IMPACT OF RECAPITALISATION ON THE FINANCIAL PERFORMANCE OF DEPOSITS MONEY BANKS IN NIGERIA

BY

ABUH ADAH
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DECLARATION

I hereby declare that this dissertation entitled, "Impact of Recapitalisation on the Financial Performance of Deposits Money Banks in Nigeria," is a product of my research work. To the best of my knowledge and belief, this work has never been submitted to any institution for an award of a degree, diploma or certificate of whatever kind. All materials borrowed and used are duly acknowledged.

Adah, Abuh

CERTTIFICATION

This dissertation entitled, "Impact of Recapitalisation on the Financial Performance of Deposits Money Banks in Nigeria," by Abuh Adah meets the regulations governing the award of the degree of Doctor of Philosophy in Accounting and Finance of Ahmadu Bello University, and is approved for its contribution to knowledge and literary presentation.

Prof. Muhammad Tanko Chairman, Supervisory Committee	……. Signature	……. Date
Prof. A. S. Mikailu Member, Supervisory Committee	…….. Signature	…… Date
Prof. (Mrs). P. S. Aku Member, Supervisory Committee	…….. Signature	…… Date
Dr Ahmed Bello Head of Department	…….. Signature	…… Date
Dean, Postgraduate School	…….. Signature	.. …….. …… Date

DEDICATION

This dissertation is dedicated to my late parents Adah Okekwu Ocheje and Mrs Ajine Adah Ocheje and also to my late sister Hajia Mariam Musa Adah and late brother Mallam Nuhu Makolo (Ulaja).

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ABSTRACT

Banks with long term financial setbacks in terms of deposits, liquidity, loans and advances and operational loss must continuously seek solution for improvement. Nigeria has long but identified banking problems that are traced to gross inadequate capital base which has been hindering satisfactory performance in the sector. To overcome these problems of under capitalisation of deposits money banks (DMBs) in Nigeria, the Central Bank of Nigeria (CBN) directed the DMBs to recapitalise to the minimum amount of N25 billion (as capital base) through merger, acquisition or restructure with 31st December, 2005 as deadline. It is assumed that the increased capital will go along way to turnaround the banks and provide for satisfactory performance. This study, therefore, evaluates whether or not the recapitalisation has significantly improved the financial performance of DMBs from what it was prior to the exercise. Relevant literatures were reviewed. Based on the nature of the study, correlational research design was adopted while secondary data were mainly employed. Independent t-test for difference of two means was used for data analysis. Pearson product correlation coefficient (PPCC) was also used to determine the extent of the relationship between the two variables. For the test of contribution of shareholders' funds to each of the performance indicators, path analysis model was used. It was found that there is a significant impact of recapitalisation on the four performance indicators after the exercise. PPCC revealed a strong and positive relationship both before and after the recapitalisation but, the cases of before are higher than those after the exercise. It was also revealed that the deposits highly benefited from the recapitalisation when compared with other performance indicators. The study recommends that CBN should ensure that the banks' maintain continuous positive performance and also put in place effective, operational and transparent mechanism with which results can always be measured and that the CBN and other stakeholders should focus on policies that will directly affect all the banks' financial performance indicators. Finally emphasis should also be placed on factors such as investment and maintenance of human asset and efficient corporate governance.

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

When a country's banks experienced major financial setbacks, usually stakeholders such as the public, depositors, markets and the regulator – Central Bank will have to respond. The setbacks are in terms of profitability, loans, deposits and continuous flow of liquidity to various sectors of the economy for the banks to maintain their role as engine of economic growth and development. The responses are that the public will tend to lose confidence not only in the affected banks but in the entire banking system. For example, depositors of affected banks may rush to withdraw their money for fear of loss and quest for safety. Other banks, that is, those that are not affected will equally experience the bank run/rush and the markets will make it very difficult for the banks to raise funds. The response by the regulatory authorities could take the form of either recapitalisation or giving out temporary loan in the form of bail-out to enable the banks continue their normal operations without interruptions.

Financial problems in a banking system can cause great damages to a country if not timely and properly addressed, given its role as finance provider to other sectors of the economy and its ability to create liquidity. The financial problems of Nigerian banks started before the first banking law of 1952 (Banking Ordinance) and were traced to 1930 when the first bank failure was reported in the country. The major causes of the problems were linked to gross inadequate capital leading to technical insolvency, high operational loss due to low earnings and high operational costs, high incidence of non-performing loans associated with poor assets quality, weak management, declining margins and gross insider abuse (CBN and NDIC, 1995).

