances of the banking industry was used to reflect assets quality reforms dimension of banking sector reform.

2.1.2.3 Interest Rate Deregulation

Because of the counterproductive nature of the pervasive controls, one of the aims of SAP, was financial liberalization and deregulation, and in general the reduction of complex administrative control and encouragement of greater reliance on market forces. In determine interest rates credit allocation and even the conduct of monetary policy. According to Iyoha (1996), with financial liberalization which was introduced under the auspices of SAP, the Central Bank of Nigeria (CBN) was no longer expected to set ceilings on interest rates or directly control credit under the new dispensation. It was expected that financial intermediates would be left free to administer credit and that the interest rate would be determine d by market forces of supply and demand. Thus, the ultimate objective of financial liberalization under SAP was to bring about improved financial intermediaries; enhance the role of banks in effectively mobilizing domestic savings and optimally allocating investable resources. Thus enabling them to play this historic role as an engine of economic growth. Interest rate which is the rate at which the banking industry extend credit to the private sector was used to represent interest reform.

2.1.2.4 Liquidity of Banks

The statutory liquidity requirement is one of the quantitative and powerful tools of monetary control of the central banks. Changes in liquidity ratio can have a marked effect on money and credit situation of a country. Liquidity is protection against unexpected runoffs of deposits, credit balances, customer funds, prohibitively high funding costs or other funding emergencies. It is an issue of meeting needs as they come due. Given the liquid nature of a financial institution's balance sheet, however, using ratios based even on the most current financial statements is insufficient. However, for liquidity performance evaluation concerned areas include: is the growth of core liabilities keeping pace with asset growth and how dependent is the bank on purchased money. The typical total loans to total deposit ratio measures the extent to which risk assets are funded by deposits or, seen another way, to what extent a bank can lend deposits. Liquidity can be evaluated with respect to the volatility of deposits; degree of reliance on interest-sensitive funds and frequency and level of borrowings; availability of assets readily convertible into cash; and access to money markets and other ready sources of cash. If the central bank raises averages reserve requirement of the commercial banks, this would create a reserve deficiency or decrease in available reserve of depository institutions. If the banks are unable to secure new reserves, they would be forced to contact both earnings and deposits which would result in a decline in the availability of credit and increase the market interest rates. The reserve would happen if the central bank lowers its reserve requirements. Liquidity ratio and cash reserve ratio were used to capture liquidity of the banking industry.

2.1.2.5 Exchange Rate Deregulation

An exchange rate policy may be referred to as a concerted action of the monetary authorities to systematically influence the level and rate of change of an exchange rate with a view to achieving a desired objective of economy. In doing so, the authorities aim at influencing the behaviours of economic units or variables that have exchange rate in their behavioural functions. This implies that an exchange rate policy (ERP) is not designed for its own sake; that is, not an end but a means to an end (Sanusi, 1989). The purpose of the deregulation of the foreign exchange market was to depreciate the "over valued" Naira to its appropriate value and make the exchange rate of the Naira determined by market forces (Ikihide & Yinusa, 1998). The exchange rate of Naira against the US Dollar was used to capture exchange rate deregulation over the years

2.1.3   The Concept of Performance

Performance can be defined as the overall result of organizational activities. This definition is certainly made with an eye upon a manufacturing enterprise, but it may be applicable to bank; organizations too. Measures are the quantified surrogates of the trends and magnitudes of each performance area. The appropriate choice of measures largely determines the degree of proper representativeness of multidimensional behaviour of the specific performance area. The list of measures used in the performance evaluation of banks as used in this research works are as follows:

Return on Assets: Return on assets is an indicator of how profitable a company is relative to its total assets. Return on assets gives an idea as to how efficient management is at using its assets to generate earnings. Calculated by dividing a company's annual earnings by its total assets, return on assets is

displayed as a percentage. Return on assets tells you what earnings were generated from invested capital (assets). Return on assets for public companies can vary substantially and will be highly dependent on the industry. This is why when using return on assets as a comparative measure, it is best to compare it against a company's previous return on assets numbers or the return on assets of a similar company.

Return on Equity: Return on equity shows the extent to which companies manage their own capital (net worth) effectively, measure the profitability of the investment that has been made owners of their own capital or shareholders of the company. Ang (2001) which states that the higher the ratio return on equity will increase the profit growth. The higher the value the higher the return on equity level of profit generated due to additional working capital can be used to finance the company's operations that could ultimately result in profit.

Profit Before Tax: Profit before tax is a profitability measure that looks at a company's profits before the company has to pay corporate income tax by deducting all expenses from revenue including interest expenses and operating expenses except for income tax. Also referred to as "earnings before tax" or "pre-tax profit", this measure combines all of the company's profits before tax, including operating, non-operating, continuing operations and non-continuing operations. Profit before tax exists because tax expense is constantly changing, and taking it out helps give an investor a good idea of changes in a company's profits or earnings from year to year.

Yield on Earning Assets: A financial solvency ratio that compares a financial institution's interest income to its earning assets. Yield on earning assets

indicates how well assets are performing by looking at how much income they bring in. High yield on returning assets is an indicator that a company is bringing in a large amount of dividend and investment income from the loans and investments that it makes. This is often the result of good policies, such as ensuring that loans are properly priced and investments are properly managed, as well as the company's ability to garner a larger share of the market. A low ratio means that a company is providing loans that do not perform well, since the amount of interest from those loans is approaching the value of the earning assets.

2.1.4 Need for Reforms

NEEDS which is the government reform agenda has identified the problems confronting the financial sector to include the inability of the sector to play a catalytic role in the real sector, shallowness of the capital market, dependence of the banking system on public sector funds as a significant source of deposits and foreign exchange trading, inaccurate information, non-harmonization of fiscal and monetary policies, non-prompt payment of bank loans (National Planning Commission, 2004).

Government policy trust under NEEDS centred around building and fostering a competitive and healthy financial system to aid development while at the same time avoid systemic distress by deepening in terms of asset volume and instrument diversity; drastically reducing and ultimately eliminating the financing of government deficits by the banking system such that resources are freed up for lending to the private sector; reviewing capitalization of financial institutions in the system; and developing a structure of incentives to enable the financial system to play a developmental role by financing the real sector of the economy. Hinging the success of NEEDS in

part on effective financial intermediation in the economy, the following strategies were to be incorporated into the monetary policy framework and adopted by the regulatory authorities: comprehensive reform process aimed at substantially improving the financial infrastructure (legal codes, information system); restructuring, strengthening, and rationalizing the regulatory and supervisory framework in the financial sector; addressing low capitalization and poor governance practices of financial intermediaries that submit inaccurate information to the regulatory authorities, and the consequent costs to the financial sector; collaborating with banks and other financial institutions, to work out a structured financing plan that ensures less expensive and more accessible credit to the real sector, and directing government policy towards financial deepening (establishing links between rural and urban, banking and non-banking, and formal and in-formal financial systems) and financial product diversification which requires filling the missing gap for commercial financial services for small and medium size enterprises with new services based on best-practice technologies for cash flow financing, leasing and so on.

Regulatory and supervisory authorities have responsibility to promote a robust infrastructure for the financial sector stability. This has been addressed in most countries through the adoption of programmes of financial sector reform the banking sub-sector inclusive. In most developing and transition economies, the reform and development of the financial system has been slow, since it takes time to build skills and institutions as well as change the incentive structures for reform. Moreover, financial system does not function in a vacuum and, in large part, it responds mainly to developments in

the non-financial sector. Since the transformation of the real economy takes time, it is most likely that the development of the financial system in these countries would be slow and prolonged. It is, therefore, not strange that financial sector development in Nigeria has taken considerable time. Banking reform generally has been undertaken in many countries especially those in Africa and Asia within the purview of guided deregulation and globalization through some forms of financial liberalism. The objectives have been to improve the financial strength and lending capacity of the banks through recapitalization, promote real banking activities, protect depositors' funds, strengthen prudential regulations (that is, guidelines or rules/regulations designed to control/prevent banks from taking risks with depositors funds beyond their capacities), promote competition while avoiding market failures, check insider abuse, and evolve a sound banking industry and by extension, a more efficient financial system (Cameron, 1972).

Conceptually, reform refers to changes, re-organization, restructuring, re-shaping and overhauling of a system to eliminate or reduce imperfections and possible distortions affecting smooth operations and performance of the system. Usually, reforms are introduced into a system (or organization) when there is an observed departure in the focus and direction of the organization or sector of the economy from the original or desired focus and objectives. Banking reform from another perspective refers to adjustments, review and restructuring of operations, management, ownership, organization, supervision and regulation of banks or the banking sector as a whole. The general focus of banking reform is on improving the effectiveness and efficiency of banks (Soludo, 2004). Such changes or reform may be by stifling or relaxing some

regulatory, operational and supervisory conditions. These conditions may specify new requirements and conditions for establishment of new banks, new branches, minimum capital base, areas of operations, reporting requirements and level of assets and liability structure and operational strategies. An example of reform through change in operational focus has been the introduction of universal banking scheme in 2001 (Ademola, 2001).

Banking reforms could emerge consequential to general economic and social reform introduced in a country. This was the case in 1985 when the Structural Adjustment Progamme (SAP) was introduced and kicked off in 1986. Some of the attendant policies were deregulation of interest rate, exchange rate and liberalization of the banking sector. This lead to the influx of banks and stiff competition within the sector. The privatization policy is another example of banking reform associated with the general economic policy of the government. With this policy, banks have been privatized thereby changing or altering the ownership structure of the financial institutions in favour of private individuals more than the governments. The 2004 recapitalization, mergers and acquisition exercises were direct reform approaches as part of the banking sector consolidation agenda. The banks were directed by the Central Bank of Nigeria to increase their capital base from N2 billion in 2004 to N25 billion before the end of December, 2005. Banks that were not able to raise the required capital on their own were asked to merge. Thus, the reform here was through recapitalization and merger.

Above all, in the history of banking in Nigeria, it is evident that reforms experimented range from regulatory and legal (for example, the enactment of Banking Ordinance of 1952 as amended in 1958 and other

subsequent promulgations, for instance Bank and Other Financial Institutions Decree of 1991 as amended in 2004, and so on.), institutional (e.g. the establishment of Central Bank of Nigeria (CBN) and the Ministry of Finance in 1959 and the Nigeria Deposit Insurance Corporation, (NDIC) in 1988), structural (e.g. reduction in the types and number of banks, reporting and supervisory levels), operational (e.g. the case of Universal banking scheme) to recapitalization and ownership (e.g. the case of privatization when government shareholding of banks had been reduced to about 10%). Numerous variants of market determined exchange rates have been adopted since 1986 in a bid to stabilize the rates as well as ensure a single exchange rate for the naira. CBN (2013) noted that in 1986, the Second-tier Foreign Exchange Market (SFEM) was instituted, in 1987, the Unified Official Market was introduced, and in 1999, the Inter-bank Foreign Exchange Market (IFEM) was introduced. According to this CBN report, in a quest to enhance access to foreign exchange to small users and to enlarge the foreign exchange market in Nigeria, the monetary authorities licensed the Bureau de Change in 1989.Further reforms were introduced in the Foreign Exchange Market in 1994 (CBN, 2013). CBN (2013) noted that the Foreign Exchange Market reform of 1994 include the formal pegging of the naira exchange rate, the centralization of foreign exchange in the CBN, the restriction of Bureau de Change to buy foreign exchange as agents of the CBN, the reaffirmation of the illegality of the parallel market and the discontinuation of open accounts and bills for collection as means of payments sectors. Further reforms narrowed down to the liberalization of the Foreign Exchange Market in 1995 with the consequent introduction of an Autonomous Foreign Exchange Market

(AFEM) for the sale of foreign exchange to end-users by the monetary authority through selected authorized dealers at market determined exchange rate. Additionally, Bureau de Change institutions were once more accorded the status of authorized buyers and sellers of foreign exchange. The Foreign Exchange Market was further liberalized in October, 1999 with the introduction of an Inter-bank Foreign Exchange Market (IFEM) (CBN, 2013).Again in 2006, the wholesale DAS was introduced. This system recognized authorized dealers as principal and not agents. In order to curtail the activities of the Bureau De Change, the CBN in 2016 reduced foreign exchange quota to parallel market, and as well adopted float exchange rate regime.

Capitalization is an important component of reforms in the Nigeria banking industry, owing to the fact that a bank with a strong capital base has the ability to absolve losses arising from non performing liabilities. Attaining capitalization requirements may be achieved through consolidation of existing banks or raising additional funds through the capital market. In his maiden address as he resumed office in 2004, the current Governor of Central Bank of Nigeria, Soludo, announced a 13-point reform program for the Nigerian Banks. The primary objective of the reforms is to guarantee an efficient and sound financial system. The reforms are designed to enable the banking system develop the required flexibility to support the economic development of the nation by efficiently performing its functions as the pivot of financial intermediation (Lemo, 2005). Thus, the reforms were to ensure a diversified, strong and reliable banking industry where there is safety of depositors'

money and position banks to play active developmental roles in the Nigerian economy.

The key elements of the 13-point reform programme include:

- Minimum capital base of N25 billion with a deadline of 31st December, 2005;

- Consolidation of banking institutions through mergers and acquisitions;

- Phased withdrawal of public sector funds from banks, beginning from July, 2004;

- Adoption of a risk-focused and rule-based regulatory framework;

- Zero tolerance for weak corporate governance, misconduct and lack of transparency;

- Accelerated completion of the Electronic Financial Analysis Surveillance System

- (e-FASS);

- The establishment of an Asset Management Company;

- Promotion of the enforcement of dormant laws;

- Revision and updating of relevant laws;

- Closer collaboration with the EFCC and the establishment of the Financial Intelligence Unit.

In the early 1980s, there was a severe pressure on Nigeria's balance of payments. The situation was further complicated by increased debt service burden, a crash in the international oil market, deterioration in economic conditions, and accumulated trade arrears. The impact on the economy was devastating because it worsened the unemployment level in the face of acute shortage of inputs necessary to sustain a satisfactory industrial production

(Central Bank of Nigeria, 1986). In 1986, the Nigerian government embarked on a Structural Adjustment Program (SAP), in order to correct the aforementioned economic ills. The program was classified into three categories: improvement of the financial structure; improvement of monetary management; and reform to strengthen capital movements and the foreign exchange market (Oresotu, 1992). In view of the catalogue of economic problems facing the economy, the Nigerian government set the following key objectives for its SAP.

- To restructure and diversify the productive base of the economy so as to reduce dependence on the oil sector and imports;

- To achieve a fiscal and balance of payments viability;

- To lay the basis for a reasonable non-inflationary growth; and

- To lessen the dominance of unproductive investments in the public sector, improve the sector efficiency and intensify the growth potential of the private sector.

The main strategy designed to achieve these objectives include an adoption of a realistic exchange rate policy, liberalization of external trade and payment system, and, adoption of appropriate policies in all sectors with greater reliance on market forces. Others include a reduction in administrative controls, and rationalization and restructuring of public expenditures and custom tariffs. Ikhide and Alawode (2001) contain a comprehensive discussion of the sequencing of SAP in Nigeria. They note that the program began with the establishment of a second-tier foreign exchange market (SFEM) and subsequently, interest rate liberalization. The objectives of interest rate management in Nigeria include the moderation of inflation,

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reduction of pressure on balance of payments position, stability in exchange rate, stimulation of savings and investment and the promotion of macroeconomic and financial sector stability. The monetary policy reform was geared to stabilize the economy in the short-run and to introduce a market system for effective allocation of resources. The efforts were directed at promoting financial savings, reducing distortions in investment decisions and inducing an effective intermediation between savers and investors. The initial approach included the rationalization of credit controls in such a way that banks were given more discretion in allocating credit in the economy. Liquidity and reserve requirements measures were relaxed for merchant as well as for commercial banks.

Interest rates were deregulated in stages. According to Oresotu (1992), retail lending rates, were reviewed upward and the minimum rediscount rate (MRR) was also allowed to change. As observed by Aziakpono and Babatope-Obasa (2003), the MRR was fixed at 15 percent in August 1987 but was reduced to 12.75 percent in December 1987. Subsequent to the initial measure of interest rate deregulation, the spread between deposit and lending rates began to widen. For example, in 1989, average savings rate was at 16.4 percent while prime-lending rate was at 26.8 percent representing a spread of about 10.4 percent. The monetary authorities intervened by limiting the spread between deposit, and lending rates. Sanusi (2002a) notes that widening of interest rate spread in the1990s was due to the oligopolistic nature of the banking system.

2.1.5 A Synthesis of the Structural Breakdown of Banking Sector Policies in Nigeria

2.1.5.1 Emergence of Banking Regulation/Establishment of Central Bank of Nigeria (1958 – 1970)

The major focus of banking reform is how to increase and improve the performance of banks and make the banking industry suitable, sound and stable for a well-defined economic activity. It is only upon this fact that they can contribute meaningfully to economic development. In Nigeria, the period 1958-1970 was characterized by the establishment of the Central Bank of Nigeria (CBN). Under the 1958 Ordinance (Amended) while £12,500 was retained as paid-up capital for indigenous banks, it was raised for expatriate banks from £100,000 to £200,000. Profit transferable to reserve fund was increased from 20 per cent to 25 per cent and banks were restricted from owning real estates except where absolutely necessary. Notable achievements of this period included the promulgation of the Treasury Bills Ordinance in 1959 and the establishment of more commercial banks, the development of the money and capital markets, the establishment of the Lagos Stock Exchange in 1961.

The 1961 Amendment concentrated mainly on the liquidation of banks by providing for the appointment of a receiver and liquidator. Under the 1962 Amendment the minimum paid-up capital was raised for existing indigenous banks from £12,500 to £25,000 and they were given seven years to comply. Expatriate banks were also to keep within Nigeria, assets valued for at least £25,000. Banks were allowed to write off losses before effecting the transfer of 25 per cent of profits to reserve fund. The CBN was empowered to adopt some flexibility in applying the definition of liquidity when computing liquidity ratio. Banks were also allowed for

expansionary reasons to own real estates. The 1968 Companies Act provided that foreign banks operating in the country should be required to be incorporated in Nigeria. Banking regulations were largely prudential in order to ensure sound banking practices/customer protection. The 1969 Banking Act provided that adjusted capital requirements (minimum paid-up capital) for indigenous banks be £300,000 and £750,000 for expatriate banks. For the first time provision was made for capital deposit ratio of between 10 and 30 per cent and capital loan ratio of between 25 and 33.3 per cent. CBN was empowered to monitor and vet advertisement by banks, authorise bank amalgamations, determine the opening or closure of bank branches.

2.1.5.2 Era of Consolidated Growth (1970 – 1985)

The period, 1970–1985 was guided by the passion (as was then fashionable) for self-reliance. The government took actions that altered the banking industry landscape. There was the promulgation of the Indigenization Decree of 1972 which was later amended in 1977 and required Nigerians to dominate the ownership, management and control of all sectors of the economy. Pursuant to this policy, the Federal Government of Nigeria acquired controlling interests in the then existing three expatriate banks (First Bank, Union Bank and United Bank for Africa); set up Financial System Review Commission by the Okigbo Committee in order to strengthen the operational efficiency of the financial system; established Federal Government wholly owned banks in order to accelerate the pace of economic development, the Nigerian Agricultural and Co-operative Bank and so on and the reconstitution of the Nigerian Building Society as the Federal Mortgage Bank of Nigeria; established State Government owned banks; intensified public sector

intervention by way of direct credit, and selective credit controls imposed on the size of lending to the private sector, sustained increase in paid-up capital of new banks and strict control of interest rates; gave preferential treatment to certain priority sectors such as agriculture and manufacturing in terms of allocation of credit and interest rates on deposits and loans.

2.1.5.3 Era of Financial System Deregulation (1986 – 1995)

The era of de-regulation (1986-1995) marked the Structural Adjustment Programme (SAP) era. Notable regulatory reform measure in the banking industry, in line with SAP was de-regulation. With this, the number of entrants into the industry increased significantly such that by 1993, the number of commercial banks was 66 as against 28 operating in Nigeria in 1985. Other measures included the promulgation of the CBN Decree No. 24 of 1991 (which had to be amended in 1993, giving more teeth to the CBN to bite harder), and the Banks and Other Financial Institutions Decree (BOFID) No.25 (also of 1991) was meant to effectively control the industry and ensure soundness; the promulgation of the Nigeria Deposit Insurance Corporation (NDIC) Decree No. 22 in 1988 though the Corporation commenced operations in 1989 with functions such as insuring deposit liabilities of licensed banks, providing technical and financial assistance to the banks and assisting in the quest for a healthy banking environment and initial rationalization and eventual removal of credit ceilings for sound banks and shift to indirect approach to monetary management with Open Market Operations (OMO) as main instrument. During this deregulation period all controls on interest rates were removed with CBN fixing only its minimum rediscount rate (MRR) to indicate its desired direction of interest rates. In 1990 prudential regulations (Prudential Guidelines) were introduced and there was prescription of a

maximum margin between each bank's average cost of funds and its maximum lending rates with a later prescription of savings deposit rate and maximum lending rate. In 1992 partial deregulation was restored and banks were required to maintain a specified spread between their average cost of funds and their maximum lending rates. In 1993 the maximum lending rate ceiling was removed and direct interest rates controls were restored in 1994.