As a result of these unprecedented problems, the banks' performances have not been

satisfactory. These have been adversely affecting the banks' financial needs to customers, the public, the economy and internal growth in terms of physical assets, ability to grant long term facilities and putting in place modern infrastructure that could propel the sector to greater heights.

Over the years, the regulatory body and the stake holders have been very much concerned about what could be done to surmount these problems for effective performance and growth in the system. The last (2005) attempt at finding a solution to these problems is the recapitalization exercise through raising the capital base of all Nigerian Deposit Money Banks (DMB) to minimum of N25 billion. This recapitalization has made the exercise a regular feature or phenomenon in Nigerian banking sector. For instance, between 1999 and 2003 alone, the CBN has recapitalized the Nigerian banks four times. In 1999, the minimum capital requirement was N500 million. Between 2000 and 2001, it was moved to N1 billion for new entrants and N1.5million for existing banks. In 2002, it went up to N2 billion and N1 billion for new entrants and existing banks respectively and in 2003, it became N2 billion for all banks (Agusto, 2004: and CBN, 2004). The recapitalization policy could therefore be described as a deliberate action of the Central Bank of Nigeria (CBN) to address financial problems of the banks.

In a bank, recapitalization is a regulatory policy of adjusting the existing capital as may be determined by the outcome of capital adequacy assessment with the main aim of repositioning an organization for an improved performance. Adegbaju and Olokoyo (2008) are also of the view that banks' recapitalisation is a deliberate policy response to correct perceived or impending banking sector crises and subsequent failures. It became clear that the CBN has been embarking on the recapitalization policy for the purpose of repositioning and strengthening Nigerian banks for

satisfactory performance and to improve the quality of services from a long term underperformance and financial distress. The assumption is that if the capitals of banks are increased, the components of performance will automatically increase proportionately, thereby capable of turning around the financial problems of Nigerian banks for effective performance.

In the banking industry, any form of recapitalisation is expected to create a capacity to provide more effective banking services that will bring about the achievement of the desired level of economic growth and development. Therefore, the need for a strong capital base through recapitalisation is to meet the challenges posed by financial and operational crisis, technological innovation and to strengthen the system.

Recapitalisation originated from the word *capital* while *re* is a prefix used to introduce the subject matter in order to differentiate it from the initial subject matter as may be required for a specific purpose or by the relevant authority. Therefore, capital has to be introduced in this context. Capital represents the amount of money and money's worth invested in a business at any particular point in time for the continuous operations of the business. On the other hand, it can simply be described as the owners' inputs - money and money's and debt holders' (if any) worth, in a business for the purpose of maintaining and achieving the objectives of establishing the business.

CBN and NDIC (1995) refers to capital as the shareholders' stake and subsequent funds additions which are used as operating base and remain more or less permanent in the business until it winds up. The functions of a bank capital as highlighted by CBN and NDIC (1995) include acquisition of fixed assets, serve as an operating base, absorbs operating losses which cannot ordinarily be absorbed by normal earnings, allay fear of depositors, regulators and the public (public confidence) and show

owners' confidence in the banking business, the strength of the bank and its lending limits.

To serve these functions, capitals of banks are expected to be adequate at all times as any defect may create financial problems. Once there is a defect in the size of capital to the volume of operations, the bank may be heading for financial and operational crises that may hinder its satisfactory performance. Capital in a bank is therefore expected to be at least, optimal to maintain a good health of the system at all times. This is because the efficiency and effectiveness of the operation of a bank depend largely on what constitutes its capital. Capital therefore has influence on the financial performance of a bank. The financial performance in this context refers to deposit liabilities, liquidity, loans and advances and profit which the constitute dependent variables of this study.

As banks are treated with extra care, so also is the banks' capital, as it is established that the main function of banks' capital is primarily to protect the interest of the depositors. Therefore, banks whose capitals are relatively high may tend to command high deposits from which they can derive liquidity for their intermediation function. Similarly, the public believes that banks with high capital base are strong and reliable irrespective of the quality of services they render to their customers. Again, as no bank exists without capital and adequate deposits for trading, so also is it that no bank exists without meeting the statutory minimum liquidity requirement. Liquidity in banks represents physical cash, bank balances with CBN and other banks/financial institutions, treasury bills/certificates, and any other assets of the banks that can easily be converted to cash with minimum risk or loss. The performance of banks depends on their ability to meet their customers' demands and that of the regulatory authorities at any point in time.

Closely related to liquidity in banks, is the level of loans and advances since these facilities are expected to constitute the largest category of assets in banks' balance sheets. Therefore, one major performance measurement in banks is the size or quantum of loans and advances in the hands of customers at any particular point in time. With recapitalization, the total assets base is expected to increase, as well as the proportion of loans and advances.

Capital in a corporate organization like the bank cannot clearly be separated from the returns it generates in terms of profit. This therefore follows that if capital is not efficiently used, profit may not be realized. This is because profit is the product of a successful utilization of capital through its employment in any functional area of an organization. Profit could be looked at as the ultimate, since it is the basic standard by which the performance of a business is measured with the resource in the form of financial capital. High profits provide a buffer against adverse shocks and thus increase the charter or franchise value of the bank (Gan, 2007).

With this recapitalization, DMBs in Nigeria may be strong enough to mobilize enhanced long and short term deposits for granting required long and short term facilities to deserved customers and still maintain the minimum statutory liquidity requirement. This main intermediary function will eventually transform into improved profit. This is the fundamental reason for considering these variables as the performance indicators of this study.

1.2 Statement of the Research Problem

Over the years, the Central Bank of Nigeria (CBN) has been insisting on recapitalizing banks in order to provide solutions to Nigerian banks' problems that have over the years thrown the banks into financial crises and confusion that had led them into misplacement of their real functions. The identified performance problem

areas had continuously been weak and/or negative capital base resulting from poor operating performance, persistent illiquidity, unprofitable performance, poor asset quality and lack of extension of credit facilities to the real sectors of the economy (Soludo, 2004). However, there seems to be no sign that the banks are fast dying off despite the continuously expanding nature of the problems they face. Rather, they continue to struggle to maintain their existence and going concern.

These problems are hard and fundamental and therefore require proper, radical and continuous attention to avoid further debilitating impact, not only on the financial system and depositors but also on the overall national economy. In addition, other negative impact of these peculiar problems may include manifestation in the deposit base of the banks, absence of lending to the real sectors, further erosion of public confidence in the system and increased distortion of financial conditions of banks arising from attempts to conceal the true financial information.

Capital is a legal requirement in banks. Besides, it is fundamental in any corporate existence; more importantly in banks because of obvious reasons. Capital performs a number of indispensable functions in the operations of banks, among which are: providing a base for growth and expansion, mitigating against risk and fragility, maintenance of public confidence as well as enhancing deposits mobilization and efficiency. According to Spong (1990), banks must have sufficient capital to provide a cushion for absorbing possible loan losses or other problems as well as providing funds for their internal needs and for the safe and sound operations. Consequently, banks' regulators view capital as an important element in hedging banking risks to an acceptable level and enhancing banks' performance. To ensure this, capital is expected to constantly be adequate hence the constant increase consideration.

Frequent increase in the capital base of banks is a common feature of the banking

industry all over the world. For instance, in the United States of American, the Federal Deposit Insurance Corporation is nicknamed "forever demanding increase in capital". The situation is not different in Nigeria as the CBN has adopted a policy of periodic upward review of Nigerian banks' capital. The recapitalisation is to enhance the financial performance of banks in the industry because of the strong economies of scale (Hughes, Lang, Mester and Moon, 1999; Khanna and Palepu, 2000; Laderman, 2003; Stiroh, 2004 and Soludo, 2006).

Proponents of recapitalisation such as Berger, Herring and Szego (1995) believe that increased capital could potentially increase banks' performance and reduce risk. With increased capital, the banks could offer new and improved services, more and large businesses could be financed through either short or long term loans, new/improved technologies and infrastructure could be put in place for high quality services that may mobilize fantastic deposits for banks' trading that could give rise to improved performance, internal growth and expansion and improve the shareholders' wealth and growth in the financial system.