The improvement in payment system started with the implementation of the magnetic ink character recognition (MICR) technology for processing inter-bank transfers and in-house cheques and promotion of automation of payment system by banks. This has been described by many as significantly sanitizing banking operations in Nigeria and has been very useful in stemming financial distress. In the same period the banking sector witnessed cut-throat completion with many, especially the new entrants, adopting all kinds of strategies to outwit each other. Branch network of banks increased astronomically. The branches of commercial banks within the same period, increased from 1,297 to 2,541. However, some banks increased risk assets at incredibly low interest rates with or without collaterals or adequate cover while some generated liabilities at incredibly high interest rate (the extreme case being 100 percent). In all, insider abuse manifested in several dimensions (granting secured and unsecured loans to organizations and individuals, outright stealing and so on), high rate of loan repayment default especially by state government, federal ministries and parastatals; managerial incompetence; general economic downturn and adverse macro-economic conditions; political problems (the June 12 crisis and its aftermaths); the use of stabilization securities with debited funds not made available to banks in the face of

problems, withdrawal of government funds without prior notice, and non-payment of contractors who had executed projects for government; and inadequate regulatory/supervisory capacity among others were contributory factors that brought about crisis in the banking industry which reached an epidemic proportion in 1995 when 55 out of the 120 operating banks were distressed. This period also witnessed a gradual return of confidence in the banking industry through government actions that came belatedly, for instance, the establishment of the NDIC which was to ensure industrial safety and soundness. The money and capital markets witnessed some vibrancy (Onwumere, 1992). The establishment of the Failed Banks (Recovery of Debts) and Financial Malpractices Decree which, despite its post event enactment was meant to check and punish insider excesses and other associated crimes. Many bankers received wide range of punishment under this Decree.

2.1.5.4 Era of Guided Deregulation and Globalization (1996 – 2004)

The guided de-regulation and globalization era (1996-2004) was a period attempts were made to meet Nigeria development challenges. Some of the major reforms of this period were to ensure that Nigerian banks became globally competitive. The implementation of many past reform measures were put in place with a view to ensuring that stability in the system was continued. Major tenets of the new reforms included total de-regulation of interest rates in October 1996; upward review of minimum paid up capital of banks in 1997 to N500 million and later to N2 billion; the adoption of universal banking in 2001; the re-introduction of Dutch Auction System (DAS) in July 2002 with a view to realigning the naira exchange rate, enhancing transparency and curbing capital flight from the country. Under the system, there was

intervention by the CBN twice weekly and end-users bought foreign-exchange at their bid rates through authorized dealers.

2.1.5.5 Era of Professor Charles Soludo (2004 – 2009)

On the appointment of Prof. Charles Soludo as the CBN governor in 2004, he argued that prior to 2004 the Nigerian financial system could not deliver on its defined roles and was characterized by:

a. Systemic crisis; frequent resort to Central bank bail out

b. Low aggregate banking credit to domestic economy (20% as percentage of GDP)

c. Inadequate capital base

d. Oligopolistic structure-10 (out of 89) banks accounted for over 50% of total banking system asset

e. Low banking/population density -1:30,432

f. Low corporate governance

g. Payment system that encouraged cash-based transactions

h. Stock market was shallow

i. Pension funds were largely absent, as well as,

j. Insurance industry was weak and undercapitalized.

In order to rescue the already decaying economy, a guideline was rolled out by the CBN in 2004 on electronic banking (e-banking) practice in Nigeria in line with international best practices and banks were encouraged to install automated teller machine (ATM) for cash withdrawals. Specific guidelines were also put in place on standards and use of electronic money (e-money) products such as credit cards, debit cards; digital cash and so on also in line with international best practices. CBN promoted automated payment system in

order to reduce delays in clearing of payment instruments, reduce cash transactions and enhance monetary policy's transmission mechanism. Real time gross settlement (RTGS) system was implemented in order to eliminate risk in large-value payments and increase efficiency of the payment system. Seven banks that met CBN's requirements were appointed as Settlement Banks to perform clearing and settlement functions for other banks. National Savings Certificate and variations of cash reserve requirement (CRR) and the minimum rediscount rate (MRR) were introduced to enhance liquidity management.

In addition to the above, the Central Bank of Nigeria on 6th July, 2004 addressed a special meeting of the Committee of Bankers outlining such elements of banking reforms with their associated main complements as: Minimum capitalization for banks of N25 billion with full compliance by 31st December, 2005; phased withdrawal of public sector funds from banks starting in July, 2004; consolidation of banking institutions through mergers and acquisitions; adoption of a risk-focused, and rule-based regulatory framework; adoption of zero tolerance in the regulatory framework, especially in the area of data/information rendition/reporting; automating the process for the rendition of return by banks and other financial institutions through the enhanced Financial Analysis and Surveillance System (e-FASS); establishment of a hotline, confidential internet address (Governor cenbank.org) for all those wishing to share any confidential information with the Governor of the Central Bank on the operations of the banks or the financial system; strict enforcement of the contingency planning framework for systemic bank distress; establishment of an Assets Management Company

as an important element of distress resolution; promotion of the enforcement of dormant laws, especially those relating to the issuance of dud cheques, and the law relating to the various liabilities of the board members of banks in cases of failings of the banks; revision and updating of relevant laws, and the drafting of new ones relating to the effective operations of the banking system. collaborating closely with the Economic and Financial Crimes Commission (EFCC) in the establishment of the Financial Intelligence Unit (FIU) and the enforcement of the anti-money laundering and other economic crime measures; and rehabilitating and effectively managing the Nigerian Security Printing and Minting (NSPM) Plc to meet the security printing needs of Nigeria, including the banking system which constitutes over 90 per cent of the NSPM's business (Central Bank of Nigeria, 2004).

2.1.5.6 Era of Sanusi Lamido Sanusi (2009 – 2013)

The Central Bank of Nigeria under the leadership of Sanusi Lamido Sanusi in June 2009 proposed yet another financial system/ sector reform encapsulated in the following elements:

a. Office tenure for banks chief executive officers (CEOs): the reform states that with effect from October 2010, bank's CEO will spend a maximum of ten years in office. Isa (2010): opined that CBN introduced a tenure system for CEOs and directors in order to check abuses in the banking sector and entrench transparency in the system;

b. Abolition of universal banking;

c. Presentation of proposal for the establishment of Asset Management Company (AMC) to the National Assembly. The company when established will stimulate growth of capital market;

d. Disclosure requirement: banks are now compelled to state the true state of their financial positions in their balance sheets. The banks are requested to state both the performing and non-performing loans;

e. Introduction of categorization of commercial banks. According to Obafemi (2010), as from 4th October 2010, commercial banks are to be categorized into three groups. They are Regional banks, National banks and International or Global banks.

Regional banks are to operate in a minimum of six states and a maximum of twelve states within two geographical zones, including the Federal Capital Territory, Abuja with a capital base of N10billion. The National banks with national banking authorization are to operate in all the 36 states of the federation and are to have N25billion capital base. In the same vein, the International/Global banks with international/global authorization are to operate foreign branches in designated countries of their choice as well as have branch network in all the states of the federation. They are to have a capital base of N50billion. The most recent of Sanusi reform is account updates. Commercial banks customers are to furnish their banks with their recent personal data. The exercise is also known as "operations know your customer". The exercise is aimed at eliminating surrogate account holders from the banking system. By the end of December 2010, account holders who failed to furnish their bank with the necessary details will have their account declared dormant, though the deadline was shifted to January 31th, 2011.

2.1.6 Development implications of banking reforms in Nigeria:

Development implications of current banking reforms in Nigeria include;

- Improved lending to various sectors of the economy due to enhanced capital base of the consolidated banks

- Reduction in the number of banks which are now stronger, thereby helping to restore confidence in the industry

- Innovations in banking products/service delivery

- Improvement in technology and globalization of operations in the industry thereby aiding modernization of the Nigerian economy

- Employment generation especially at the middle and lower levels of the industry in the short and long runs

- Increased branch network thereby aiding employment of both capital and labour

- More challenges on the supervisory authorities especially in terms of capacity and capability thereby aiding better management of the banking/financial aspect of the economy

- Probable return to the era of preferential treatment (by policy direction) to certain priority sectors, notably agriculture and manufacturing in order for the banking industry to play a catalytic role in the real sector developing the real sector of any economy is not a matter that should be left to chance variables

- More of CBN's interventions in the economy to ensure that the objectives of monetary policy are consistently achieved

- Punishing chronic debtors in banks through legislation may be pursued by the apex bank in order not only to ensure that public funds are not subjected to waste but also to instil discipline in the behaviour of borrowers.

- Enhance economic growth and development of the economy as more funds are channelled into productive investments with increased vibrancy of the money and capital markets.

2.1.7 Banking Industry Operation

Traditionally, the business of banking involves savings mobilization. That is, acceptance of deposits from customers and granting of loans, investment in securities (mainly short term money market instruments) and other businesses including safe keeping of valuables, foreign exchange services, trustee services, portfolio management and stock broking services, among others (Ubom, 2006). Banks have two operational objectives, namely; maintenance of adequate liquidity level at all times and profit maximization. These objectives are conflicting in nature. For example, for a bank to maintain adequate liquidity level at all times, it must invest predominantly in short term assets while profit maximization requires long term investments. The ability of banks to achieve their corporate objectives depends heavily on how the banks are able to strike a balance between these two traditional and conflicting objectives (Ubom & Ubom, 2004). Apart from the above objectives, banks are also very unique in other dimensions. As highlighted by Kwan (2007), banks are unique because:

i.   They provide transaction services and administer the nations payment system

ii.   They provide backup liquidity to the economy and

iii. They are transmitters of monetary policy.

By discharging these functions, banks exercise serious control over the availability, cost, flow and direction of goods and service within a given

economy. Structurally, the banking industry in Nigeria comprises the Central Bank of Nigeria (CBN) at the apex, the deposit money banks (i.e. former commercial and merchant banks), development banks. It should be noted also that the banking industry in Nigeria, just like in other countries of the world has witnessed different forms of crisis from the free banking era, banking regulation period, deregulations and during the period of guided deregulation and beyond. The new phase of banking development in the country is the era of consolidation. The first phase of the consolidation exercise focused on recapitalization, mergers and acquisition. This is one of the series of banking reforms experimented in Nigeria.

However, in Nigeria there are separate agencies responsible for financial sector and business enterprises supervision and regulation. Ilewellyn (2006) asserted that in many countries governments have been reviewing their institutional structures of financial regulation and in some countries major changes have been made. He raised three strategic issues which have been contested by finance experts. They are as follows:

a. Whether to have integrated prudential agencies encompassing all financial firms and markets, or whether regulation and supervision should be conducted on the basis of specialist agencies for banking, securities and insurance;

b. The role of the Central Bank in this area, and

c. Whether or not conduct-of-business regulation should also be included within a single all-embracing agency or whether this should be conducted by a dedicated agency.

He further argued that while many countries are moving in the direction of integrated agency for prudential regulation and supervision (i.e a single agency is charged with the regulation of banks, insurance and securities) the United Kingdom still operate a unified agency. In a unified system, the agency responsible for financial institution regulation is also responsible for conduct of business regulation and supervision. The body is known as Financial Services Authority in the United Kingdom. The success or failure of banking sector reform has been assessed on the basis of reform impact on national economic growth and balanced development (Akhtar, 2007); On the extent of improvement on overall access to banking services occasioned by the reforms (Koeva, 2003); on the financial deepening impact of banking reform (Hermandez & Murillo 2008); on banking sector productivity and efficiency (Mohan, 2005; Hardy & Bonaccorsi di Patti, 2001) as well as in terms of the operational efficiency and profitability of banks (Nandy, 2010).

Also, McKinnon (1973) and Shaw (1973), reviewed the role of financial intermediation and the financial system. It was argued that the function of financial institutions in the saving-investment process were underlined as being an effective conduit for the mobilization and allocation of capital by equilibrating the supply of loanable funds with the demand for investment funds as cited in Iganiga (2010). In the conventional Keynesian theory and policy, impact of monetary policy, can be enrooted to the rest of the economy via the monetary system. In Saw's argument, a robust financial intermediation between savers and investors, under ideal circumstance, can increase the motivation to save and invest, thus raising average efficiency of investment. A multi-dimensional approach is definitely most appropriate for

banking performance evaluation and assessment rating. That approach is adopted by both the Central Bank of Nigeria and the Nigerian Deposit Insurance Corporation (NDIC), which apply the CAMEL rating system, developed by the Basel committee on Banking Supervision of the Bank for International Settlement (BIS) for the performance assessment.

2.1.8 Effect of Banking Sector Banking Industry

In assessing the impact of banking sector reform, it is essential to address two key issues, which are, the selection of appropriate performance parameters to be applied in the assessment, and the second is the application of the selected parameters to determine the trend in banking performance associated with each of the reform initiative identified. The common performance assessment initiatives adopted is a composite of three inter-related bank performance indicators viz:

- Financial Deepening;

- Operational Performance of Banks;

- Overall Soundness of the Banking Sector.

The financial depth of an economy is derived by relating the key macro-economic indices of financial sector operations to the gross domestic product (Mohan, 2005). Banks are the dominant financial intermediaries in the modern economy and thus, exert a dominant level of influence in the financial deepening process through their fund mobilization and credit delivery operations. The key banking sector aggregates which impact heavily on financial deepening are total banking assets (BA), total demand deposits (DD) and total loans and advances (LAD). The financial deepening impact of banks is measured by three ratios, which are derived by relating each of three

commercial banking aggregates to the gross domestic products (GDP), namely;

- Bank assets to GDP (BA/GDP) ratio,

- Demand deposits to GDP (DD/GDP) ratio

- Loans and advances to GDP (LAD/GDP) ratio.

The BA ratio is a measure of the size of the banking sector relative to that of the entire economy. The ratio thus, reflects the depth of financial deepening as relates to banking sector capacity which is derivable from the asset base. The higher the ratio, the greater the level of financial deepening attributable to banks and inversely. The DD and the LAD ratios could each be applied as independent measures of financial deepening powered by the banking sector. Impact on Operational Performance would be viewed from three dimensional perspectives, viz; Banking Capitalization and Capital Adequacy Levels, Banking Sector Liquidity as well as Banks' Asset Quality. The assessment on the impact of capitalization and capital adequacy reforms, attention would be focused on the level of compliance achieved by banks to various reforms episodes in relation to each of both parameters. A perfect response rate is achieved if the required recapitalization levels are attained by all affected banks within the compliance period stipulated in the reform platform.

Banking Sector Liquidity and Solvency: The major primary objective of banking policy is to maintain optimum banking sector liquidity. Liquidity management has been observed as a challenging balancing endeavour. It seeks to maintain a balance between the need to obtain as well as maintain adequate level of liquidity for servicing depositors' cash withdrawal demands and the imperative of avoiding the danger of endangering the earnings capacity of

banks by compelling them to have excess liquidity. The impact of liquidity management reforms is underscored by the ability or inability of banks to operate within prescribed liquidity guidelines. The three major liquidity measures applied by the CBN in liquidity management are the liquidity ratio, cash ratio and capital adequacy ratio.

Credit Delivery: Credit delivery policy is directed at achieving two broad objectives, that is; To maximize the level of bank credit to the general economy and to ensure a balanced distribution of available credit among various sectors of the economy and particularly to achieve preferential dispensation of bank credit to sectors like agriculture, small scale enterprises and the rural economy all of which have been identified, by the CBN, as vulnerable groups in relation to access to bank credit.

2.2   Theoretical Review

There are theories that have explained the alleged relationship between banking sector regulation and performance of the banking industry. The theoretical underpinning of this research is anchored on the nexus that subsist between financial intermediation and the financial system on the one hand and economic development (proxy by sustainable banking industry) on the other hand, that is, the Finance – Economic Growth Theory.

2.2.1 Finance – Economic Growth Theory

The origin of the Finance and Growth nexus is traced to the works of Schumpeter (1912) who argued that financial services are paramount in economic growth. According to Schumpeter, 'it takes credit for production to materialize and one can only be an entrepreneur by previously becoming a debtor…what (the entrepreneur) first wants is credit. Before he acquires any goods whatsoever, he requires purchasing power. He is the typical debtor in a

capitalist society'. In this process, continued Schumpeter, 'the banker is the key agent. The banker is not so much primarily the middleman in the commodity purchasing power as a producer of this commodity- money. He is the ephod of the exchange economy' (Schumpeter 1912).

Literature on the role of financial intermediation and the financial system in economic development was rekindled by Mckinnon (1973) and Shaw (1973). In the enunciations of this duo, the functions of financial institutions in the savings-investment process were underscored as being an effective conduit for the mobilisation and allocation of capital by equilibrating the supply of loanable funds with the demand for investment funds, and the transformation and distribution of risks and maturities. They further enunciated the 'financial liberalization' theory which they argued that government restrictions on the banking system restrain the quality and quantum of investment. Apart, there is a theoretical relationship between financial policy reforms and money market operations. We already know that the banking system falls directly within the circumference of the money market. Hence, in the traditional Keynesian theory, the impact of monetary policy can be transmitted to the rest of the economy through the monetary system. There is an assumption that in the presence of an efficient money market, interest rate elasticity brings about the allocation of funds among competing uses in an efficient way.

Suffice it to reiterate here that among the critical policies that influence the financial system is the deregulation of the interest rate. According to Terriba (1986), this often results in greater competition involving the use of both price and non-price

variables. Equally, government restrictions in the financial sector has the possibility to slow down the pace of financial development-kunt and consequently, economic growth and development (Schumpeter 1934). In another theorization, it is asserted that expanded financial intermediation between savers and investors under ideal situations, increases incentives to save as well as invest, and equally raises the average efficiency of investment. More so, it also raises real returns to savers while also lower real cost to investors by accommodating liquidity preferences (Shaw 1973).

2.3   Empirical Review

Reforms in the financial sector are a continuous process all over the world. Rules and regulations that were formally adopted by regulatory agencies may seem inappropriate today, hence the need to continually review the institutional structure of regulatory and supervisory agencies in the financial sector (Ilewellyn, 2006). Various empirical studies conducted reveal that reform/recapitalization will engender and revives the economy through lending to real productive sector of the economy and through multiplier effect will lead to economic growth and development (Kishan & Opiela, 2000; Gambarcota, 2000). Demirguc-kunt and Levine (2003) argued that reform/recapitalization drives bank consolidation (mergers and acquisitions) so that increased concentration goes hand-in- hand with efficiency improvements, Boyd and Runkle (1993) buttressed this argument. They stressed further that consolidated banking system enhances profits efficiency, and lower bank fragility. More importantly, high profits arising from this provides a buffer against adverse shocks and increases the franchise value of the banks.

Echekoba, Adigwe, Ananwude and Osigwe (2017) ascertained the

effect of required minimum shareholders' fund on banks' performance in Nigeria from 1999 to 2015 by distinctively assessing the effect of minimum capital requirement on profit before tax and net interest income of the banking sector. Controlling banks' specific factors: total assets plus off balance sheet engagements and ratio of non-performing loans to total credit proficient to debilitating performance, the result reveals that minimum capital requirement has no significant effect on profit before tax but significantly affects the net interest income of the Nigerian banking sector. Ilori and Ajiboye (2016) examined the impact of the bank reforms on banking sector performance in Nigeria during 1986 - 2013. Credit to private sector, number of banks, bank asset, non-performing loan to total loans and liquidity ratio were the banking sector variables applied in the study. Econometric model and regression analysis were employed to analyse the data. Empirical investigations showed that the number of banks shows a long-run positive relationship with credit to private sector while other independent variables: bank asset, non-performing loan to total loans and liquidity ratio indicates negative impact on credit to private sector, which is attributed to the apex bank to extend credit to the growth enhancing sector of the economy.

Igbinosa, Ogbeide and Akanji (2017) studied the impact of reforms on banking sector performance and also assesses the nexus between capital adequacy and banking sector performance. Time series data for the period 1993 to 2014 was used. As an analytical tool, the study uses unit root test to determine the stationary state of the variables, Johansson co-integration and error correction model. The empirical findings indicate that financial regulation significantly impacts the banking sector performance while

financial regulation has both short-run and long-run dynamic relationships with the banking sector performance in Nigeria. It was found that the four-period lag of capital adequacy negatively affects banking sector performance and is not statistically significant. Alalade, Adekunle and Oguntodu (2016) determined the effect of recapitalization on the composition of banks in Nigeria, the varying level of bank profitability since 2008, the significant relationship between recapitalization and bank profitability, and the extent at which recapitalization has affected the banking sector. At the end of the research it was discovered that since the onset of recapitalization bank profitability has been on a persistent increase and recapitalization had caused greater good than harm in the banking sector.

Olawumi, Lateef and Oladeji (2017) empirically investigated the relationship between financial deepening and bank performance using financial deepening (M2/GDP), ratio of credit to private sector—GDP, ratio of deposit liabilities—GDP as variables of financial deepening while performance measure of interest is profitability. The study adopted descriptive research design to explore the relevance of financial deepening on banks performance. The data for this study were sourced secondarily. Findings revealed that each component of financial deepening indicators has a strong relationship and are statistically significant; this provided empirical evidence that financial deepening made positive contributions to the level of profitability of the selected commercial banks in Nigeria. Alajekwu and Obialor (2014) investigated the impact of bank recapitalisation on bank performance. The Ordinary Least Square (OLS) regression analysis was used for the analysis. The results showed that bank capitalization has no significant

effect on bank profitability and asset quality, whereas liquidity and financial deepening were significantly influenced by the recapitalization. The study posited that profits maximization drives of Nigerian banks have had counterproductive effect on bank capitalization.