The opponents of recapitalisation like De Nicolo and Gianni (2003) argue that increased capital through consolidation could increase banks' propensity towards risk taking through increases in leverage and would adversely affect the performance. In addition, scale economies are not unlimited as larger entities are usually more complex and costly to manage. In favour of the proponents of recapitalisation, the Nigerian banking regulator (CBN), has adopted a policy of periodic upward review of capital of banks with a view to achieving the objectives of recapitalisation.

The most recent recapitalisation policy of N25 billion (minimum) for all deposits money banks (DMBs) in Nigeria is an attempt to shove up the banks' capital base and enhance public confidence in the banking industry and to achieve the objectives

described in the preceding paragraph. It is as if once capital is raised, the components of performance will immediately assume an acceptable proportions but this may be quite uncertain without some degree of statistical tests.

The recapitalisation may not be the only determining factor for satisfactory performance. However, with the current 25 billion naira minimum capital base across the board, one would therefore be able to determine whether or not the increased capital brings about better performance. On the other hand, it is to say that how relevant is the continuous increase in banks' capitals if they cannot be supported with the corresponding improvement in performance. Ordinarily, one can favourably assume that, any business venture that has committed more capital into its operations must expect to be judged in terms of improved performance. This however, may be subjected to statistical proof in respect of the recapitalisation in Nigerian banking sector.

The current banks' recapitalisation should be a channel for providing solutions to the long term financial problems of general underperformance in the sector. Therefore, the central concern is whether or not the recent recapitalisation in Nigerian banking sector has provided significantly different satisfactory benefits to stakeholders, other than it was prior to the exercise. This study is used to find out which of the opposing views is tenable (that is, views that are in support or against the banks' recapitalisation). In line with this problem concern, this study raises the following questions in assessing the impact of recapitalisation on the financial performance of deposits money banks in Nigeria:

i) How has the 2005 recapitalisation affected the four performance indicators?

ii) Has the recapitalisation actually impacted on the four performance indicators in this study?

1.3 Objectives of the Study

The main objective of this research work is to assess the impact of the recent recapitalization on the financial performance of Nigerian banks. The specific objectives of the study are to:

1. evaluate the extent of influence that the recent recapitalisation has on the deposits liabilities of Nigerian banks;
2. assess the level to which the recent recapitalisation has impacted on the liquidity position of Nigerian banks;
3. determine the extent to which the recent recapitalisation has affected the quantum of loans and advances of Nigerian banks and
4. identify the extent to which the recent recapitalisation has impacted on the reported profit of Nigerian banks.

The extent of recapitalisation on the financial performance in this study assumed that the higher the capital, the higher the performance indicators

1.4 Research Hypotheses

The following null hypotheses were formulated for testing to support the data collected for this study:

1. There is no significant difference between the deposits liabilities of Nigerian banks before and after the recapitalisation exercise
2. There is no significant difference between the liquidity position of Nigerian banks before and after the recapitalisation exercise.
3. There is no significant difference between the size of loans and advances of Nigerian banks before and after the recapitalisation exercise.

4. There is no significant difference between the profitability of Nigerian banks before and after the recapitalisation exercise.

1.5 Scope of the Study

The study covered all the banks that recapitalized in accordance with the directive of the CBN as at 31st December, 2005. The recapitalization in this context is restricted to the recent (year 2005) minimum capital base of N25 billion for all deposits money banks in Nigeria.

A study will make reference the CBN and NDIC where necessary; it covered these regulatory/supervisory authorities. Securities and Exchange Commission (SEC), Federal Mortgage Bank of Nigeria (FMBN), National Insurance Commission (NAICON), Federal Ministry of Finance (FMF), Chartered Institute of Bankers of Nigeria (CIBN) and National Board for Community Banks/Microfinance Banks were not covered in this research work.

The study covered a period of eight years from 2001 to 2008. The researcher is of the view that four years (2001 to 2004) before recapitalization and four years (2005 to 2008) after recapitalization will be sufficient for effective comparison and to allow for fluctuations of reported profits and other performance measurements with the capitals of the banks for any meaningful research work.

The banks' performance in this study is proxed by deposits liabilities, size of loans and advances, liquidity position and profitability of the banks under study which formed the four dependent variables, while capital/shareholders' funds is considered as the only independent variable.

1.6 Significance of the Study

The banking industry being the engine of growth and development of any nation needs careful study for comprehensive and adequate solution. Jat (2006) sees the

banking sector as the life wire of any economy and the pivot on which economic growth revolves.