Faten (2013) studied the effects of banking supervision on performance in banking industry. They explored the relationship by using the generalized method of moments (GMM in system), based on a sample of the ten largest European banks of France, Germany, UK and Greece over the period 2005-2011. The empirical analysis reported the following findings: Banking supervision seems to have an impact on performance. However, the introduction of variables, capturing the specific, the macroeconomic, the institutional and the financial development indicators, dismisses this effect. Olajide, Obafemi and Jegede (2011) examined the impact of financial reforms on banks' organizational performance in Nigeria between 1995 and 2004. It specifically determined the effects of policies of interest rates deregulation, exchange rate reforms and bank recapitalization on banks performance, and analysed how banks internal characteristics and industry structure affect the performance of Nigerian banks. The study utilized panel data econometrics in a pooled regression, where time-series and cross-sectional observations were combined and estimated. The result of econometric panel regression analysis confirmed that the effects of government policy reforms, bank specific characteristics and industry structure has mixed effects on banks profitability level and net interest margin of Nigerian banks. Bank specific characteristics appear to have significant positive influence on bank's profitability and efficiency level, while industry stricture variables appeared not to have

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contributed meaningfully to the profitability and efficiency performance of banks in Nigeria

Avinash and Mitchell-Ryan (2009) investigate the impact of the sectoral distribution of commercial bank credit on economic growth and development in Trinidad and Tobago. The study employs Vector Error Correction Model to ascertain the relationship that exists between credit and investment. The study found that credit and growth tends to demonstrate a demand following relationship, while further analysis revealed a 'supply leading relationship between credit and growth within key sectors of the non-oil economy. Nazmi (2005) studies the impact of deregulation and financial deepening on the real sector, using general equilibrium model to analyse data from four (4) Latin America countries, for the period covering 1960 –1995. The study found that deregulation and a more developed banking sector prompt firms to increase the capital intensity of production, mostly, portends rapid economic growth.

Were et al (2012) investigate the impact access to bank credit on the economic performance of key economic sectors using sectoral panel data for Kenya. The study found a positive relationship between bank credit access and sectoral gross domestic product measured as real value added. Also, they found that provision of private sector credit to key economic sectors of the economy olds great potential to promoting sectoral economic growth. The study emphasizes on financial deepening and intermediation, as of utmost importance in providing real sector with credit facilities. Toby and Peterside (2014) in their study analysed the role of banks in financing the agriculture and manufacturing sectors in Nigeria for the period of 1981-2010. The study

found that increment in availability of credit to those sectors, which are inclusive in the real sector of the economy, has potential of increasing Gross Domestic Products (GDP). Thereby, the study recommended mandatory credit allocation to real sector of the economy.

Fafchamps and Schundeln (2011) investigate whether firm expansion is affected by local financial development in Moroccan manufacturing enterprises from 1998-2003, using regression analysis test. The study found that local bank availability is robustly associated with faster growth for small and medium size firms in sectors with growth opportunities. Abubakar and Gani (2013) in their study on impact of banking sector development on economic growth, using Vector Error Correction Modelling (VECM) with data covering the period of 1970 –2010, found a negative relationship between credit to the private sector and economic growth, due to unfavourable feat of credit going into real sector. The study emphasized on financial deepening towards real sector. Imoughele et al (2013) carried out a study on the impact of commercial bank credit accessibility and sectoral output performance in Nigeria economy for period of 1986- 2010, using ordinary least squares (OLS) techniques. The study found that cumulative supply and demand for credit in the previous period has direct and significant impact on the growth of agriculture, manufacturing and the service sector output. The study attributed the development to the importance of credit facility as an input in the production process and persistent inflow to the manufacturing, agriculture and services sectors. The study further encourage continuous credit accessibility in a deregulated financial market economy as it has the capacity to induce the national real sector outputs, which would subsequently result to economic

growth and development.

Obilor (2013) empirically investigated the impact of commercial banks' credit to agricultural sector under the Agricultural Credit Guarantee Scheme Fund in Nigeria. The study found that joint action of commercial banks credit to the agricultural sector, agricultural credit guarantee loan by purpose, government financial allocation to agricultural sector and agricultural products prices are significant factors that can influence agricultural production in the country. The study recommends that farmers should be encouraged to be applying for loans from participating banks to enhance agricultural activities and productivity. Ikenna (2012) studied the long and short run impact of financial deregulation and the possibility of a credit crunch in the real sector, using Autoregressive Distributed Lag (ARDL), and time series data ranging from 1970 –2009. The study found that deregulating the Nigerian financial system had an adverse effect on the credit allocation to the real sector in the long run and in the short run. The study suggested mandatory credit allocation even in the long run as of utmost necessity as it had started with the latest banking reform.

Omankhanlen (2012) examined the financial sector reforms and its effect on the Nigerian economy from 1980 –2008, using OLS method. Financial intermediation was found to be necessary condition for stimulating investment, raising productive capacity and fostering economic growth. Fadare (2010) investigated the effect of banking sector reforms on economic growth in Nigeria over the period of 1999 –2009, using OLS regression technique. The study found that interest rate margins, parallel market premiums, total banking sector credit to the private sector, inflation rate, size

of banking sector, capital and cash reserve ratios account for a very high proportion of the variation in economic growth in the country. Valve (2012) investigated the relationship bank credit and investment and growth in the real sector of the economy, using panel data from 14 economic sectors. Then the study found that there is correlation credit extensions and economic performance. Considering the second set of the analysis using data from three (3) core sectors of the real sector, the study equally found positive relationship between bank credit and investment, which would subsequently translate to economic growth.

Ayadi et al (2013) explore the relationship between financial sector development and economic growth across the Mediterranean, using data covering the period of 1985 – 2009. The study found that credit to the private sector and bank deposits are negatively associated with growth, which in the authors' opinion, portend deficiencies in credit allocation in the region and suggest weak financial regulation and supervision. Abou-Zeinab (2013) review patterns of bank credit allocation and economic growth in Sweden over the period of 1936 – 2012, and found that banking system exhibits tendency of reallocating bank credit towards service and trade activities for onward economic growth in the country.

Tomola et al (2010) investigated the effect of bank lending and economic growth on the manufacturing output in Nigeria, using time series data covering the period of 36 years. They also employed co-integration and vector error correction model (VECM) techniques to analyse the data. It was found that manufacturing capacity utilization and bank lending rates significantly affect manufacturing output in Nigeria. The study recommended

that policies that would foster investment friendly lending and borrowing by the financial institutions should be put in place by the appropriate authority. The result of Granger causality test and estimated regression models conducted by Akpansung and Babalola (2012) indicate that private sector credit impacts positively on economic growth in Nigeria over the period 1970-2008. The study established that lending rate impedes growth, and recommends the need for more financial market development that favours more credit to private sector to stimulate economic growth.

Bhusal (2012) investigates the impact of policy reforms on financial development and economic growth in Napel, using exogenous break test, and time series data ranging from 1965- 2009. The study could not establish positive relationship between bank domestic credit and economic growth. The study suggest that the finding might be due to some problems which inhibit the banking sector in the country, such as inadequate expansion of commercial banks and their branches in the rural non-monetized sector, non-performing loans that discouraged credit allocation, among others. Nwanyanwu (2009) investigated the role of bank credit in economic growth of Nigeria. The study found that bank credit did not exhibit positive relationship towards economic growth. The study claimed that this was due to apathy exhibited in lending to private sector for productive purposes. The study recommended that the regulating body such as Central Bank of Nigeria (CBN) should adopt a direct credit control that will be beneficial to the real sector of the economy, which is the latest reform in the banking sector, where there is mandatory credit allocation to critical sectors of the economy.

In his analysis, Onaolapo (2008) employed the CAMEL rating system

to examine the effectiveness of recapitalization. The study discovered that the percentage of healthy banks in terms of sufficient liquidity, solvency, strong capital base and good corporate governance among others, has reached the highest point of 70% as at 2006. This finding was collaborated by Sani (2004). Using a regression model, Sani discovered a positive and significant relationship between recapitalization policy and economic growth in Nigeria. Brisimis et al. (2008), show that the financial deregulation has a positive impact on the performance of banks, while other authors consider that deregulation has a negative impact, determining a decrease of allocative efficiency or considering that financial liberalization most often leads to financial crises (Betty, 2007 & Wheelock and Wilson, 1999).

Ningi and Dutse (2008) investigated the impact of bank recapitalization on the Nigerian economy. He employed descriptive statistical techniques, and found that recapitalization has positively transformed the Nigerian economy through increase support and competition in the private sector of the economy, better financial opportunities such as credit mobilization and facilitating the monetary policy transmission mechanism. Okpanachi (2010) examined the impact of the banking consolidation on bank performance and the Nigerian economy. Using the t-test, he found that bank recapitalization has significantly improved the Nigerian economy.

Donwa and James (2011) investigated the impact of the consolidation of the banking industry on the Nigerian economy between 2004-2008.They employed Chi-square test and ANOVA and found that the recapitalization of banks had a significant positive effect on the Nigerian economy by engendering capital market transactions. Ailemen (2012) used panel

regression technique to investigate the effect of bank capitalization on the Nigerian economy. Results from the study reveal that the exercise had a significant positive effect on the Nigerian economy. In the same vein, works by Bayomi and Melande (2008), found that a 2.5% reduction in overall credit lending to the real productive sector of the economy in the US on account of poor capital base would cause a reduction in the level of GDP by around 1.5%. Works by Bakare (2011) however found that recapitalization has low but significant influence on the growth of Nigerian economy.

On the contrary, Adegbaju and Olokoyo (2008) examined the effectiveness of recapitalization on the performance of twenty (20) Nigerian banks. He discovered that while few banks recorded appreciable improvements in their performance, the majority of the banks remain the same or even worse off in terms of performance to make any significant contribution to the growth process. So far, the nexus between recapitalization policy, financial stability and economic growth has been examined by two conflicting schools of thoughts. The proponents of bank recapitalization believe that an increased capital base has the potential to increase banks returns through revenue and cost efficiency gains and in turn, promote economic growth. On the other hand, opponents of recapitalization argue that recapitalization increases a banks propensity toward risk taking through increases in leverage and off balance sheet operations.

2.4   Summary of Literature

From the empirical literature reviewed, scholars through the application of different econometric techniques in the context of various countries of the world seem not to agree on the exact nature of causal relationship between banking sector reforms and banking industry performance as well as the effect

of banking reforms on different measurement of banking industry performance. However, bulk of the literature lay support for the significance effect of banking sector reforms on the banking industry performance. on the premise that nexus between banking reforms and performance of banks still remains largely controversial, this dissertation will do add to existing knowledge using Nigeria as a leading economy in the continent of Africa.

2.5 Gap in Literature

Lack of appropriate measurement yardstick and complexity of the inter links of the reform measures among different parts of the economy and information availability remains controversial in the literature. The literature has focused more on the conventional minimum capitalization and statutory liquidity ratio. This study incorporated additional variable that varied in operation due to various reforms in the banking sector. These variables in addition to minimum capitalization and statutory liquidity ratio include interest rate spread and exchange rate. More so, empirical studies reviewed applied most return on assets, return on equity, profit before tax and net interest income to measure performance of the banking industry. This study added a new variable: yield on earning assets to capture banking performance in Nigeria.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1   Research Design

The research work is designed to study the effect of banking reforms on the performance of the banking industry in Nigeria. The study adopted an *ex post facto* research design using ordinary least square techniques. This type of research design does not allow the research to manipulate the data as these data are available in established government agencies or parastatals.

3.2   Population of the Study

The population of this study covered all the deposit money banks operating in the country based on license from the Central Bank of Nigeria (CBN) which is the sole regulator of the banking industry in Nigeria and are insured by the Nigeria Deposit Insurance Corporation (NDIC).

3.3   Nature and Sources of Data

The data used in this research were secondary in nature and were obtained from the Central Bank of Nigeria (CBN) banking supervision reports and Nigeria Deposit Insurance Corporate (NDIC) annual reports as relevant. The data study covered a period of twenty six (26) years, which is, from 1990 to 2016 and were on annual basis as was extracted from the two sources stated above.

3.4   Models Variables

The dependent variable is the banking industry performance measured in terms of Return on Assets (ROA), Return on Equity (ROE), Profit Before Tax (PBT) and Yield on Earnings Assets (YEA). The independent variables which are the indices of banking sector reforms are Bank Capitalization (BCP),

Liquidity Ratio (LQR), Spread of Interest Rate (SPINT) and Exchange Rate (EXR).

3.5 **Model Specification and Description of Variables**

Expressing the relationship between dependent and independent variable(s) in a mathematical form is termed model specification. A linear regression model as developed by Faten (2013) but modified to captured various banking reforms indices was adopted. The original model by Faten (2013) for a study on ten largest European banks of France, Germany, UK and Greece is expressed as:

$$Perf_{it} = a_0 (Perf)_{it-1} + a_4 (BSUP)_{it} + U_t \ ------------3.1$$

Where: $Perf$ was used to measured bank performance surrogated by return on assets, return on equity, net income margin and cost to income, while $BSUP$ captured bank supervision. This model was modified to inculcate five measures of banking industry performance: return on assets, return on equity, profit before tax, yield on earning assets and net interest income, while banking sector reforms reflected with bank capitalization, liquidity ratio, cash reserve ratio, loans and advances, spread of interest rate and exchange rate. Functionally, this is stated as:

$$ROA = f(BCP, LQR, SPINT, EXR) \quad ------------------3.2$$
$$ROE = f(BCP, LQR, SPINT, EXR) \quad ------------------3.3$$
$$PBT = f(BCP, LQR, SPINT, EXR) \quad ------------------3.4$$
$$YEA = f(BCP, LQR, SPINT, EXR) \quad ------------------3.5$$

The functional models: Equ.3.2 – 3.5 were transformed to log-linear form in a bid to eliminate the influence any outlier may have on regression output thus:

Model 1
$$LogROA_{it} = a_0 + a_1 LogBCP_{it} + a_2 LogLQR_{it} + a_3 LogSPINT_{it} + a_4 LogEXR_{it} + U_{it} \ ---3.6$$

Model 2

$$LogROE_{it} = a_0 + a_1 LogBCP_{it} + a_2 LogLQR_{it} + a_3 LogSPINT_{it} + a_4 LogEXR_{it} + U_{it} \quad --- 3.7$$

Model 3

$$LogPBT_{it} = a_0 + a_1 LogBCP_{it} + a_2 LogLQR_{it} + a_3 LogSPINT_{it} + a_4 LogEXR_{it} + U_{it} \quad --- 3.8$$

Model 4

$$LogYEA_{it} = a_0 + a_1 LogBCP_{it} + a_2 LogLQR_{it} + a_3 LogSPINT_{it} + a_4 LogEXR_{it} + U_{it} \quad --- 3.9$$

Where:

ROA is return on assets: Return on assets gives an idea as to how efficient management is at using its assets to generate earnings. Return on assets as applied in this research work was calculated by the Central Bank of Nigeria by dividing the deposit money banks annual earnings by their total assets. Alalade, Adekunle and Oguntodu (2016), Alajewku and Obialor (2014) and Adegbaju and Olokoyo (2008) have utilized this index of banking sector performance.

ROE is return on equity: Return on equity measure the profitability of the investment that has been made owners of their own capital or shareholders of the company. The higher the return on equity, the higher the level of profit generated due to additional working capital which can be used to finance the bank's operations that could ultimately result in profit. Alalade, Adekunle and Oguntodu (2016), Alajewku and Obialor (2014) and Okpanachi (2010) used this variable.

PBT is profit before tax: Profit before taxlooks at banks profits before they pay corporate income tax by deducting all expenses from revenue including interest expenses and operating expenses except for income tax. Kanu and Isu

(2013), Olawumi, Lateef and Oladeji (2017) and Okpanachi (2010) utilized this measurement of banking performance.

YEA is yield on earning assets: Yield on earning assets is financial solvency ratio that compares a bank's interest income to its earning assets. Yield on earning assets indicates how well assets are performing by looking at how much income they bring in. Faten (2013) and Brisimis et al (2008) acknowledge the relevance of yield on earning assets as a measure of performance in the banking industry.

BCP is bank capitalization: Bank capitalization in the context of this study refers to the difference between the banking industry total assets and liabilities and it represents the net worth of the bank or its value to investors. Capitalization is an important component of banking sector reform. Bank capitalization was seen in the works of Echekoba, Adigwe, Ananwude and Osigwe (2017), Faten (2013) and Okpanachi (2010).

LQR is liquidity ratio: Liquidity is the ability of banks to meet their obligation as at when due. Liquidity ratio is used to determine the capacity of the banks to offset their short term obligations when they fall due. The liquidity ratio of the Nigerian banking industry is pegged monthly is the monetary policy committee chaired by the Governor of the Central Bank of Nigeria. Liquidity ratio was used in the studies of Nwosu (2013) and Ilori and Ajiboye (2016).

SPINT is spread of interest rate: Interest rate is the rate at which the banking industry extends credit to the economy. A high interest rate implies high cost of capital, while a low interest rate suggests low cost of fund. Olajide,

Obafemi and Jegede (2011), Igbinosa, Ogbeide and Akanji (2017) applied this index.

EXR is exchange rate: Exchange rate is the value of Naira against other currency of the world. The exchange rate as applied in this study is the exchange rate of Naira against the United States Dollar. Olajide, Obafemi and Jegede (2011) and Adegbaju and Olokoyo (2008) adopted this index to measure banking industry performance.

a_0 is the constant coefficient in the regression models; a_1 to a_6 are the coefficient of the independent and control variables; U is the error/disturbance term, and it the time series trend.

3.6 Techniques of Data Analysis

In this study, various technique of analysis were employed to test time series properties of the data to ascertain the relationship of the set of variables from the data. First, by stationarity test where unit root test was checked on the variables and secondly, by co-integration test where Auto-regressive Distributive (ARDL) was used to examine if there exists long run relationship between set of variables. The models was estimated using the Ordinary Least Square (OLS) regression technique.

3.6.1 Unit Root Test

There are several reasons why the concept of non-stationarity is important. A stationary series have a zero mean and constant variance. One of the methods to test whether series is stationary or not is Augmented Dickey-Fuller (1979) test. Augmented Dickey Fuller test is very important in terms of measuring which degree stationary series have, but it does not consider an autocorrelation in the disturbance term. If disturbance term contains autocorrelation,

Augmented Dickey Fuller test is unreliable. In this situation, by adding lagged terms of dependent variables to explanatory variables, generalized Augmented Dickey Fuller is used as ascertained by Brooks (2002).

3.6.2   Co-Integration Test

The concept of co-integration is relevant to the problem of determination of long-run equilibrium relationship. Co-integration is the statistical implication of the existence of a long-run equilibrium relationship between variables. The study was conducted using Auto-regressive Distributive (ARDL). The condition for a long run co-integration vector is that the F-statistic of the ARDL test must be greater than upper and lower bound value at 5% level of significance.

3.6.3   Error Correction Model

Granger (1987), shows that if two variables are co-integrated, then they have an error correction representation. The error correction model (ECM) provides information about the long run, short run relationship as well as the speed of adjustment between the variables in incorporating to the estimated equation, the error correction term (ECT). The ECM enable the study to distinguish between the short and the long-run and its result will indicate the speed of adjustment back to long run equilibrium after a short run shock.

3.7   Econometric Statistics

The regression outputs estimated using OLS were interpreted using Adjusted R-Squared, F-Statistic and Durbin Watson test of autocorrelation. Astandard regression model should be interpreted based on these three statistic otherwise inference would not be considered robust and statistically reliable.

Adjusted R-Square (R^2): This is measures the variation in the dependent variables that was a result of changes in the independent variable (s). The

higher the adjusted R-square the greater the variation in dependent variable owing to joint influence of the explanatory variable (s).

F* Statistic: The F-statistic is used to assess if the changes in dependent variables attributed to explanatory variables was statistically explained or not. If the p-value of F- statistic is less than 0.05, then changes in the dependent variables owing to influence of independent variable (s) is significant and the reverse is the case if the F- statistic is greater than 0.05.

Durbin Watson Statistic: The Durbin-Watson test for autocorrelation in a regression model to ensure that variables are not serially correlated. The serial correlation LM test is suggested in addition to the Durbin Watson test of autocorrelation as serial correlation LM test is stronger in detecting autocorrelation in a model compared to Durbin Watson.

3.8   A Priori Expectation

The a priori expectation is the supposed relationship between the dependent and independent variables based on the postulation of the Finance – Growth Theory as well as the alleged influence of banking reforms on performance of the banking industry. The supposed signs of the banking reforms variables: bank capitalization, liquidity ratio, spread of interest and exchange rate are detailed in Table 1.

Table 1: A Priori Expectation on Pecking Order Postulation

Symbol	Variable	Substitution	Supposed Signs
BCP	Bank Capitalization	Banking Sector Reform	+
LQR	Liquidity Ratio	Banking Sector Reform	+
SPINT	Spread of Interest Rate	Banking Sector Reform	+ or -
EXR	Exchange Rate	Banking Sector Reform	- or +

Source: Researcher's Compilation based on Finance - Growth Theory Assumption

CHAPTER FOUR
DATA PRESENTATION AND ANALYSIS

4.1   Data Presentation

In this section, the data used in the regression analysis were presented on the basis of the time period covered by the study. The data were sourced from the Central Bank of Nigeria (CBN) banking supervision reports, statistical bulletin and Nigeria Deposit Insurance Corporation (NDIC) annual reports. Table 2 presents that data on return on assets, return on equity, profit before tax and yield on earning assets of Nigerian banking industry from 1990 to 2016. Table 3 summarizes that data for bank capitalization, liquidity ratio, spread of interest rate and equivalent data on exchange rate from 1990 to 2016.

Table 2: Return on Assets (ROA), Return on Equity (ROE), Profit Before Tax (PBT) and Yield on Earning Assets (YEA) of Nigerian Banking Industry from 1990 to 2016

Year	Return on Assets (%)	Return on Equity (%)	Profit Before Tax (₦'M)	Yield on Earning Assets (%)
1990	1.60	27.00	22,500.00	6.30
1991	2.00	36.50	42,550.00	5.60
1992	3.73	39.81	91,000.00	8.10
1993	2.73	36.60	76,000.00	5.42
1994	1.67	20.52	79,000.00	3.74
1995	2.12	22.35	86,000.00	10.17
1996	0.85	11.97	80,630.00	9.85
1997	0.61	18.60	179,020.00	8.35
1998	2.89	20.84	148,752.00	6.28
1999	2.60	28.00	24,520.00	7.30
2000	3.00	37.50	44,330.00	6.60
2001	4.73	55.81	96,00.00	9.10
2002	3.73	36.60	86,000.00	6.42
2003	2.67	25.52	74,000.00	4.74
2004	3.12	27.35	96,000.00	14.17
2005	1.85	12.97	81,630.00	9.85
2006	1.61	10.60	181,040.00	8.35
2007	3.89	23.84	379,750.00	6.28
2008	3.95	22.01	658,100.00	18.27
2009	-9.82	-60.07	-1,373,330.00	22.87
2010	4.09	57.65	607,340.00	11.24
2011	-0.04	-0.27	-6,710.00	10.24
2012	2.70	21.50	458,040.00	11.92
2013	2.32	18.97	484,780.00	19.14
2014	2.40	20.00	601,020.00	14.53
2015	2.30	18.10	630,000.00	14.70
2016	1.48	12.56	440,000.00	3.51

Source: Central Bank of Nigeria Banking Supervision Reports and Nigeria Deposit Insurance Corporation (NDIC) Annual Reports from 1990 to 2016

Table 3: Bank Capitalization (BCP), Liquidity Ratio (LQR), Spread of Interest Rate (SPINT) and Exchange Rate of Nigerian Banking Industry from 1990 to 2016

Year	Bank Capitalization (₦'M)	Liquidity Ratio (%)	Spread of Interest Rate (%)	Exchange Rate (Naira per USD)
1990	3,710.00	44.30	6.70	8.04
1991	4,300.00	38.60	5.72	9.91
1992	3,770.00	29.10	13.70	17.30
1993	4,420.00	42.20	1.66	22.05
1994	5,450.00	48.50	7.50	21.89
1995	6,530.00	33.10	7.57	21.89
1996	8,730.00	43.10	8.05	21.89
1997	17,670.00	40.20	8.75	21.89
1998	25,630.00	46.80	12.80	21.89
1999	31,450.00	61.00	15.99	92.6934
2000	44,210.00	64.10	12.69	102.1052
2001	75,170.00	52.90	12.80	111.9433
2002	101,280.00	52.50	20.70	120.9702
2003	122,740.00	50.90	16.60	129.3565
2004	142,320.00	50.50	14.99	133.5004
2005	172,320.00	50.20	14.12	132.1470
2006	170,490.00	55.70	14.12	128.6516
2007	152,950.00	48.80	13.39	125.8331
2008	210,940.00	44.30	12.30	118.5669
2009	219,510.00	30.70	16.31	148.8802
2010	249,710.00	30.40	15.38	150.2980
2011	220,210.00	42.00	14.61	153.8600
2012	188,390.00	49.70	15.09	157.5000
2013	209,620.00	63.20	14.55	157.3100
2014	231,440.00	38.30	13.17	158.5626
2015	232,550.00	39.58	13.35	193.2792
2016	461,490.00	41.25	13.12	304.2000

Source: Central Bank of Nigeria Supervision Reports and Statistical Bulletin of various issues as relevant

Return on Assets

The Nigerian banking industry return on assets was 1.6 in 1990, but rose by 36.43% by the end of 2010to settle at 4.09. From 2005 to 2008,return on assets witnessed marginal increase, from 1.85 in 2005 to 3.95 in 2008 before it declined to 9.82 in 2009 owing to the global financial crisis that affected the banking industry. From 2011 to 2016, as shown in Table 1, Fig. 1 and 2, return on assets of the Nigerian banking industry has been declining before settling at 1.48% at the end of 2016.
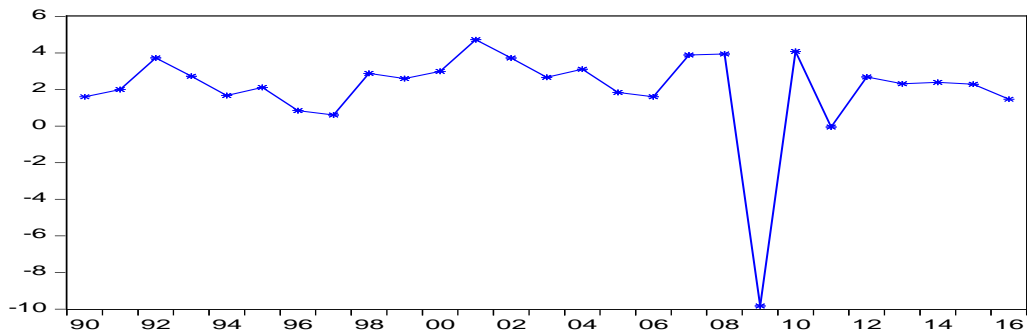
**Fig. 1: Return on Assets Graph Presentation from 1990 to 2016**
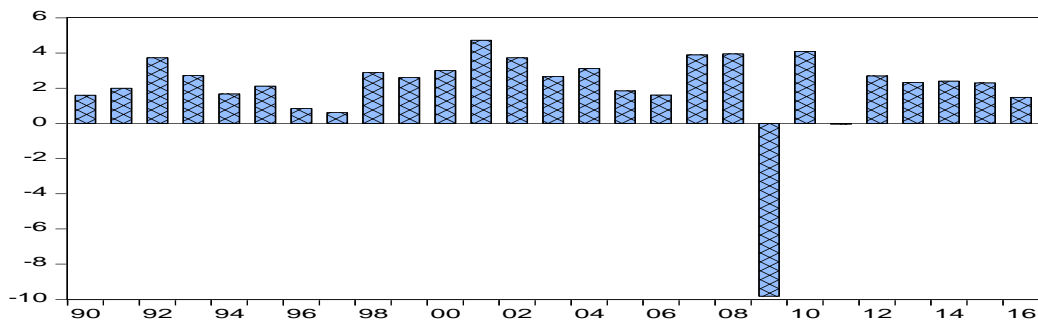
Fig.2: Return on Assets Bar Char Presentation 1990 to 2016

Return on Equity

The Nigerian banking industry shareholder wealth witnessed a lot of dynamics within the period studied. From 1990 to 2001, return on equity was strongly growing until it surged to 36.60% in 2002 from its previous value of 55.81% in 2001. Nigerian banking industry return on assets was significantly affected by the global crisis of 2007-2009 which saw the return on equity depreciated to -60.07% against 23.84% and 22.01% in 2007 and 2008 respectively. That notwithstanding, the Nigerian banking industry return on equity bounce back to 57.65% which is the highest value attained within the period studied. However, immediately went down to -0.27 in 2011 but appreciated marginally to 21.50 in 2012. This would not be sustained as it kept declining from 2013 through 2016. Table 1, Fig. 3 and 4 provide an insight to the trend in Nigerian banking industry return on equity from 1999 to 2016.

64
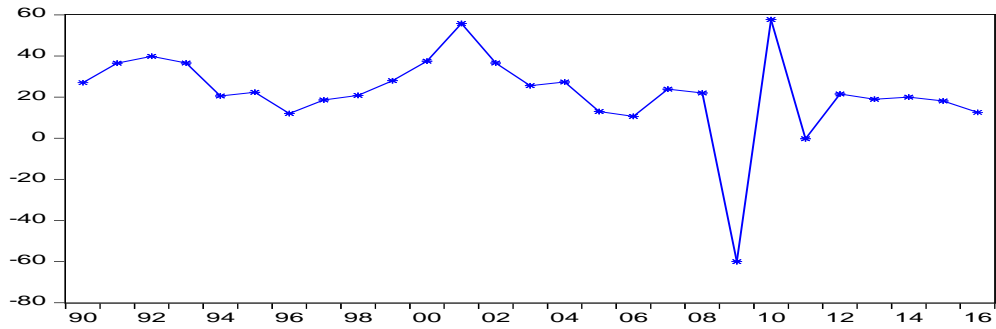
Fig. 3: Return on Equity Graph Presentation from 1990 to 2016
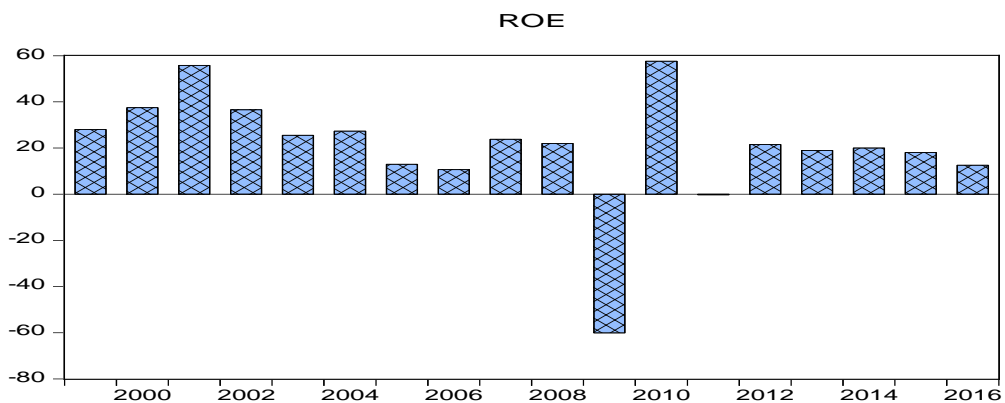
Fig.4: Return on Equity Bar Char Presentation 1990 to 2016

Profit before Tax

The Nigerian banking industry profit before tax was ₦22,520 million in 1990, but rose by over 500% at the end of 2015 to close at ₦1,680,000 million. Within the period studied, the Nigerian banking industry profit before tax has been consistently on the rise with the exception of 2009 due to global financial crisis and 2011. The profit before tax of the Nigerian banking industry has gradually witnessed marginal appreciation from 2012 to 2015 before depreciating by 43.18% to close at 440, 000 million in 2016 compared to 630, 000 million in 2015. Table 1, Fig. 5 and Fig. l reveal the movement in Nigerian banking industry profit before tax from 1990 to 2016.
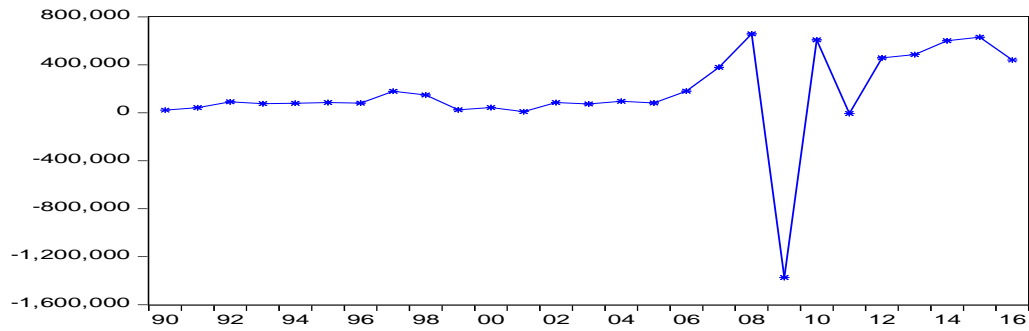
Fig.5: Profit Before TaxGraph Presentation 1990 to 2016
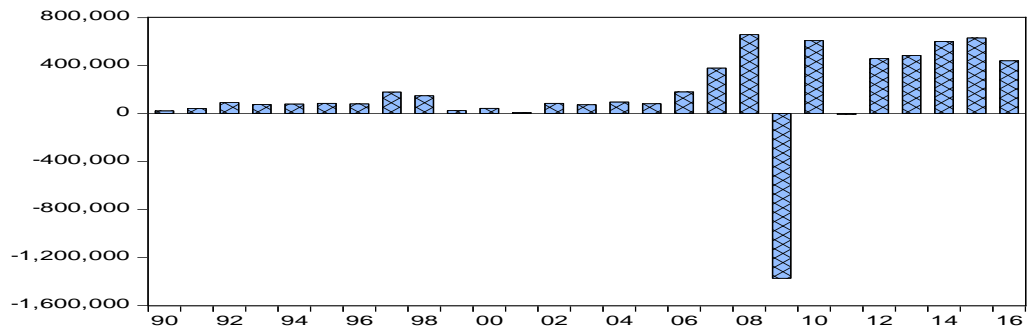
Fig.6: Profit Before Tax Bar Char Presentation 1990 to 2016

Yield on Earning Assets

In 1990, the yield on earning assets of the Nigerian banking sector was put at 6.30%, but rose to 11.24%as at 31st December, 2010. It declined to 10.24%in 2011 compared to 11.24% in 2010.It bounce back to 11.92% in 2012 and further rose to 19.14% in 2013. Yield on earning assets of the banking industry performed poorly in 2016 as it settled at just 3.51% as against 14.70% in 2015. Table 2, Fig. 7 and 8 illustrate the changes in yield on earning assets of the Nigerian banking industry within the period studied.
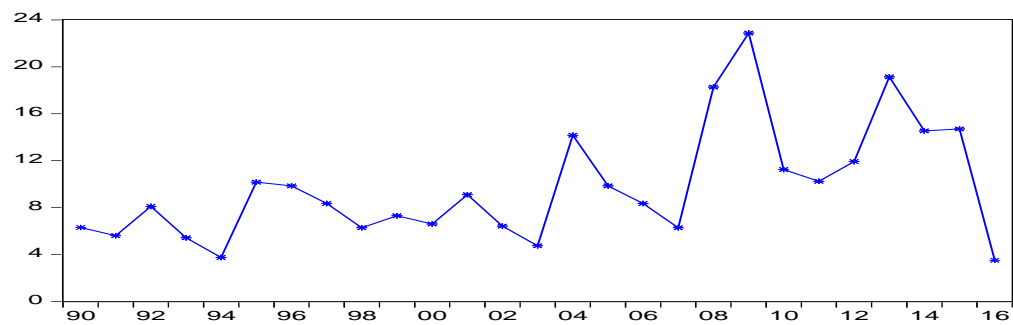
**Fig.7: Yield on Earning AssetsGraph Presentation 1990 to 2016**
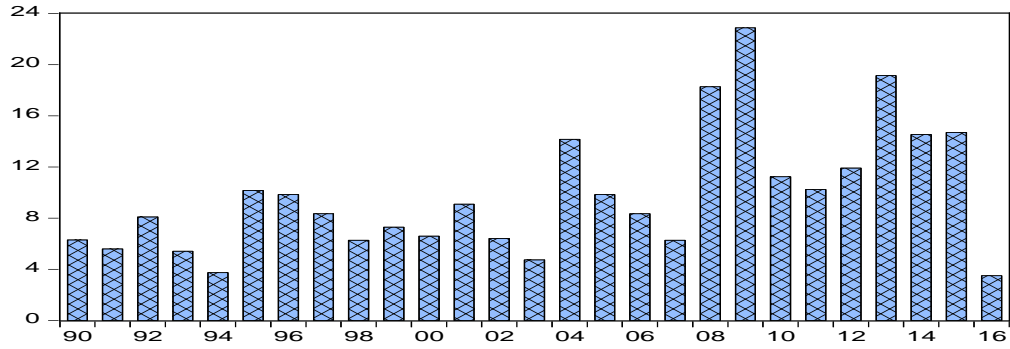
Fig.8: Yield on Earning Assets Bar Char Presentation 1990 to 2016

Bank Capitalization

The capitalization of the banking industry in 2008 was ₦210, 940 million a rise of 27.49% against ₦152, 950 million in 2007. In 2010, the capitalization of the banking industry appreciated to ₦249, 710 million. As can be seen in Table 3, Fig. 9 and 10, from 1990 and 2016, capitalization of the banking industry in Nigeria witnessed little volatility. In 2016, capitalization of the banking industry increase by 49.61% to reach ₦461, 490 million from it 2015value of ₦232, 550 million.
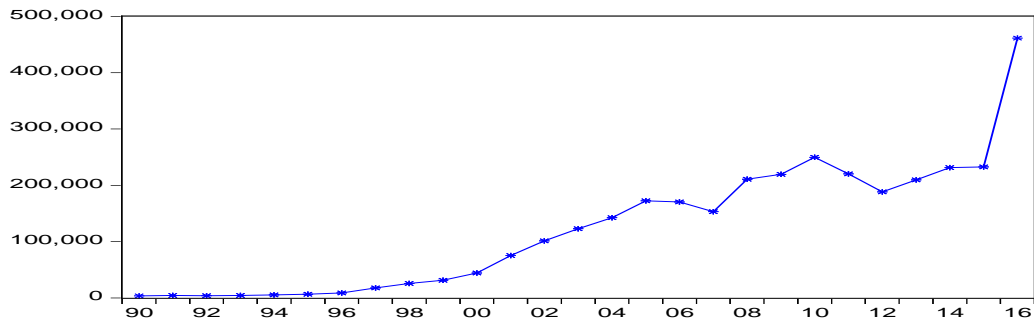
Fig.9: Bank CapitalizationGraph Presentation 1990 to 2016
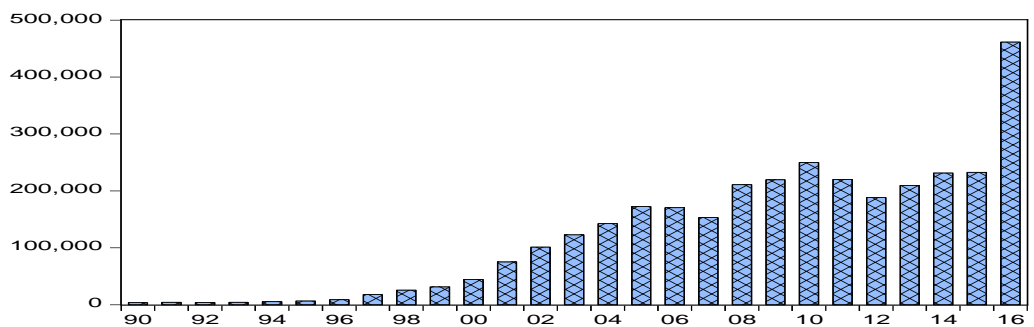
Fig.10: Bank CapitalizationBar Chart Presentation 1990 to 2016

Liquidity Ratio

As can be seen in Table 3 and Fig. 11 and 12, from 1990 to 2016, there has fluctuation in the liquidity ratio. The liquidity ratio was 51.0% in 1999 but marginally depreciated to 41.25% in 2016.1999 to 2004reveals a steady decline in liquidity ratio from 61.0% in 1999 to 50.50% in 2004.
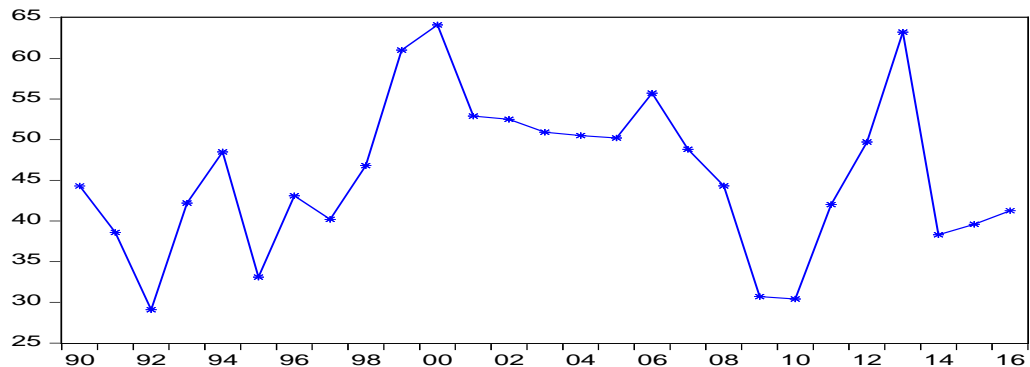
**Fig.11: Liquidity RatioGraph Presentation 1990 to 2016**
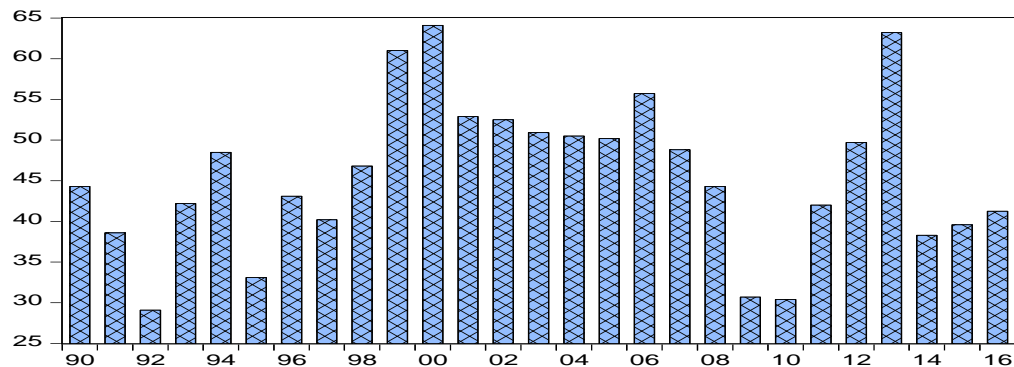
Fig.12: Liquidity RatioBar Chart Presentation 1990 to 2016