The findings of this research work will be useful in three respects as follows: (1) policy significance (2) practice significance and (3) research significance.

Policy significance – The banking industry being the engine of any economy requires the government to closely monitor its operations to ensure consistent growth and development of the other sectors of the economy. Therefore, the result of this work will assist the government in planning, implementing, controlling, monitoring and taking corrective measure to achieve the desired economic growth and development. Hence relevant authorities may find the findings of this research work useful in formulating their economic, financial and regulatory policies.

Civelek and Al-Alami (1991) stress further on this issue when they noted that empirical evidence and structure – conduct and performance relationship can help to enhance government regulatory policies in the banking sector. Besides, the findings will also assist the managers and other operating staff of the financial institutions with adequate information to guide them in policy formulation, planning and decision making for enhanced performance of their banks.

Practice significance – The practitioners in this regard include bankers, accountants, financial analysts, theorists, financial advisors/consultants, stockbrokers and other related professionals. The findings of this work will provide them with comprehensive and up-to-date financial information in carrying out their advisory/consulting services to their clients, prospective investors and other interested parties. Other stakeholders like professional Accountancy bodies and Chartered Institute of Bankers of Nigeria (CIBN) will also benefit from the findings of this work as mentioned in preceding sentence.

The third category is the research group. The beneficiaries in this group will include students and researchers in the area of finance, accounting, economics and management. Other beneficiaries are the academics and social scientists like economists and political scientists. This benefit will be in the form of provision of information or literature on the topic and related banking research for study and further research.

1.7 Structure of the Study

This research work begins with chapter one which depicted the general introduction that contains the historical background of the study followed by the problems of the study, the objectives as well as hypotheses and ended with the significance of the study. Chapter two reviewed the related literature on the concept of capital and performance and also analysed the previous work conducted on similar topics. Chapter three presented the methodology adopted in carrying out the work, data analysis techniques employed in analyzing the data for hypotheses testing. The results of chapter three were discussed in chapter four and chapter five was dedicated to the summary, conclusion and recommendations of the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is concerned with the systematic and explicit collection of documented views, ideas and empirical evidences of the previous authors on the areas relating to the subject of this research. The purpose is to review and evaluate these documents with a view to providing orientation, focused ideas and current account of literature relevant to this research.

The review commenced with the concept of capital and financial performance. Capital requirements in banks were highlighted, which covered the regulatory category of capital and the need for capital regulations. Reasons for recapitalization in the banking industry were also reviewed. Other significant areas of the literature that were equally reviewed include: performance measurement model in banks, the functions of deposits and liquidity, relevance of loans and advances in banking, profits as a measure of bank financial performance and the impact of recapitalization on financial performance. Other determinants of banks' performance were added to the review.

2.2 The Concept of Capital

Capital is the most crucial element for all economic activities in any organization. It is also the basic financial indicator that should be carefully monitored and measured, vis-a-vis the returns accrued from the use of it in an organization. In banks, capital is one of the key variables in financial management since sufficient capital level for financial institutions is considered to be the most effective way to sustain business activities. Capital is therefore a cushion against all type of risks; as all risk

management activities focus on capital level for individual transactions, business lines and the entire company. One of the most important aspects of bank management is to decide the level of capital for bank to operate in a safe and sound way. Besides, regulators pay a great deal of attention to the amount of capital in banks (Tiryaki, 2009).

Capital is the value of the net assets of the owners of the company, in this case the bank. Capital is initially a source of fund for the bank for buying all necessary fixed assets and to supplementing working capital. After issued, the equity of the bank is the difference between the value of the total assets of the bank and the value of its liabilities. According to Tiryaki (2009), capital is assigned two general functions in banks: 1) to measure the owners' stake in the bank. Stakeholders include anyone who has a claim on the current and future cash flows of the company. 2) to act as a shield for stakeholders. The thicker is the owners' stake, the more protection it provides for guarantors, debt holders, and uninsured depositors.

Capital achieves this by: (i) protecting uninsured depositors in case of insolvency, (ii) covering unanticipated losses to maintain confidence in the bank, (iii) funding fixed investments and other non-financial investments of the bank (iv) limiting asset expansion beyond the means of the bank.