Spread of Interest Rate

Spread of interest rate in Nigeria from 1990 to 2016 has witnessed some fluctuations. From the figures in Table 3, Fig. 13 and14, spread of interest rate declined from 15.59 in 1990 to 16.87 in 2016, a depreciation of about 7.59%. Interest rate at the end of the year 2016 reached 13.12, a decline of 1.75% against 13.35 in 2015.
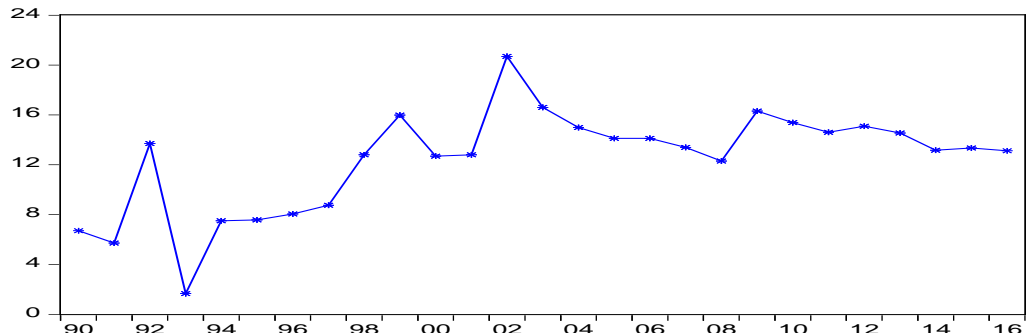
**Fig.13: Spread of Interest Interest Graph Presentation 1990 to 2016**
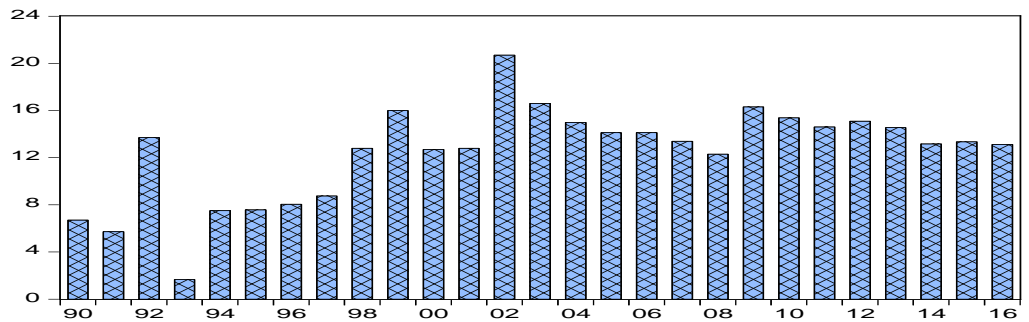
Fig.14: Spread of Interest InterestBar Chart Presentation 1990 to 2016

Exchange Rate

Table3, Fig. 15 and Fig. 16 show that from 1990 to 2016, the exchange rate of Nigerian Naira against the US Dollar has greatly depreciated in value, from 8.04 per US Dollar in 1990to 304.2000 per US dollar as at 2016 which resulted in serious exchange rate challenges in the country amidst recession. The exchange rate at the end of the year 2016 further declined to 304.2000 against 193.2792 against one US Dollar in 2015.
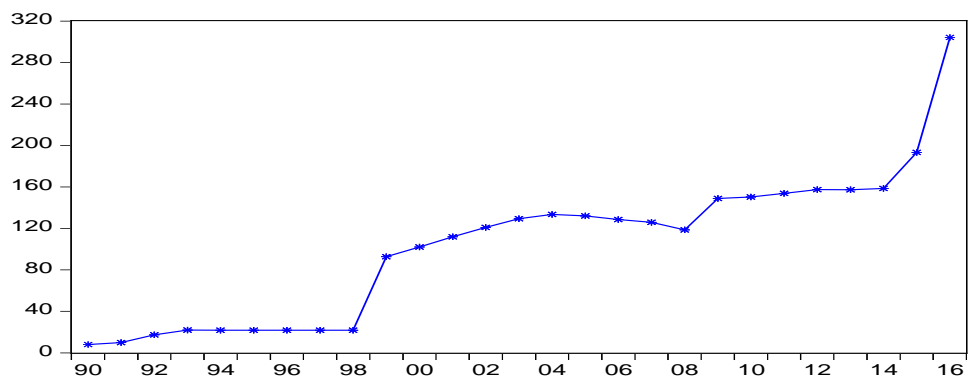
Fig.15: Exchange RateGraph Presentation 1990 to 2016
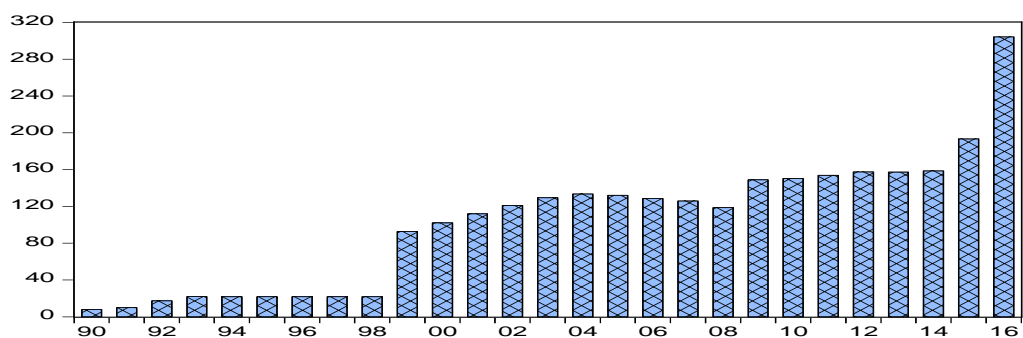
Fig.16: Exchange RateBar Chart Presentation 1990 to 2016

4.2   Descriptive Properties of the Data

The descriptive properties of the data through the mean, median, maximum, minimum, standard deviation, skewness, kurtosis, Jarque-Bera, p-value and number of observation are summarized in Table 4. The mean of the data are 2.028889 for ROA, 22.32704for ROE, 158576.4 for PBT, 9.742222 for YEA, 122851.9 for BCP, 45.62704 for LQR, 12.43444 for SPINT and 103.2003 for EXR. The median was divulged to be 2.400000, 22.01000, 86000.00, 8.350000, 122740.0, 122740.0, 44.30000, 13.35000, and 120.9702 for ROA, ROE, PBT, YEA, BCP, LQR, SPINT and EXR respectively. The maximum and minimum values are 4.730000 and -9.820000 for ROA, 57.65000 and -60.07000 for ROE, 658100.0 and -1373330 for PBT, 22.87000 and 3.510000 for YEA, 461490.0 and 3710.000 for BCP, 64.10000 and 29.10000 for LQR, 20.70000 and 1.660000 for SPINT and 304.2000 and 8.040000 for EXR.

Table 4: Descriptive Properties of the Data

	Mean	Median	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	P-value	Obs
ROA	2.028889	2.400000	4.730000	-9.820000	2.618326	-3.540233	16.87112	272.8587	0.000000	27
ROE	22.32704	22.01000	57.65000	-60.07000	20.92760	-2.035750	10.30490	78.68097	0.000000	27
PBT	158576.4	86000.00	658100.0	-1373330	377476.6	-2.268905	11.26892	100.0876	0.000000	27
YEA	9.742222	8.350000	22.87000	3.510000	4.856956	1.058217	3.524376	50.34542	0.068950	27
BCP	122851.9	122740.0	461490.0	3710.000	113270.8	0.872373	3.805087	40.15386	0.005315	27
LQR	45.62704	44.30000	64.10000	29.10000	9.414664	0.137491	4.522136	10.34165	0.002836	27
SPINT	12.43444	13.35000	20.70000	1.660000	4.067054	-0.743811	3.486330	20.75572	0.000000	27
EXR	103.2003	120.9702	304.2000	8.040000	71.64210	0.452640	3.362184	14.34854	0.000000	27

The standard deviation of the data are 2.618326, 20.92760, 377476.6, 4.856956, 113270.8, 9.414664, 9.414664, 4.067054and 71.64210 for ROA,

ROE, PBT, YEA, BCP, LQR, SPINT and EXR respectively. ROA, ROE, PBT and SPINT were not positively skewed towards normality, while the rest of the variables were skewed towards normality positively. The Kurtosis been greater than three (3) is an affirmation of the leptokurtic in nature of the data. From the p-value of the Jarque-Bera coefficient, all the data are normally distributed thus free from any outlier that might affect the result of the regression analysis.

4.3   Unit Root Test

The data were subjected to unit root test to ensure that they are not encumbered by any stationarity challenges. Consequently, Augmented Dickey-Fuller (ADF), Phillips Perron (PP) and Kwiatkowski-Phillips-Schmidt-Shin (KPSS)stationarity test were conducted. At level and first difference, and in three sets: none, intercept and trend, and intercept ADF and PP were checked, while KPSS that was performed at intercept and trend, and intercept. Tables 5 and 6 present the ADF results, Tables 7 and 8 PP results, while KPSS unit root output were condensed in Tables 9 and 10. The unit root test results unveil that the data were not stationary when estimated at their level form but became stationary at first difference, suggesting that the variables are free from stationarity defect that are characterized by most time series data. The exception to this was the KPSS test evidences the data to be stationary at level form. Furthermore, the affirmation of the stationarity of the data is confirmation of the reliability of the regression result, hence inference made from regression output would be assumed to be reliable in statistical/econometric sense.

Table 5: Result of ADF Test at Level

Variables	Intercept	Trend & Intercept	None	Remark
ROA	-5.923654 (0.00)*	-5.123654 (0.00)*	-3.569789 (0.00)*	Stationary
ROE	-6.998652 (0.00)*	-5.789654 (0.00)*	-1.610456 (0.09)	Stationary
PBT	-7.896534 (0.00)*	-5.456321 (0.00)*	-4.123123 (0.09)	Stationary
YEA	-3.123546 (0.09)	-2.789654 (0.27)	0.322741 (0.76)	Not Stationary
BCP	1.456231 (0.96)	-1.789412 (0.66)	1.778963 (0.97)	Not Stationary
LDR	-6.998652 (0.00)*	-5.789654 (0.00)*	-1.610456 (0.09)	Stationary
SPINT	-2.741258 (0.02)**	-3.258741 (0.07)	-0.203965 (0.60)	Stationary
EXR	0.789654 (0.99)	0.963741 (0.99)	2.784214 (0.99)	Not Stationary

Source: Data output via E-views 9.0
Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where (*) & (**) denote significance at 1% and 5% respectively.

Table 6: Result of ADF Test at First Difference

Variables	Intercept	Trend & Intercept	None	Remark
ROA	-7.803978 (0.00)*	-4.710814 (0.01)*	-8.074678 (0.00)*	Stationary
ROE	-5.698596 (0.00)*	-4.166325 (0.02)**	-5.812579 (0.00)*	Stationary
PBT	-8.638174 (0.00)*	-8.340236 (0.00)*	-8.895598 (0.00)*	Stationary
YEA	-4.528685 (0.00)*	-4.487641 (0.02)**	-4.615997 (0.00)*	Stationary
BCP	-3.991041 (0.04)**	-5.603652 (0.00)*	-3.240656 (0.03)**	Stationary
LQR	-4.275152 (0.00)*	-4.079963 (0.03)**	-4.311589 (0.00)*	Stationary
SPINT	-5.175413 (0.00)*	-5.050769 (0.00)*	-5.365489 (0.00)*	Stationary
EXR	-4.838636 (0.04)**	-5.114489 (0.04)**	-3.343319 (0.04)**	Stationary

Source: Data output via E-views 9.0
Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where (*) & (**) denote significance at 1% and 5% respectively.

Table 7: Result of PP Test at Level

Variables	Intercept	Trend & Intercept	None	Remark
ROA	-4.932231 (0.00)*	-5.079104 (0.00)*	-3.516889 (0.00)*	Stationary
ROE	-4.925473 (0.00)*	-5.543826 (0.00)*	-3.714338 (0.00)*	Stationary
PBT	-4.885959 (0.00)*	-5.627469 (0.00)*	-4.139207 (0.00)*	Stationary
YEA	-2.461110 (0.13)	-2.114476 (0.47)	-0.984658 (0.29)	Not Stationary
BCP	0.253643 (0.96)	-1.775843 (0.66)	1.778424 (0.97)	Not Stationary
LQR	-2.291209 (0.18)	-2.911261 (0.27)	-1.015357 (0.26)	Not Stationary
SPINT	-3.392443 (0.02)**	-4.257087 (0.01)*	-0.763402 (0.36)	Stationary
EXR	1.783328 (0.99)	0.576712 (0.99)	2.632051 (0.99)	Not Stationary

Source: Output Data via E-views 9.0
Note: Spectral estimation methods are Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where (*) &(**) denotes significance at 1% and 5% respectively.

Table 8: Result of PPTest at First Difference

Variables	Intercept	Trend & Intercept	None	Remark
ROA	-4.932239 (0.00)*	-5.075504 (0.00)*	-3.586899 (0.00)*	Stationary
ROE	-4.625472 (0.00)*	-5.542526 (0.00)*	-3.117538 (0.00)*	Stationary
PBT	-24.34562 (0.00)*	-25.89601 (0.00)*	-18.04197 (0.00)*	Stationary
YEA	-4.219115 (0.00)*	-6.075659 (0.00)*	-4.874725 (0.00)*	Stationary
BCP	-3.591034 (0.04)**	-4.609612 (0.04)**	-4.232652 (0.01)*	Stationary
LQR	-4.297317 (0.00)*	-4.110002 (0.02)**	-4.380401 (0.00)*	Stationary
SPINT	-8.481997 (0.00)*	-9.121900 (0.00)*	-8.598166 (0.00)*	Stationary
EXR	-4.138691 (0.04)**	-5.118177 (0.03)**	-3.343735 (0.04)**	Stationary

Source: Output Data via E-views 9.0
Note: Spectral estimation methods are Bartlett kernel and Newey-West method for Bandwidth, p-values are in parentheses where (*) &(**) denotes significance at 1% and 5% respectively.

Table 9: Result of KPSS Test at Level

Variables	Intercept	Trend & Intercept	Remark
ROA	0.197805 (0.01)*	0.094764 (0.04)**	Stationary
ROE	0.339818 (0.00)*	0.189208 (0.00)*	Stationary
PBT	0.327496 (0.05)**	0.500799 (0.03)**	Stationary
YEA	0.398914 (0.00)*	0.406841 (0.00)*	Stationary
BCP	0.677134 (0.00)*	0.504377 (0.00)*	Stationary
LQR	0.383145 (0.00)*	0.116087 (0.01)*	Stationary
SPINT	0.227836 (0.00)*	0.272418 (0.00)*	Stationary
EXR	0.650970 (0.00)*	0.138960 (0.00)*	Stationary

Source: Data output via E-views 9.0
Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where (*) & (**) denote significance at 1% and 5% respectively.

Table 10: Result of KPSS Test at First Difference

Variables	Intercept	Trend & Intercept	Remark
ROA	0.500400 (0.95)	0.500470 (0.97)	Not Stationary
ROE	0.324779 (0.92)	0.347479 (0.96)	Not Stationary
PBT	0.147684 (0.89)	0.134731 (0.96)	Not Stationary
YEA	0.383005 (0.88)	0.506500 (0.44)	Not Stationary
BCP	0.186047 (0.08)	0.125287 (0.31)	Not Stationary
LQR	0.108252 (0.61)	0.040387 (0.78)	Not Stationary
SPINT	0.314949 (0.79)	0.315754 (0.92)	Not Stationary
EXR	0.2856717 (0.03)**	0.178919 (0.11)	Stationary

Source: Data output via E-views 9.0
Note: The optimal lag for ADF test is selected based on the Akaike Info Criteria (AIC), p-values are in parentheses where (*) & (**) denote significance at 1% and 5% respectively.

4.4 Diagnostics Test

Serial Correlation LM Test

To circumvent the issue of variables been serially correlated, the serial correlation LM test was checked for all the model. The presence of autocorrelation in a model distort the statistical reliability of the regression estimates. The result in Table 11 shows that the variables in models are not serially correlated as the p-values of the f-statistic for all the models are insignificant at 5% level of significance.

Table 11: Serial Correlation LM Test

Estimates	F-statistic	P-value
Equ. 3.6	3.364388	0.0550
Equ. 3.7	2.909539	0.0778
Equ. 3.8	1.714875	0.2054
Equ. 3.9	1.254652	0.3067

Source: Data output via E-views 9.0

Heteroskedasticity Test

In a situation where variability of variable is not equal across range of values of a second variable that predicts it leading to spurious regression result, then

heteroskedasticity is said to exist. To avoid the occurrence this problem, the models were subjected to Harvey heteroskedasticity. As depicted in Table 12, the p-values for the models are insignificant at 5% level of significance thus no heteroskedasticity issue in the models.

Table 12: Harvey Heteroskedasticity test

Estimates	F-statistic	P-value
Equ. 3.6	0.424895	005207
Equ. 3.7	3.877231	0.0606
Equ. 3.8	0.162725	0.6902
Equ. 3.9	0.330722	0.5706

Source: Data output via E-views 9.0

Ramsey RESET Test

In order to ascertain whether or not there is some significant non-linear relationship between the variables incorporated in the models, the Ramsey Reset specification test was performed. The result as reveal in Table 13 discloses that the models were well-specified owing to the insignificant p-vales (5% level of significance) for all the f-statics.

Table 13: Ramsey Reset Specification

Estimates	t-statistic	df	P-value
Equ. 3.6	1.125222	21	0.2732
Equ. 3.7	0.766437	21	0.4519
Equ. 3.8	0.333381	21	0.7422
Equ. 3.9	0.008369	21	0.9934

Source: Data output via E-views 9.0

Multicollinearity Test

The notion that the existence of multi-collinearity between the independent variables in any regression model is a dent to the possible outcome necessitated the correlation matrix in Table 14. From the correlation matrix analysis, the three major variables through which the influence of banking reform is felt: bank capitalization and liquidity ratio were found not to be highly correlated. The correlation between bank capitalization and liquidity ratio is -0.08, while for interest rate spread and exchange rate is 0.62 which is not that high considering the fact that there from different sectors of the

economy. This is an evidence that there is no problem of multi-collinearity between the reforms variables.

Table 14: Correlation Matrix

	ROA	ROE	PBT	YEA	BCP	LQR	SPINT	EXR
ROA	1.000000	0.913123	0.792175	-0.440431	-0.156629	0.317865	-0.033295	-0.083302
ROE	0.913123	1.000000	0.615777	-0.494384	-0.302706	0.192731	-0.147265	-0.225598
PBT	0.792175	0.615777	1.000000	-0.138813	0.256958	0.138749	-0.019725	0.227851
YEA	-0.440431	-0.494384	-0.138813	1.000000	0.377412	-0.161340	0.302719	0.311079
BCP	-0.156629	-0.302706	0.256958	0.377412	1.000000	-0.080100	0.502710	0.948040
LQR	0.317865	0.192731	0.138749	-0.161340	-0.080100	1.000000	0.254838	0.131427
SPINT	-0.033295	-0.147265	-0.019725	0.302719	0.502710	0.254838	1.000000	0.622590
EXR	-0.083302	-0.225598	0.227851	0.311079	0.948040	0.131427	0.622590	1.000000

Source: Data output via E-views 9.0

4.5   Bound Test/Co-integration Relationship

The stationarity test result shows that the data are integrated at different order, hence the need for the application of the Autoregressive Distributive Lag (ARDL) is assessment of the long run relationship between banking sector reform and performance of the Nigerian banking industry. The idea behind the use of the ARDL is on the notion that it is specifically design to take care of variables that are integrated at different order, that is, $1(0)$ or $1(1)$. The result of the bound tests for the banking sector reforms - performance nexus is presented in Tables 15 – 18. From the result in bound test, it was observe that Nigeria's banking industry performance via return on assets (Table 15) and return on equity (Table 16) that is co-integrated/have long run relationship with banking sector reforms, while profit before tax (Table 17) and yield on earnings assets (Table 18) were not co-integrated with banking sector reforms. This inference is made on the premises that the f-statistic of 9.05 for return on assets and 4.12 for return on equity are higher the upper and lower bound values of 3.34 and 4.72 respectively at 5% level of significance, while 1.74 for profit before tax and 1.78 for yield on earning assets are less than the upper bound value of 3.34 and lower bound value of 4.72. This is indication that

return on assets and return on equity of the banking industry is dependent on the reforms in the banking sector in the long run.

Table 15: Bound Test for Return on Assets and Banking Sector Reforms

T-Test	5% Critical Value Bound		Remark
F-Statistic	**Lower Bound**	**Upper Bound**	
9.055784	3.34	4.72	Null Hypothesis Rejected

Source: Data output via E-views 9.0

Table 16: Bound Test for Return on Equity and Banking Sector Reforms

T-Test	5% Critical Value Bound		Remark
F-Statistic	**Lower Bound**	**Upper Bound**	
4.123424	3.34	4.72	Null Hypothesis Rejected

Source: Data output via E-views 9.0

Table 17: Bound Test for Profit before Tax and Banking Sector Reforms

T-Test	5% Critical Value Bound		Remark
F-Statistic	**Lower Bound**	**Upper Bound**	
1.74896	3.34	4.72	Null Hypothesis Accepted

Source: Data output via E-views 9.0

Table 18: Bound Test for Yield on Earning Assets and Banking Sector Reforms

T-Test	5% Critical Value Bound		Remark
F-Statistic	**Lower Bound**	**Upper Bound**	
1.785003	3.34	4.72	Null Hypothesis Accepted

Source: Data output via E-views 9.0

4.6   ARDL Error Correction Model Result

With the revelation in Tables, 15 and 16 that Nigeria's banking industry performance indices through return on assets and return on equity have long run relationship with banking sector reforms, the evaluation of the speed of adjustment is deemed necessary. The ARDL error correction output are detailed in Tables 19 and 20. From the result in Table 19 on return on assets and banking sector reforms estimation, the ECM showed the supposed negative sign, which is an indication that the model would shift to equilibrium following disequilibrium in previous years. The coefficient of the ECM discloses that more than 100% of error generated in previous year is corrected in present year, and this is statistically significant at 5% level of significance. On the speed of adjustment for return on equity and banking sector model,

Table 20 showcases that the ECM also showed the supposed negative sign which is significant at 5% significance level. With this result, it would deduced that return on equity and banking sector remodel model adjust to equilibrium due to disequilibrium in past periods. The coefficient of the ECM provided further detail that more than 200% of error generated in past period is addressed in current year.

Table 19: ARDL Error Correction ROA→BCP, LQR, CRR, LOA, SPINT and EXR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Short Run Co-integrating Form				
D(BCP)	0.000061	0.000027	2.236266	0.0522
D(LQR)	0.136408	0.085690	1.591880	0.1459
D(SPINT)	0.022371	0.338411	0.066107	0.9487
D(EXR)	-0.206669	0.084230	-2.453612	0.0365
CointEq(-1)	-1.680481	0.204602	-8.213424	0.0000
Long Run Coefficient				
BCP	0.000036	0.000016	2.264778	0.0498
LQR	0.081172	0.049690	1.633580	0.1368
SPINT	0.013312	0.201105	0.066197	0.9487
EXR	-0.122982	0.048595	-2.530772	0.0322
C	6.096296	4.988590	1.222048	0.2527

Source: Data output via E-views 9.0

Table 20: ARDL Error Correction ROE→BCP, LQR, CRR, LOA, SPINT and EXR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Short Run Co-integrating Form				
D(ROE(-1))	0.430654	0.247445	1.740403	0.1253
D(BCP)	0.000339	0.000226	1.503243	0.1765
D(LQR)	0.545785	0.699112	0.780683	0.4606
D(SPINT)	2.199117	3.052410	0.720453	0.4946
D(EXR)	-1.339554	0.687819	-1.947540	0.0925
CointEq(-1)	-2.496055	0.470159	-5.308954	0.0011
Long Run Coefficient				
BCP	0.000136	0.000091	1.492498	0.1792
LQR	0.218659	0.278556	0.784973	0.4582
SPINT	0.881037	1.173302	0.750904	0.4772
EXR	-0.536669	0.274166	-1.957460	0.0912
C	37.509258	27.747363	1.351813	0.2185

Source: Data output via E-views 9.0

4.7 Short Run Relationship

This study applied the Ordinary Least Squares (OLS) in estimating and determining the nature of short run relationship with measurement of banking industry performance and banking sector reforms in Nigeria. The result of the regression output were interpreted using the Adjusted R-square, f-statistic, Durbin Watson and the coefficients of the individual variable.

Return on Assets and Banking Sector Reforms

Table 21 reveals that there is a significant positive relationship between bank capitalization and return on assets; insignificant positive relationship between liquidity ratio, spread of interest rate and return on assets; while a significant negative relationship between exchange rate and return on assets of the banking industry in Nigeria. When the measurements of banking sector reforms through bank capitalization, liquidity ratio, spread of interest rate and exchange rate are kept constant, return on assets of the banking industry would amount to 10.24%. A unit rise in bank capitalization significantly increase return on assets by 6.09%. A percentage increase in liquidity ratio and spread of interest rate insignificantly rise return on assets by 0.13% and 0.02% accordingly. Return on assets will significantly decline by 0.20% following a unit volatility in exchange rate.

Table 21: OLS Regression: ROA→BCP, LQR, CRR, LOA, SPINT and EXR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	**10.24471**	8.294832	1.235072	**0.2481**
BCP	6.09E-05	2.72E-05	3.236266	0.0422
LQR	0.136408	0.085690	1.591880	0.1459
SPINT	0.022371	0.338411	0.066107	0.9487
EXR	**-0.206669**	0.084230	-2.453612	**0.0365**
R-squared	**0.722396**	Mean dependent var		**1.998824**
Adjusted R-squared	0.506481	S.D. dependent var		3.260111
S.E. of regression	**2.290257**	Akaike info criterion		**4.800393**
Sum squared resid	47.20749	Schwarz criterion		5.192493
Log likelihood	**-32.80334**	Hannan-Quinn criter.		**4.839368**
F-statistic	3.345749	Durbin-Watson stat		1.933364
Prob (F-statistic)	**0.047874**			

Source: Data output via E-views 9.0

The adjusted R-square reveals that 50.54% changes in return on assets of the Nigerian banking industry was as a result of fluctuations in bank capitalization, liquidity ratio, spread of interest rate and exchange rate. This is statistically significant with respect to the p-value (0.04) and f-statistic (3.34). The Durbin Watson coefficient of 1.93 unveils no autocorrelation in the model estimated.

Return on Equity and Banking Sector Reforms

The revelation from the output in Table 22 is that there is an insignificant positive relationship between bank capitalization, liquidity ratio, spread of interest rate and return on equity of the banking industry; while a negative but insignificant relationship between exchange rate and return on equity. Keeping bank capitalization, liquidity ratio, spread of interest rate and exchange rate constant, Nigeria's banking industry shareholder wealth would be 91.06%. A unit increase in bank capitalization, liquidity ratio and spread of interest rate improve return on equity by magnitude of 0.0003%, 0.43% and 1.06% respectively. Return on equity would decline by 1.27% owing to a percentage increase in exchange rate.

Table 22: OLS Regression: ROE→BCP, LQR, CRR, LOA, SPINT and EXR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	91.05673	71.51279	1.273293	0.2348
BCP	0.000348	0.000235	1.479858	0.1730
LQR	0.430147	0.728366	0.590563	0.5693
SPINT	1.061636	2.978990	0.356375	0.7298
EXR	-1.269017	0.728113	-1.742885	0.1153
R-squared	0.662900	Mean dependent var		20.03765
Adjusted R-squared	0.400711	S.D. dependent var		25.50377
S.E. of regression	19.74342	Akaike info criterion		9.108705
Sum squared resid	3508.224	Schwarz criterion		9.500806
Log likelihood	-69.42400	Hannan-Quinn criter.		9.147681
F-statistic	2.528331	Durbin-Watson stat		2.022426
Prob (F-statistic)	0.097862			

Source: Data output via E-views 9.0

The result in Table 22 depicts the coefficient of the adjusted R-square as 0.4007. This is an insinuation that 40.07% changes in return on equity of Nigerian banking industry was as a result of joint variation in bank capitalization, liquidity ratio, spread of interest rate and exchange rate. From the p-value (0.09) and f-statistic (2.53), indices of banking sector reforms did not significantly explain the changes in the banking industry shareholders' wealth within the period studied. The Durbin Watson dispel no autocorrelation in the estimated output thus variables in the model were not serially correlated.

Profit Before Tax and Banking Sector Reforms

As shown in Table 23, bank capitalization and liquidity ratio associated insignificantly and also positively with profit before tax. Spread of interest rate and exchange were insignificant and negatively linked with profit before tax. Profit before tax would amount to ₦852, 377.4 million if bank capitalization, liquidity ratio, spread of interest rate and exchange rate are held constant. Profit before tax would swell by ₦7.46 million and₦22, 244.15 million respectively in a situation where bank capitalization and liquidity ratio rise by a unit. However, the reverse would be the case through depreciation by ₦20, 569.12 million and ₦26, 317.65 million if spread of interest rate and exchange rate increase by a percentage.

Table 23: OLS Regression: PBT→BCP, LQR, CRR, LOA, SPINT and EXR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	852377.4	1208077.	0.705565	0.4983
BCP	7.461922	3.893410	1.916552	0.0875
LQR	22244.15	12408.82	1.792609	0.1066
SPINT	-20569.12	48481.73	-0.424265	0.6813
EXR	-26317.65	11910.06	-2.209699	0.0545
R-squared	0.722037	Mean dependent var		203034.7
Adjusted R-squared	0.505844	S.D. dependent var		473786.4
S.E. of regression	333053.9	Akaike info criterion		28.57518
Sum squared resid	9.98E+11	Schwarz criterion		28.96728
Log likelihood	-234.8891	Hannan-Quinn criter.		28.61416
F-statistic	3.339780	Durbin-Watson stat		1.658310
Prob (F-statistic)	0.048108			

Source: Data output via E-views 9.0

In terms of the adjusted R-squared, banking sector reforms explained 50.58% changes in profit before tax of the banking industry which is statistically significant as evidenced by the p-value (0.04). No issue of autocorrelation in the model as Durbin Watson coefficient of 1.65 is within the acceptable range.

Yield on Earning Assets and Banking Sector Reforms

The result of the nexus between yield on earnings assets and banking sector reforms is quite different compared to return on assets, return on equity and profit before tax. The relative statistics in Table 24 shows that bank

capitalization, liquidity ratio and exchange rate have negative insignificant relationship with yield on earning assets, while spread of interest rate (insignificant) positive relationship with yield on earning assets. Assuming bank capitalization, liquidity ratio, spread of interest rate and exchange rate are kept constant, 20.85% would be the magnitude of improvement in yield on earning assets of the banking industry. Yield on earning assets would appreciate by 0.29% only if spread of interest rate increase a unit, while a corresponding reduction by 2.80%, 0.03% and 0.10% if bank capitalization, liquidity ratio and exchange rate improve by a percentage.

Table 24: OLS Regression: YEA→BCP, LQR, CRR, LOA, SPINT and EXR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	20.84659	18.58808	1.121503	0.2911
BCP	-2.80E-05	5.68E-05	-0.493082	0.6338
LQR	-0.030578	0.199295	-0.153430	0.8814
SPINT	0.296807	0.716007	0.414530	0.6882
EXR	-0.101659	0.173196	-0.586960	0.5717
R-squared	0.543531	Mean dependent var		11.29000
Adjusted R-squared	0.188499	S.D. dependent var		5.397445
S.E. of regression	4.862199	Akaike info criterion		6.306046
Sum squared resid	212.7688	Schwarz criterion		6.698147
Log likelihood	-45.60139	Hannan-Quinn criter.		6.345022
F-statistic	1.530936	Durbin-Watson stat		2.021105
Prob (F-statistic)	0.270189			

Source: Data output via E-views 9.0

That notwithstanding, the reform variables of the banking sector did not significantly explained the variation in yield on earning assets as revealed by the insignificant p-value (0.27) and f-statistic (1.53). Only 18.85% variation in yield on earning assets was attributed to the joint influence of bank capitalization, liquidity ratio, spread of interest rate and exchange rate. Any issue of autocorrelation was clearly absolved by the Durbin Watson coefficient of 2.0.

4.8   Variance Decomposition

Having measured banking reforms using the variables: bank capitalization, liquidity ratio, cash reserve ratio, loans and advances, spread of interest rate

and exchange rate, it is ideal to determine which of this variable exerts greater influence on banking industry performance indices. To realize this necessitated the application of the variance decomposition analysis and the results presented in Tables 25, 26, 27 and 28. The result in Table 25 unveils that bank capitalization exerted greater influence on return on assets followed by exchange rate and liquidity ratio, while spread in interest rate was least in influencing the variation return on assets.

Table 25: Variance Decomposition of ROA

Period	S.E.	ROA	BCP	LQR	SPINT	EXR
1	27.95273	1.627037	48.79153	10.41394	4.239210	34.92828
2	66.41314	5.383056	61.91302	4.455014	1.692490	26.55642
3	117.9138	8.602670	56.55993	1.803727	0.601020	32.43265
4	192.5504	10.41662	53.19335	0.740556	0.880938	34.76854
5	298.7878	11.71022	50.77780	0.313606	1.401579	35.79679
6	448.8057	12.46787	49.12430	0.139900	1.907969	36.35995
7	662.5954	12.82354	48.36617	0.070054	2.280335	36.45990
8	970.6966	12.98852	48.04601	0.042749	2.524469	36.39825
9	1417.782	13.05837	47.90939	0.032920	2.670242	36.32907
10	2069.287	13.07891	47.87912	0.029615	2.750846	36.26151

Source: Data output via E-views 9.0

Changes in return on assets was more explained by the variations in return on assets itself. With regard to return on equity, Table 26 reveals that bank capitalization had greater effect on return on equity followed by exchange rate, spread of interest rate and in the last place is liquidity ratio. However, variation in return on equity was attributed changes in return on equity itself.

Table 26: Variance Decomposition of ROE

Period	S.E.	ROE	BCP	LQR	SPINT	EXR
1	17.66325	100.0000	0.000000	0.000000	0.000000	0.000000
2	30.67698	33.72827	58.82770	0.487950	2.269873	4.686205
3	38.87335	21.16516	39.16300	0.303916	6.228407	33.13952
4	61.08794	8.650402	66.37174	0.251562	5.493110	19.23318
5	90.09285	4.347409	65.29707	0.876567	5.781085	23.69786
6	139.5887	1.889982	64.45114	0.965264	6.601247	26.09236
7	219.4130	0.927095	67.64096	1.115002	5.918004	24.39893
8	343.0689	0.534176	66.80014	1.151659	6.072246	25.44178
9	541.3243	0.340704	67.34757	1.168357	6.003134	25.14024
10	854.0343	0.278433	67.45054	1.184943	5.962057	25.12403

Source: Data output via E-views 9.0

Table 27: Variance Decomposition of PBT

Period	S.E.	PBT	BCP	LQR	SPINT	EXR
1	327972.5	100.0000	0.000000	0.000000	0.000000	0.000000
2	612138.3	31.82755	67.26420	0.012382	0.061349	0.834524
3	800620.7	24.44565	39.32350	1.486044	0.796620	33.94819
4	1003434.	30.33270	30.36355	2.215116	0.776970	36.31167
5	1183077.	33.05129	21.92372	1.968375	0.596189	42.46043
6	1325905.	37.31961	17.62849	2.091631	0.899381	42.06089
7	1405051.	38.88542	15.71527	2.085942	0.962263	42.35110
8	1450121.	39.97937	15.17423	2.070211	1.244135	41.53205
9	1494974.	39.93555	15.46777	1.987085	1.239040	41.37055
10	1596953.	38.47257	17.89757	1.816000	1.092681	40.72117

Source: Data output via E-views 9.0

Table 28: Variance Decomposition of YEA

Period	S.E.	YEA	BCP	LQR	SPINT	EXR
1	4.086397	100.0000	0.000000	0.000000	0.000000	0.000000
2	5.071153	69.30473	2.178453	1.561143	0.692280	26.26340
3	6.359452	44.86978	15.94400	1.527610	1.225476	36.43314
4	8.362538	27.04508	38.81385	0.894395	4.442702	28.80398
5	12.40922	17.20176	45.67223	0.449021	8.062475	28.61451
6	20.60098	10.98529	50.89936	0.167637	6.874159	31.07355
7	37.45105	7.310199	57.09895	0.057080	5.523590	30.01018
8	70.98341	6.119051	59.52091	0.039398	5.207660	29.11298
9	136.4183	6.013708	59.98080	0.048142	5.058169	28.89918
10	1596953.	38.47257	17.89757	1.816000	1.092681	40.72117

Source: Data output via E-views 9.0

From Table 27, exchange rate was the highest in influencing the variation in profit before tax. In the second place is bank capitalization and closely followed by liquidity ratio. Spread of interest rate was seen to have exerted the least effect on profit before tax. As can be seen in Table 28, bank capitalization as a banking sector reforms variables was the greatest in causing changes in yield on earning assets of the banking industry in Nigeria. Thereafter, we have exchange rate, spread of interest rate, while liquidity ratio remain the least in influencing performance measurement of the banking industry.

4.9 Banking Sector Reforms Effect on Banking Industry Performance

This study applied the granger causality analysis to ascertain the effect of banking sector reforms variables on banking industry performance indices: return on assets, return on equity, profit before tax, yield on earning assets and

net interest income. The choice of the granger causality test is on the notion that two variables may relate with each other without one causing changes in the other, hence the weakness of the Ordinary Least Square (OLS) in estimating the effect of one variable on another. The granger causality result in Table 29 reveals that there is unidirectional relationship between bank capitalization and return on assets as causality flows from bank capitalization to return on assets at 5% level of significance. This implies that it bank capitalization has significant effect on return on assets of the Nigerian banking industry, whereas other banking sector reform variables via liquidity ratio, spread of interest rate and exchange rate has no significant effect on banking industry return on assets in Nigeria.

Table 29: Granger Causality Result for ROA and Banking Sector Reforms

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
BCP does not Granger Cause ROA	26	7.64114	0.0083	Causality
ROA does not Granger Cause BCP		0.36646	0.7013	No Causality
LQR does not Granger Cause ROA	26	1.94394	0.1893	No Causality
ROA does not Granger Cause LQR		0.41774	0.6688	No Causality
SPINT does not Granger Cause ROA	26	0.38197	0.6912	No Causality
ROA does not Granger Cause SPINT		0.29325	0.7515	No Causality
EXR does not Granger Cause ROA	26	0.44471	0.6520	No Causality
ROA does not Granger Cause EXR		2.84697	0.1008	No Causality

Source: Data output via E-views 9.0

On the return on equity and banking sector reforms analysis, Table 30 depicts that just an in return on assets, it is only bank capitalization that has significant effect on return on equity of the banking industry as causality runs from bank capitalization to return on equity at 5% level of significance. Other indices of banking sector reforms: liquidity ratio, spread of interest rate and exchange rate were found to have no significant effect on return on equity.

Table 30: Granger Causality Result for ROE and Banking Sector Reforms

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
BCP does not Granger Cause ROE	17	8.04980	0.0132	Causality
ROE does not Granger Cause BCP		0.00649	0.9369	No Causality
LQR does not Granger Cause ROE	17	2.06093	0.1731	No Causality
ROE does not Granger Cause LQR		1.02437	0.3287	No Causality
SPINT does not Granger Cause ROE	17	0.92431	0.3527	No Causality
ROE does not Granger Cause SPINT		0.52814	0.4794	No Causality
EXR does not Granger Cause ROE	17	0.74424	0.4028	No Causality
ROE does not Granger Cause EXR		0.75460	0.3997	No Causality

Source: Data output via E-views 9.0

From the regression output in Table 31, there is a one way causal relationship between bank capitalization and profit before tax of the banking industry owing to the evidence of causality from bank capitalization to profit before tax at 5% significance level. Similarly, a unidirectional exits between exchange rate and profit before tax. This implies that it is the profit of the banking industry that exert influence on exchange determination. Liquidity ratio and spread of interest rate have no significant influence of profit before tax of the Nigerian banking industry.

Table 31: Granger Causality Result for PBT and Banking Sector Reforms

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
BCP does not Granger Cause PBT	16	4.57551	0.0358	Causality
PBT does not Granger Cause BCP		1.13570	0.3561	No Causality
LQR does not Granger Cause PBT	16	0.03710	0.9637	No Causality
PBT does not Granger Cause LQR		0.77847	0.4828	No Causality
SPINT does not Granger Cause PBT	16	0.10056	0.9051	No Causality
PBT does not Granger Cause SPINT		0.41458	0.6705	No Causality
EXR does not Granger Cause PBT	16	2.32872	0.1434	No Causality
PBT does not Granger Cause EXR		10.4509	0.0029	Causality

Source: Data output via E-views 9.0

With the result in Table 32, banking sector reforms measurements have no significant effect on yield on earning assets of the banking industry as there no revelation of either unidirectional or bidirectional relationship between yield on earning assets and banking sector reforms variables. Nevertheless, it is surprising to observe that it is yield on earning assets that has significant effect on liquidity ratio of the banking industry.

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Table 32: Granger Causality Result for YEA and Banking Sector Reforms

Null Hypothesis:	Obs	F-Statistic	Prob.	Remarks
BCP does not Granger Cause YEA	26	0.71397	0.4123	No Causality
YEA does not Granger Cause BCP		0.25754	0.6197	No Causality
LQR does not Granger Cause YEA	26	0.00127	0.9721	No Causality
YEA does not Granger Cause LQR		8.65857	0.0107	Causality
SPINT does not Granger Cause YEA	26	1.01179	0.3315	No Causality
YEA does not Granger Cause SPINT		0.04141	0.8417	No Causality
EXR does not Granger Cause YEA	26	0.17100	0.6855	No Causality
YEA does not Granger Cause EXR		0.09839	0.7584	No Causality

Source: Data output via E-views 9.0

4.10 Test of Hypotheses

Decision Criteria: If the p-value of f-statistic in granger causality test is lower than 0.05, the null hypothesis is rejected. On the other hand, the null hypothesis is accepted if the p-value of f-statistic in granger causality test is higher than 0.05.

Table 33 shows the rejection of null hypothesis or the acceptance of alternative hypothesis based on the decision rule stated above.

Restatement of Hypotheses

1. H_0: Bank capitalization, liquidity ratio, spread of interest rate and exchange rate have no significant effect on return on assets of the Nigerian banking industry.

2. H_0: Bank capitalization, liquidity ratio, spread of interest rate and exchange rate have no significant effect on return on equity of the Nigerian banking industry.

3. H_0: Bank capitalization, liquidity ratio, spread of interest rate and exchange rate have no significant effect on profit before tax of the Nigerian banking industry.

4. H_0: Bank capitalization, liquidity ratio, spread of interest rate and exchange rate have no significant effect on yield on earning assets of the Nigerian banking industry.

Hypotheses	Model and Variables	f-statistic	P-value	Decision
Hypothesis 1	ROA → BCP+LQR+CRR+LOA+SPINT+EXR			
	BCP	7.64114	0.0083	Reject H_0
	LQR	1.94394	0.1893	Accept H_0
	SPINT	0.38197	0.6912	Accept H_0
	EXR	0.44470	0.6520	Accept H_0
Hypothesis 2	ROE → BCP+LQR+CRR+LOA+SPINT+EXR			
	BCP	8.04980	0.0132	Reject H_0
	LQR	2.06093	0.1731	Accept H_0
	SPINT	0.92431	0.3527	Accept H_0
	EXR	0.74424	0.4028	Accept H_0
Hypothesis 3	PBT → BCP+LQR+CRR+LOA+SPINT+EXR			
	BCP	4.57551	0.0358	Reject H_0
	LQR	0.03710	0.9637	Accept H_0
	SPINT	0.10056	0.9051	Accept H_0
	EXR	2.32872	0.1434	Accept H_0
Hypothesis 4	YEA → BCP+LQR+CRR+LOA+SPINT+EXR			
	BCP	0.71397	0.4123	Accept H_0
	LQR	0.00127	0.9721	Accept H_0
	SPINT	1.01179	0.3315	Accept H_0
	EXR	0.17100	0.6855	Accept H_0
Hypothesis 5	NINTI → BCP+LQR+CRR+LOA+SPINT+EXR			
	BCP	0.22080	0.8053	Accept H_0
	LQR	2.48611	0.1286	Accept H_0
	SPINT	0.74107	0.4990	Accept H_0
	EXR	0.73936	0.4997	Accept H_0

Source: Granger Causality Results in Tables 33 - 37

4.11 Discussion of Findings

The ARDL output in Table 15 and 16 evidence that banking industry performance through return on assets and return on equity are related in the long run. This implies that banking sector reforms especially with regard to capital adequacy enhances the liquidity of the bank sector to effectively provide verities of financial services that boost profitability. From the regression results in Tables 21, and 22 bank capitalization and liquidity ratio positively but insignificantly related with return on assets, return on equity and profit before tax. This finding is an indication that capital adequacy as a reform in the banking sector is critical for performance of the banking industry owing to the dynamic nature of the economy. In other words, the more liquid the banking sector, the more the provision of better services to customers which in turn improves their performance. This is in line with the findings of Ilori and Ajiboye (2016), Igbinosa, Ogbeide and Akanji (2017), Olawumi, Lateef and Oladeji (2017), Alajekwu and Obialor (2014), Nwosu (2013) and

Kanu and Isu (2013). On the opposite side, yield on earning assets was negatively associated with bank capitalization and liquidity ratio. This is not expected and an evidence that the yield on earnings assets has not experienced any improvement despite the reforms in the banking sector, especially the consolidation exercise of 2005 that reduce the number of banks in the country from 89 to 25 banks. In addition, it is indication that the Central Bank of Nigeria policies lack the structural facets that can optimally spur growth in the banking industry yield on earnings assets and net interest income.

Exchange rate which is a product exchange rate reform in the banking sector was negatively related with return on assets, return on equity, profit before tax and yield on earnings assets of the banking industry. This scenario would be attributed to the fact that most banks in Nigeria, especially the new generation banks have high preponderance for below the counter dealings in foreign exchange transactions for rent seeking purpose as reported by Olajide, Obafemi and Jegede (2011). The granger causality test in Table 29, 30 and infer that bank sector capitalization has significant effect on return on assets, return on equity and profit before tax of the banking industry. This is expected because reforms raises the value of banking industry stocks due to increased power, increased market share, making it easier for banks to attract customers which will ultimately boost the confidence of the public in the financial system in general. This findings agrees with Fateen (2013) for ten (10) largest European banks of France, Germany, United Kingdom and Greece.

4.12   A Priori Expectation

The coefficient of the independent variables were analysed based on the supposed sign in accordance with the nexus between banking sector and

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performance. The observed signs of the independent variables against each of

the banking industry performance proxies are detailed in Tables 35 – 38.

Table 35: Observed Signs of the Banking Sector Reforms Proxies against ROA

Independent Variables	Expected Signs	Observed Signs	Remarks
BCP	+	+	Agreed
LQR	+	+	Agreed
SPINT	+ or -	+	Agreed
EXR	-	-	Agreed

Source: OLS Regression Results in Table 21.

Table 36: Observed Signs of the Banking Sector Reforms Proxies against ROE

Independent Variables	Expected Signs	Observed Signs	Remarks
BCP	+	+	Agreed
LQR	+	-	Agreed
SPINT	+ or -	+	Agreed
EXR	-	+	Agreed

Source: OLS Regression Results in Table 22.

Table 37: Observed Signs of the Banking Sector Reforms Proxies against PBT

Independent Variables	Expected Signs	Observed Signs	Remarks
BCP	+	+	Agreed
LQR	+	+	Agreed
SPINT	+ or -	-	Agreed
EXR	-	-	Agreed

Source: OLS Regression Results in Table 23..

Table 38: Observed Signs of the Banking Sector Reforms Proxies against YEA

Independent Variables	Expected Signs	Observed Signs	Remarks
BCP	+	-	Disagreed
LQR	+	-	Disagreed
SPINT	+ or -	+	Agreed
EXR	-	-	Agreed

Source: OLS Regression Results in Table 24.

CHAPTER FIVE
SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

In this research work, the effect of banking sector reforms on the performance of the banking industry in Nigeria from 1990 to 2016 was studied. Pointedly, the effect of banking sector reforms variables: bank capitalization, liquidity ratio, spread of interest rate and exchange rate were tested on banking industry performance through return on assets, return on equity, profit before tax and yield on earning assets. The findings revealed the following:

1. Banking capitalization was the only banking sector reform variable that has significant effect on return on assets of the Nigerian banking industry, while liquidity ratio, spread of interest rate and exchange rate.

2. Banking capitalization has significant effect on return on equity of the Nigerian banking industry amidst its insignificant positive relationship with return on equity.

3. Profit before tax of Nigeria banking industry was significantly affected by bank capitalization, while liquidity ratiohas positive relationship with profit before tax.

4. Banking sector reforms variables have no significant effect on the yield on earnings assets of the Nigerian banking industry. Bank capitalization, liquidity ratio and exchange rate reforms have negative relationship with profit before tax.

5.2 Conclusion

The adoption of financial sector reforms has to a considerable extent, helped to reduce or eliminate most of the institutional rigidities and administrative controls that had hindered the efficiency and effectiveness of the system in

achieving the nation's growth and development objectives. In particular, the deregulation of the financial sector stimulated competition and enhanced efficiency in resource allocation. Moreover, financial services have improved in terms of speed of response to customers' needs, the quality of services rendered, the number and variety of institutions. This study concludes that banking sector reforms is instrumental in improved profitability, stability and confidence of the people in the banking system.

5.3   Recommendations

Consequent to the results that emanated from this study, the following recommendations are offered for attention of policymakers:

1. To increase return on assets and return on equity of the banking industry, ratio of non-performing loans to total credit should be reduced to enable banks effectively and efficiently play its role of allocating resources to the economy through which profitability is enhanced.

2. The significant effect of bank capitalization on return on assets, profit before tax and return on equity, Central Bank of Nigeria should continue to enjoy more autonomy so that the full effect of the reform strategies policy will manifest for the benefit of better banking performance in the banking industry.

3. Appropriate and specific guidelines in addition to those stipulated in the bank reforms relevant sections to develop their own contingency plans and/or actions to mitigate those unethical practices within the banking sector such as: to meet the capital requirements, liquidity problem could be resolved, improved earnings and assets quality, appropriate managerial and internal control requirements and among others.

4. Strict implementation of the risk-focused and rule-based regulatory

framework by the regulators. This it is believed will reduce the high incidence of huge bad debts profile of banks and consequently improve the assets quality of banks for better performance in yield on earning assets.

5.4   Contribution to Knowledge

This study makes a contribution to knowledge by carefully examining the effect of banking sector reforms on banking industry performance in Nigeria by using the latest data or up to date data on the variables of interest. This study studied the entire banking industry as oppose to selected banks operating in the economy. In addition, the inclusion of yield on earning assets to measure performance which were obviously absent in the empirical literature reviewed in the case of Nigeria banking industry to the best of my knowledge is the first of its kind in a study of this nature.

5.5   Suggestion for Further Studies

Although this study provides an insight on the effect of the banking reforms on performance of the Nigerian banking industry, however, there some lapses that would be address in future studied. First, this study applied only annual data for a period of over a period of eighteen (18) years and covered deposit money banks in Nigeria, a research onthe effect of banking reforms on non-bank financial institutions and microfinance banks are suggested for further studies. Secondly, future studies should go beyond the time frame of this study, that is, a period of eighteen (18) years. This is to help provide a large number of observation to affirm the reliability of the inferences made from regression outputs.

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APPENDIX

1 Descriptive Properties of the Data

	ROA	ROE	PBT	YEA	BCP	LQR	SPINT	EXR
Mean	2.028889	22.32704	158576.4	9.742222	122851.9	45.62704	12.43444	103.2003
Median	2.400000	22.01000	86000.00	8.350000	122740.0	44.30000	13.35000	120.9702
Maximum	4.730000	57.65000	658100.0	22.87000	461490.0	64.10000	20.70000	304.2000
Minimum	-9.820000	-60.07000	-1373330.	3.510000	3710.000	29.10000	1.660000	8.040000
Std. Dev.	2.618326	20.92760	377476.6	4.856956	113270.8	9.414664	4.067054	71.64210
Skewness	-3.540233	-2.035750	-2.268905	1.058217	0.872373	0.137491	-0.743811	0.452640
Kurtosis	16.87112	10.30490	11.26892	3.524376	3.805087	2.522136	3.486330	3.362184
Jarque-Bera	272.8587	78.68097	100.0876	5.348542	4.153846	0.341965	2.755727	1.069550
Probability	0.000000	0.000000	0.000000	0.068957	0.125315	0.842836	0.252117	0.585801
Sum	54.78000	602.8300	4281562.	263.0400	3317000.	1231.930	335.7300	2786.408
Sum Sq. Dev.	178.2465	11387.08	3.70E+12	613.3405	3.34E+11	2304.533	430.0641	133447.4
Observations	27	27	27	27	27	27	27	27

2 Diagnostic Test

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	3.364388	Prob. F(2,20)	0.0550
Obs*R-squared	6.797054	Prob. Chi-Square(2)	0.0334

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/11/18   Time: 09:37
Sample: 1990 2016
Included observations: 27
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.037390	3.022109	-0.012372	0.9903
BCP	-9.09E-06	1.84E-05	-0.493377	0.6271
LQR	0.012275	0.067116	0.182895	0.8567
SPINT	-0.102785	0.164947	-0.623137	0.5402
EXR	0.017878	0.031420	0.569016	0.5757
RESID(-1)	-0.590037	0.227464	-2.593978	0.0174
RESID(-2)	-0.271121	0.221646	-1.223219	0.2355

R-squared	0.251743	Mean dependent var	5.84E-16
Adjusted R-squared	0.027266	S.D. dependent var	2.452614
S.E. of regression	2.418947	Akaike info criterion	4.822955
Sum squared resid	117.0261	Schwarz criterion	5.158913
Log likelihood	-58.10990	Hannan-Quinn criter.	4.922853
F-statistic	1.121463	Durbin-Watson stat	2.121096
Prob(F-statistic)	0.385296		

3

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.909539	Prob. F(2,20)	0.0778
Obs*R-squared	6.085232	Prob. Chi-Square(2)	0.0477

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/11/18   Time: 09:38
Sample: 1990 2016

Included observations: 27
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.172444	24.40632	0.048039	0.9622
BCP	-8.76E-05	0.000156	-0.562550	0.5800
LQR	-0.039333	0.541688	-0.072611	0.9428
SPINT	-0.251651	1.296581	-0.194088	0.8481
EXR	0.139455	0.262827	0.530596	0.6015
RESID(-1)	-0.541590	0.235289	-2.301804	0.0322
RESID(-2)	-0.131663	0.235584	-0.558879	0.5824

R-squared	0.225379	Mean dependent var		5.39E-15
Adjusted R-squared	-0.007007	S.D. dependent var		19.35095
S.E. of regression	19.41863	Akaike info criterion		8.988757
Sum squared resid	7541.664	Schwarz criterion		9.324715
Log likelihood	-114.3482	Hannan-Quinn criter.		9.088655
F-statistic	0.969846	Durbin-Watson stat		2.101989
Prob(F-statistic)	0.470406			

4

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.714875	Prob. F(2,20)	0.2054
Obs*R-squared	3.952379	Prob. Chi-Square(2)	0.1386

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/11/18   Time: 09:39
Sample: 1990 2016
Included observations: 27
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	21453.65	455614.0	0.047087	0.9629
BCP	-0.753934	2.772637	-0.271919	0.7885
LQR	1510.482	10108.29	0.149430	0.8827
SPINT	-17108.88	26276.03	-0.651121	0.5224
EXR	2084.623	4821.757	0.432337	0.6701
RESID(-1)	-0.446625	0.246465	-1.812124	0.0850
RESID(-2)	-0.108066	0.243929	-0.443022	0.6625

R-squared	0.146384	Mean dependent var		-3.72E-11
Adjusted R-squared	-0.109700	S.D. dependent var		345537.6
S.E. of regression	363997.3	Akaike info criterion		28.66609
Sum squared resid	2.65E+12	Schwarz criterion		29.00205
Log likelihood	-379.9923	Hannan-Quinn criter.		28.76599
F-statistic	0.571625	Durbin-Watson stat		2.049782
Prob(F-statistic)	0.748190			

5

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.254652	Prob. F(2,20)	0.3067
Obs*R-squared	3.009920	Prob. Chi-Square(2)	0.2220

Test Equation:
Dependent Variable: RESID
Method: Least Squares
Date: 09/11/18   Time: 09:39
Sample: 1990 2016
Included observations: 27
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.469991	5.884097	0.249824	0.8053
BCP	-7.84E-07	3.47E-05	-0.022613	0.9822
LQR	-0.048231	0.134698	-0.358066	0.7240
SPINT	0.010941	0.302618	0.036155	0.9715
EXR	0.007365	0.058136	0.126687	0.9005
RESID(-1)	0.020343	0.280183	0.072607	0.9428
RESID(-2)	-0.420176	0.266848	-1.574588	0.1310

R-squared	0.111479	Mean dependent var		-2.30E-15
Adjusted R-squared	-0.155078	S.D. dependent var		4.271160
S.E. of regression	4.590410	Akaike info criterion		6.104229
Sum squared resid	421.4372	Schwarz criterion		6.440187
Log likelihood	-75.40710	Hannan-Quinn criter.		6.204127
F-statistic	0.418217	Durbin-Watson stat		1.996105
Prob(F-statistic)	0.858169			

6

Heteroskedasticity Test: ARCH

F-statistic	0.330722	Prob. F(1,24)	0.5706
Obs*R-squared	0.353413	Prob. Chi-Square(1)	0.5522

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/11/18   Time: 09:40
Sample (adjusted): 1991 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.07743	6.421478	2.503697	0.0195
RESID^2(-1)	0.142539	0.247857	0.575085	0.5706

R-squared	0.013593	Mean dependent var		18.16007
Adjusted R-squared	-0.027508	S.D. dependent var		26.67509
S.E. of regression	27.03948	Akaike info criterion		9.506277
Sum squared resid	17547.21	Schwarz criterion		9.603054
Log likelihood	-121.5816	Hannan-Quinn criter.		9.534145
F-statistic	0.330722	Durbin-Watson stat		1.671408
Prob(F-statistic)	0.570587			

Ramsey RESET Test
Equation: UNTITLED
Specification: YEA C BCP LQR SPINT EXR
Omitted Variables: Squares of fitted values

	Value	df	Probability

t-statistic	0.008369	21	0.9934
F-statistic	7.00E-05	(1, 21)	0.9934
Likelihood ratio	9.01E-05	1	0.9924

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	0.001582	1	0.001582
Restricted SSR	474.3129	22	21.55968
Unrestricted SSR	474.3113	21	22.58625

LR test summary:

	Value	df
Restricted LogL	-77.00275	22
Unrestricted LogL	-77.00271	21

Unrestricted Test Equation:
Dependent Variable: YEA
Method: Least Squares
Date: 09/11/18   Time: 09:41
Sample: 1990 2016
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.820233	11.15204	0.611568	0.5474
BCP	4.34E-05	0.000147	0.294366	0.7714
LQR	-0.031967	0.184559	-0.173209	0.8641
SPINT	0.411242	1.280646	0.321121	0.7513
EXR	-0.057329	0.191966	-0.298644	0.7681
FITTED^2	-0.001484	0.177285	-0.008369	0.9934

R-squared	0.226675	Mean dependent var	9.742222
Adjusted R-squared	0.042550	S.D. dependent var	4.856956
S.E. of regression	4.752500	Akaike info criterion	6.148349
Sum squared resid	474.3113	Schwarz criterion	6.436312
Log likelihood	-77.00271	Hannan-Quinn criter.	6.233975
F-statistic	1.231095	Durbin-Watson stat	1.740754
Prob(F-statistic)	0.329708		

Ramsey RESET Test
Equation: UNTITLED
Specification: PBT C BCP LQR SPINT EXR
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.333381	21	0.7422
F-statistic	0.111143	(1, 21)	0.7422
Likelihood ratio	0.142521	1	0.7058

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	1.63E+10	1	1.63E+10
Restricted SSR	3.10E+12	22	1.41E+11
Unrestricted SSR	3.09E+12	21	1.47E+11

LR test summary:

	Value	df
Restricted LogL	-382.1290	22

Unrestricted LogL	-382.0577	21

Unrestricted Test Equation:
Dependent Variable: PBT
Method: Least Squares
Date: 09/11/18   Time: 09:41
Sample: 1990 2016
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-205889.4	516171.9	-0.398878	0.6940
BCP	2.153164	3.699947	0.581945	0.5668
LQR	10705.50	13399.86	0.798926	0.4333
SPINT	-17551.67	27994.90	-0.626959	0.5374
EXR	-1961.318	5282.894	-0.371258	0.7142
FITTED^2	6.78E-07	2.03E-06	0.333381	0.7422

R-squared	0.166476	Mean dependent var	158576.4
Adjusted R-squared	-0.031982	S.D. dependent var	377476.6
S.E. of regression	383465.4	Akaike info criterion	28.74502
Sum squared resid	3.09E+12	Schwarz criterion	29.03298
Log likelihood	-382.0577	Hannan-Quinn criter.	28.83064
F-statistic	0.838847	Durbin-Watson stat	2.707845
Prob(F-statistic)	0.537123		

7
Heteroskedasticity Test: ARCH

F-statistic	0.162725	Prob. F(1,24)	0.6902
Obs*R-squared	0.175099	Prob. Chi-Square(1)	0.6756

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/11/18   Time: 09:41
Sample (adjusted): 1991 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.09E+11	8.08E+10	1.346049	0.1909
RESID^2(-1)	0.082089	0.203496	0.403392	0.6902

R-squared	0.006735	Mean dependent var	1.19E+11
Adjusted R-squared	-0.034651	S.D. dependent var	3.87E+11
S.E. of regression	3.93E+11	Akaike info criterion	56.30706
Sum squared resid	3.71E+24	Schwarz criterion	56.40384
Log likelihood	-729.9918	Hannan-Quinn criter.	56.33493
F-statistic	0.162725	Durbin-Watson stat	1.991168
Prob(F-statistic)	0.690231		

Ramsey RESET Test
Equation: UNTITLED
Specification: ROE C BCP LQR SPINT EXR
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	0.766437	21	0.4519
F-statistic	0.587426	(1, 21)	0.4519
Likelihood ratio	0.744891	1	0.3881

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	264.9294	1	264.9294
Restricted SSR	9735.940	22	442.5427
Unrestricted SSR	9471.011	21	451.0005

LR test summary:

	Value	df
Restricted LogL	-117.7959	22
Unrestricted LogL	-117.4234	21

Unrestricted Test Equation:
Dependent Variable: ROE
Method: Least Squares
Date: 09/11/18   Time: 09:42
Sample: 1990 2016
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-6.570341	47.69616	-0.137754	0.8917
BCP	0.000171	0.000458	0.371950	0.7137
LQR	-0.118381	0.693127	-0.170792	0.8660
SPINT	1.073017	2.814166	0.381291	0.7068
EXR	-0.243081	0.635023	-0.382791	0.7057
FITTED^2	0.044836	0.058500	0.766437	0.4519

R-squared	0.168267	Mean dependent var	22.32704
Adjusted R-squared	-0.029765	S.D. dependent var	20.92760
S.E. of regression	21.23677	Akaike info criterion	9.142476
Sum squared resid	9471.011	Schwarz criterion	9.430439
Log likelihood	-117.4234	Hannan-Quinn criter.	9.228102
F-statistic	0.849696	Durbin-Watson stat	2.780649
Prob(F-statistic)	0.530280		

8
Heteroskedasticity Test: ARCH

F-statistic	3.877231	Prob. F(1,24)	0.0606
Obs*R-squared	3.616141	Prob. Chi-Square(1)	0.0572

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/11/18   Time: 09:43
Sample (adjusted): 1991 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	235.3113	210.3868	1.118470	0.2744
RESID^2(-1)	0.372791	0.189323	1.969069	0.0606

R-squared	0.139082	Mean dependent var	374.4577
Adjusted R-squared	0.103211	S.D. dependent var	1067.004
S.E. of regression	1010.441	Akaike info criterion	16.74797
Sum squared resid	24503793	Schwarz criterion	16.84474
Log likelihood	-215.7235	Hannan-Quinn criter.	16.77583
F-statistic	3.877231	Durbin-Watson stat	1.814771
Prob(F-statistic)	0.060596		

Ramsey RESET Test
Equation: UNTITLED
Specification: ROA C BCP LQR SPINT EXR
Omitted Variables: Squares of fitted values

	Value	df	Probability
t-statistic	1.125222	21	0.2732
F-statistic	1.266125	(1, 21)	0.2732
Likelihood ratio	1.580688	1	0.2087

F-test summary:

	Sum of Sq.	df	Mean Squares
Test SSR	8.893312	1	8.893312
Restricted SSR	156.3982	22	7.109008
Unrestricted SSR	147.5049	21	7.024041

LR test summary:

	Value	df
Restricted LogL	-62.02501	22
Unrestricted LogL	-61.23467	21

Unrestricted Test Equation:
Dependent Variable: ROA
Method: Least Squares
Date: 09/11/18   Time: 09:44
Sample: 1990 2016
Included observations: 27

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-5.104801	4.914859	-1.038646	0.3108
BCP	-2.13E-05	2.43E-05	-0.877225	0.3903
LQR	0.259809	0.172689	1.504486	0.1473
SPINT	-0.155036	0.195065	-0.794792	0.4356
EXR	0.024976	0.037581	0.664595	0.5135
FITTED^2	-0.559375	0.497124	-1.125222	0.2732

R-squared	0.172467	Mean dependent var	2.028889
Adjusted R-squared	-0.024565	S.D. dependent var	2.618326
S.E. of regression	2.650291	Akaike info criterion	4.980346
Sum squared resid	147.5049	Schwarz criterion	5.268310
Log likelihood	-61.23467	Hannan-Quinn criter.	5.065972
F-statistic	0.875325	Durbin-Watson stat	2.987556
Prob(F-statistic)	0.514354		

9
Heteroskedasticity Test: ARCH

F-statistic	0.424895	Prob. F(1,24)	0.5207
Obs*R-squared	0.452295	Prob. Chi-Square(1)	0.5012

Test Equation:
Dependent Variable: RESID^2
Method: Least Squares
Date: 09/11/18   Time: 09:44
Sample (adjusted): 1991 2016
Included observations: 26 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	5.201604	4.133675	1.258349	0.2204
RESID^2(-1)	0.131913	0.202370	0.651840	0.5207

R-squared	0.017396	Mean dependent var	5.993519
Adjusted R-squared	-0.023546	S.D. dependent var	19.91373
S.E. of regression	20.14681	Akaike info criterion	8.917772
Sum squared resid	9741.454	Schwarz criterion	9.014549
Log likelihood	-113.9310	Hannan-Quinn criter.	8.945641
F-statistic	0.424895	Durbin-Watson stat	1.986578
Prob(F-statistic)	0.520699		

10

	ROA	ROE	PBT	YEA	BCP	LQR	SPINT	EXR
ROA	1.000000	0.913123	0.792175	-0.440431	-0.156629	0.317865	-0.033295	-0.083302
ROE	0.913123	1.000000	0.615777	-0.494384	-0.302706	0.192731	-0.147265	-0.225598
PBT	0.792175	0.615777	1.000000	-0.138813	0.256958	0.138749	-0.019725	0.227851
YEA	-0.440431	-0.494384	-0.138813	1.000000	0.377412	-0.161340	0.302719	0.311079
BCP	-0.156629	-0.302706	0.256958	0.377412	1.000000	-0.080100	0.502710	0.948040
LQR	0.317865	0.192731	0.138749	-0.161340	-0.080100	1.000000	0.254838	0.131427
SPINT	-0.033295	-0.147265	-0.019725	0.302719	0.502710	0.254838	1.000000	0.622590
EXR	-0.083302	-0.225598	0.227851	0.311079	0.948040	0.131427	0.622590	1.000000

11
Variance Decomposition

Variance Decomposition of ROA:					
Period	S.E.	ROA	BCP	LQR	SPINT	EXR
---	---	---	---	---	---	---
1	1.951640	100.0000	0.000000	0.000000	0.000000	0.000000
2	5.056532	17.35393	80.81670	0.298525	0.676820	0.854022
3	6.830089	16.98525	48.06641	1.485286	2.046998	31.41606
4	9.471714	14.04149	50.53067	1.004575	4.073533	30.34973
5	13.08896	14.32420	47.68778	0.531696	3.590616	33.86570
6	18.26683	14.44170	45.69955	0.340318	3.734972	35.78345
7	25.53299	13.97289	46.06464	0.199930	3.421007	36.34154
8	36.35534	13.54274	47.12831	0.119969	3.270589	35.93839
9	52.33583	13.33567	47.37381	0.076782	3.103307	36.11044
10	75.94800	13.19650	47.69028	0.054319	2.989806	36.06910

Variance Decomposition of BCP:					
Period	S.E.	ROA	BCP	LQR	SPINT	EXR
---	---	---	---	---	---	---
1	42404.85	0.005310	99.99469	0.000000	0.000000	0.000000

Period	S.E.	ROA	BCP	LQR	SPINT	EXR
2	94379.85	2.993401	77.90378	0.135095	0.195961	18.77176
3	190226.2	7.637794	64.00619	0.046721	0.861444	27.44785
4	326725.2	10.40133	55.10508	0.017234	1.263125	33.21323
5	519130.9	11.70704	51.44386	0.007395	1.804729	35.03698
6	788621.9	12.45881	49.39870	0.006264	2.176284	35.95995
7	1170798.	12.85444	48.42190	0.011286	2.448101	36.26427
8	1718479.	13.01734	48.01324	0.016881	2.618421	36.33413
9	2512080.	13.06994	47.90432	0.021396	2.724204	36.28014
10	3667842.	13.08523	47.87317	0.024449	2.780247	36.23690

Variance Decomposition of LQR:

Period	S.E.	ROA	BCP	LQR	SPINT	EXR
1	7.519255	0.240229	1.325429	98.43434	0.000000	0.000000
2	12.47005	1.547692	46.75765	42.48389	8.921934	0.288828
3	20.41582	6.419736	47.11122	16.42481	13.29229	16.75194
4	30.86343	13.92779	37.05401	7.769506	8.432933	32.81576
5	42.44170	14.52581	39.23588	4.331367	6.399261	35.50768
6	58.57250	13.77680	43.26057	2.307095	5.407711	35.24783
7	82.49615	13.74766	44.81022	1.194578	4.479487	35.76806
8	117.3855	13.60430	45.87410	0.623534	3.764002	36.13407
9	168.9506	13.28608	47.05076	0.322594	3.359492	35.98107
10	245.4283	13.13859	47.60327	0.169670	3.123649	35.96483

Variance Decomposition of SPINT:

Period	S.E.	ROA	BCP	LQR	SPINT	EXR
1	3.584621	0.086132	0.036745	9.516769	90.36035	0.000000
2	4.184114	2.204792	20.52777	10.53933	66.72589	0.002214
3	5.388550	3.150631	30.68871	10.82605	41.25558	14.07902
4	7.466821	9.329606	37.63904	5.839352	21.48953	25.70246
5	10.04860	10.82053	40.25626	3.289761	12.09885	33.53460
6	14.11893	11.43301	45.79059	1.692516	7.220558	33.86333
7	20.04157	12.61797	45.83268	0.839988	4.745283	35.96408
8	28.60988	13.03157	46.45648	0.423218	3.683943	36.40479
9	41.11116	13.04253	47.21651	0.215194	3.213553	36.31222
10	59.55994	13.06316	47.60211	0.115536	3.022021	36.19718

Variance Decomposition of EXR:

Period	S.E.	ROA	BCP	LQR	SPINT	EXR
1	27.95273	1.627037	48.79153	10.41394	4.239210	34.92828
2	66.41314	5.383056	61.91302	4.455014	1.692490	26.55642
3	117.9138	8.602670	56.55993	1.803727	0.601020	32.43265
4	192.5504	10.41662	53.19335	0.740556	0.880938	34.76854
5	298.7878	11.71022	50.77780	0.313606	1.401579	35.79679
6	448.8057	12.46787	49.12430	0.139900	1.907969	36.35995
7	662.5954	12.82354	48.36617	0.070054	2.280335	36.45990
8	970.6966	12.98852	48.04601	0.042749	2.524469	36.39825
9	1417.782	13.05837	47.90939	0.032920	2.670242	36.32907
10	2069.287	13.07891	47.87912	0.029615	2.750846	36.26151

Cholesky Ordering:

ROA BCP
LQR
SPINT
EXR

| Variance Decomposition of ROE: | | | | | |
Period	S.E.	ROE	BCP	LQR	SPINT	EXR
1	17.66325	100.0000	0.000000	0.000000	0.000000	0.000000
2	30.67698	33.72827	58.82770	0.487950	2.269873	4.686205
3	38.87335	21.16516	39.16300	0.303916	6.228407	33.13952
4	61.08794	8.650402	66.37174	0.251562	5.493110	19.23318
5	90.09285	4.347409	65.29707	0.876567	5.781085	23.69786
6	139.5887	1.889982	64.45114	0.965264	6.601247	26.09236
7	219.4130	0.927095	67.64096	1.115002	5.918004	24.39893
8	343.0689	0.534176	66.80014	1.151659	6.072246	25.44178
9	541.3243	0.340704	67.34757	1.168357	6.003134	25.14024
10	854.0343	0.278433	67.45054	1.184943	5.962057	25.12403

| Variance Decomposition of BCP: | | | | | |
Period	S.E.	ROE	BCP	LQR	SPINT	EXR
1	43553.45	6.135411	93.86459	0.000000	0.000000	0.000000
2	97375.76	3.009728	79.00126	1.410719	1.447504	15.13079
3	201781.5	0.835005	74.86455	1.639386	3.096381	19.56468
4	362490.4	0.296173	71.14968	1.699975	3.813516	23.04065
5	612331.9	0.192831	69.20282	1.561097	4.570721	24.47253
6	1000194.	0.193508	68.45723	1.453388	5.058786	24.83709
7	1603935.	0.209771	67.87022	1.360726	5.435298	25.12399
8	2551349.	0.219217	67.65737	1.293196	5.654330	25.17589
9	4042680.	0.224741	67.55965	1.250199	5.783702	25.18171
10	6395561.	0.226444	67.50426	1.224556	5.860154	25.18459

| Variance Decomposition of LQR: | | | | | |
Period	S.E.	ROE	BCP	LQR	SPINT	EXR
1	7.705784	5.965583	2.038643	91.99577	0.000000	0.000000
2	13.64645	8.126097	48.84525	35.10029	7.895308	0.033056
3	21.40311	3.520321	49.17116	14.32529	18.84803	14.13520
4	32.52409	1.908348	53.44758	6.491592	14.22471	23.92777
5	49.60728	1.225118	62.59131	3.135381	9.524734	23.52345
6	76.08941	0.677635	64.69279	1.854286	8.006795	24.76850
7	118.8670	0.396070	66.21757	1.398080	7.141063	24.84722
8	186.3562	0.311171	66.84938	1.245253	6.546098	25.04810
9	293.2731	0.265036	67.14431	1.188806	6.245959	25.15589
10	462.8159	0.241678	67.38089	1.180631	6.085525	25.11128

| Variance Decomposition of SPINT: | | | | | |
Period	S.E.	ROE	BCP	LQR	SPINT	EXR
1	3.664811	0.755599	0.026452	8.813975	90.40397	0.000000
2	4.336087	4.212829	21.94438	8.602587	65.23929	0.000911
3	5.265281	3.024687	27.20091	13.12869	44.32639	12.31933

4	7.077498	1.824543	45.39351	9.581884	24.91629	18.28378
5	9.982498	1.201878	56.77476	6.388415	13.30116	22.33378
6	14.96934	0.622421	62.89137	3.883160	8.448312	24.15473
7	23.09542	0.386927	65.72310	2.565645	6.538609	24.78572
8	36.03787	0.305041	66.62107	1.848638	5.993256	25.23199
9	56.62692	0.261453	67.18575	1.496553	5.844425	25.21182
10	89.26057	0.241616	67.38306	1.333444	5.857544	25.18433

Variance Decomposition of EXR:

Period	S.E.	ROE	BCP	LQR	SPINT	EXR
1	29.49808	0.617674	56.42202	15.30569	1.451288	26.20333
2	67.69075	0.197888	70.60129	8.939928	0.327375	19.93352
3	123.4024	0.062030	70.27927	5.342497	1.110115	23.20608
4	212.0581	0.055694	69.63828	3.373631	2.561183	24.37121
5	350.5743	0.120028	68.97963	2.356557	3.759957	24.78383
6	566.3111	0.170014	68.17347	1.813586	4.655935	25.18700
7	904.9625	0.198282	67.88350	1.521911	5.204383	25.19192
8	1436.975	0.215299	67.66357	1.366951	5.539161	25.21502
9	2275.616	0.222227	67.55537	1.283355	5.730628	25.20842
10	3599.440	0.225462	67.51472	1.239822	5.831761	25.18823

Cholesky Ordering: ROE BCP LQR SPINT EXR

Variance Decomposition of PBT:

Period	S.E.	PBT	BCP	LQR	SPINT	EXR
1	327972.5	100.0000	0.000000	0.000000	0.000000	0.000000
2	612138.3	31.82755	67.26420	0.012382	0.061349	0.834524
3	800620.7	24.44565	39.32350	1.486044	0.796620	33.94819
4	1003434.	30.33270	30.36355	2.215116	0.776970	36.31167
5	1183077.	33.05129	21.92372	1.968375	0.596189	42.46043
6	1325905.	37.31961	17.62849	2.091631	0.899381	42.06089
7	1405051.	38.88542	15.71527	2.085942	0.962263	42.35110
8	1450121.	39.97937	15.17423	2.070211	1.244135	41.53205
9	1494974.	39.93555	15.46777	1.987085	1.239040	41.37055
10	1596953.	38.47257	17.89757	1.816000	1.092681	40.72117

Variance Decomposition of BCP:

Period	S.E.	PBT	BCP	LQR	SPINT	EXR
1	37496.73	0.663147	99.33685	0.000000	0.000000	0.000000
2	77350.34	6.783908	68.43494	0.015121	0.414237	24.35179
3	149746.5	18.03400	42.73252	0.368501	0.374438	38.49055
4	244723.2	25.00797	27.70022	0.638952	0.291753	46.36110
5	357203.8	30.16237	20.29005	0.816153	0.141009	48.59041
6	481204.9	33.62750	15.77036	0.909521	0.081972	49.61064

7	614025.3	36.00224	13.39348	0.974550	0.073619	49.55611
8	758100.3	37.34402	12.36506	0.995758	0.080321	49.21484
9	924721.0	37.86220	12.37028	0.986763	0.083980	48.69677
10	1132340.	37.69547	13.00908	0.959573	0.073041	48.26284

Variance Decomposition of LQR:

Period	S.E.	PBT	BCP	LQR	SPINT	EXR
1	7.627461	0.003502	2.672186	97.32431	0.000000	0.000000
2	12.12986	0.064110	43.33603	45.70266	10.64227	0.254924
3	17.96638	11.69047	33.94168	22.83668	9.953247	21.57792
4	26.87550	24.86162	17.88899	12.65943	4.448333	40.14163
5	34.42675	31.10515	13.16985	9.290529	2.819217	43.61525
6	41.20070	34.99337	10.99413	7.116724	2.509316	44.38647
7	47.88855	37.72221	9.357324	5.726882	2.120292	45.07329
8	54.32774	39.10742	9.014801	4.842184	1.749734	45.28586
9	61.72348	39.12851	10.38409	4.020039	1.441973	45.02539
10	72.48687	38.03850	12.69642	3.152838	1.076214	45.03602

Variance Decomposition of SPINT:

Period	S.E.	PBT	BCP	LQR	SPINT	EXR
1	3.562677	3.534529	0.953826	12.47577	83.03588	0.000000
2	4.142851	4.298024	21.44820	12.79744	61.43170	0.024637
3	5.113405	5.411928	24.38058	11.25572	43.77634	15.17544
4	6.808766	15.07305	19.44347	6.366405	27.20537	31.91171
5	8.534380	21.54795	16.13997	4.150794	17.74681	40.41447
6	10.43988	27.65868	13.93240	2.873664	11.86620	43.66906
7	12.46144	31.99787	11.31633	2.200667	8.328832	46.15630
8	14.40976	34.83836	10.37458	1.880023	6.240795	46.66625
9	16.49085	36.18505	10.73171	1.613243	4.798211	46.67178
10	19.21713	36.50638	12.05971	1.373750	3.552619	46.50754

Variance Decomposition of EXR:

Period	S.E.	PBT	BCP	LQR	SPINT	EXR
1	23.75815	0.302841	34.54995	12.82783	8.141864	44.17751
2	54.31601	7.953115	45.30343	4.547969	7.517812	34.67767
3	94.04768	18.11955	32.74843	1.517042	4.410598	43.20438
4	143.3136	25.18517	23.61761	0.847727	2.188156	48.16134
5	200.2253	30.23015	18.08405	0.712376	1.149316	49.82411
6	262.4653	33.74457	14.60240	0.747222	0.668861	50.23694
7	328.7616	35.98624	12.80414	0.808582	0.437560	49.96349
8	401.9441	37.19946	12.23897	0.842581	0.316336	49.40265
9	489.0678	37.57251	12.52164	0.854438	0.233539	48.81787
10	600.4242	37.31789	13.32460	0.855089	0.165379	48.33704

Cholesky Orderin

g: PBT
  BCP
  LQR
SPINT
  EXR

Variance Decomposition of YEA:

Period	S.E.	YEA	BCP	LQR	SPINT	EXR
1	4.086397	100.0000	0.000000	0.000000	0.000000	0.000000
2	5.071153	69.30473	2.178453	1.561143	0.692280	26.26340
3	6.359452	44.86978	15.94400	1.527610	1.225476	36.43314
4	8.362538	27.04508	38.81385	0.894395	4.442702	28.80398
5	12.40922	17.20176	45.67223	0.449021	8.062475	28.61451
6	20.60098	10.98529	50.89936	0.167637	6.874159	31.07355
7	37.45105	7.310199	57.09895	0.057080	5.523590	30.01018
8	70.98341	6.119051	59.52091	0.039398	5.207660	29.11298
9	136.4183	6.013708	59.98080	0.048142	5.058169	28.89918
10	263.6542	6.029638	60.12476	0.055871	4.894182	28.89555

Variance Decomposition of BCP:

Period	S.E.	YEA	BCP	LQR	SPINT	EXR
1	42713.07	1.517882	98.48212	0.000000	0.000000	0.000000
2	101947.8	2.231468	77.30686	0.270665	1.178782	19.01222
3	232634.1	5.371425	68.33658	0.230087	2.749590	23.31232
4	486936.2	6.085955	63.67815	0.237666	3.289120	26.70911
5	980757.5	6.074985	61.76241	0.154827	3.856243	28.15154
6	1936625.	6.021388	61.08478	0.109915	4.218440	28.56548
7	3789455.	6.011765	60.70373	0.086840	4.474370	28.72330
8	7381926.	6.011854	60.49383	0.075280	4.608006	28.81103
9	14352730	6.007607	60.40605	0.069361	4.672570	28.84441
10	27883157	6.002548	60.37087	0.066510	4.704288	28.85579

Variance Decomposition of LQR:

Period	S.E.	YEA	BCP	LQR	SPINT	EXR
1	7.868063	1.092914	0.384642	98.52244	0.000000	0.000000
2	12.47546	0.624286	45.68836	45.05109	8.604656	0.031614
3	19.25213	1.299553	42.61459	19.04765	20.66005	16.37816
4	31.60861	6.212729	48.92909	7.078031	13.33484	24.44532
5	57.88202	6.336751	57.03870	2.121856	7.193150	27.30955
6	111.2977	5.662289	59.80514	0.593957	5.488712	28.44990
7	215.8668	5.798124	60.42834	0.196447	5.039952	28.53713
8	419.1146	5.977601	60.35517	0.099349	4.864375	28.70350
9	813.8198	6.008983	60.31136	0.073509	4.770496	28.83566
10	1580.425	5.997984	60.34298	0.066326	4.736411	28.85630

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Variance Decomposition of SPINT:

Period	S.E.	YEA	BCP	LQR	SPINT	EXR
1	3.650970	0.241316	0.063215	5.030289	94.66518	0.000000
2	4.583726	2.952958	30.78837	5.635446	60.60452	0.018710
3	6.104247	3.272988	35.26609	7.106535	34.17536	20.17903
4	9.872196	6.917067	51.21749	3.138788	14.09300	24.63366
5	17.99547	6.574890	58.57590	1.255076	5.896229	27.69790
6	34.55957	6.094133	60.09013	0.429004	4.627883	28.75885
7	66.89438	6.049505	60.42824	0.182302	4.492125	28.84782
8	129.8470	6.048997	60.38888	0.103364	4.605758	28.85300
9	252.0594	6.022850	60.34335	0.077473	4.668000	28.88833
10	489.3794	6.006368	60.34831	0.068472	4.703255	28.87359

Variance Decomposition of EXR:

Period	S.E.	YEA	BCP	LQR	SPINT	EXR
1	29.76550	4.074563	50.41793	9.483310	1.685615	34.33858
2	76.14301	6.173668	66.04779	4.076897	0.271857	23.42979
3	163.0526	6.255137	64.60794	1.577429	1.233268	26.32622
4	332.3813	6.252762	62.53839	0.597795	2.659642	27.95141
5	661.0791	6.158484	61.48378	0.261817	3.608302	28.48762
6	1298.022	6.073012	60.87432	0.140099	4.179354	28.73322
7	2532.570	6.034641	60.57902	0.094259	4.472810	28.81927
8	4927.360	6.016873	60.44558	0.076427	4.614325	28.84680
9	9574.881	6.007154	60.38561	0.069213	4.680239	28.85779
10	18596.34	6.002339	60.36059	0.066226	4.710038	28.86080