Amount of capital is deemed adequate when it reduces the chances of future insolvency of the bank to some predetermined minimum level. Alternatively, capital adequacy can be defined as the maintaining a level of capital so that the premium paid by the bank to an insurer fully covers the risks by the insurer (Maisel, 1981). Therefore, in order to determine the adequate amount of capital, adequate measure of financial risk should be made as it is very important for bank management, shareholders, regulators and insuring agency, and uninsured creditors.

According to Maisel (1981), for the purposes of determining adequate amount of capital, a bank may be considered insolvent in two cases: first, when its liquidity is so low that it cannot pay its due debts; second when the market value of its assets is less than the value of its liabilities. Accordingly, Crouhy and Galai (1986) suggest that risk of solvency basically depends on: (i) the risk that in the future bank has to incur a rate higher than the current yield on its assets, (ii) the risk of capital loss on bank's assets (iii) the risk that some loans cannot be collected, (iv) the initial amount of capital that can cover the adverse effect of the previous three risks.

Basically, adequate amount of capital can be viewed from two different perspectives: owners' and regulators'. Owners' primary concern when investing in a bank is to earn a good return in form of profit. On the other hand, regulators aim to make sure that banks maintain a certain level of capital to protect uninsured depositors and other creditors, and to promote safe and sound functioning of both the individual bank and the financial system as a whole.

In order to fund its activities, like extending loans and investing in securities, a bank needs to be able attract deposits from the public. In order to collect deposits, public has to have confidence in the bank, which is affected by the amount of capital level. Although capital is very important for almost every aspect of banking and in order to maintain a sound and safe functioning of banks, the CBN has to impose minimum level of capital requirements in Nigeria. This becomes mandatory because, maintaining at least minimum level of capital reduces the risk of default to a predetermined level.

On the other hand, as Berg-Yuen Pia and Elana (2005) state rising and holding capital is costly because of taxes, agency and information costs. Meaning that, increasing the level of capital or recapitalization decreases the rate of profit on equity of owners.

Therefore, in order to maintain a fair return in form of profit on equity, banks have to reach an optimal level of capital or adequate recapitalization to minimize its costs while ensuring solvency.

From the above, it is very clear that adequate capital is mandatory to the survival of any business. Inadequate capital may be detrimental to the successful operations of business particularly in banking industry. Where the regulatory authority is of the view that capital is no longer sufficient to absorb the volume of operations, increase or consolidation of capital or simply recapitalization may be contemplated either through merger, acquisition or restructuring for the survival of the industry.

The concept of bank consolidation as championed by Akharvin, Berger and Humphrey (1997) view bank mergers, acquisition or restructuring as not just adjusting inputs to affect costs but, also involves adjusting outputs (product) mix to enhance revenues. Berger (1998) in support of this view found that bank mergers, acquisitions or recapitalization do tend to be associated with improvements in overall performance partly because banks achieve higher value output mix through a shift toward higher yielding loans away from securities. The study further asserts that merged, recapitalized or restructured banks tend to experience a lower cost of borrowed funds (where necessary) without the need to increase capital ratios. Aside consolidation, the other route of achieving capitalization requirements, the capital markets requires to provide a conduit for investment funds and devolution of ownership structure through offer for subscription by either private placement or public offer. Banks will therefore expand their capital base consistent with new business initiatives, technological innovations and regulatory requirement.

According to Ajayi (2005), the channel for raising banks' capital do not directly encourage consolidation of any kind, but allow large and complete banking

institutions to evolve under a set of banking reforms and indirectly increase the value of shareholders for possible merger, acquisition or restructuring contemplation. From whichever way it is considered, capital or recapitalization has become an important concept of consolidation in the banking industry mainly for the purpose of general improvement in the bank performance.

Wood and Sangster (2002) define capital as the amount of the resources supplied by the owners. Hassan (2007) defines capital as a fund of any corporate organization that has potentials to generate profit through investment. CBN and NDIC refer to capital of a bank to represent shareholders' stake and subsequent funds additions which are used as operating base and remain more or less permanent in the business until it winds off. The CBN and NDIC further state that the functions of a bank capital include: i) acquisition of fixed assets ii) operating base iii) absorb operating losses which otherwise cannot ordinarily be absorbed by normal earnings iv) allay fear of depositors, regulators and the public (public confidence) and v) show owners confidence in the banking business, the strength of the bank and its lending limits.

The first definition appears to be incomplete as capital may consist of the owners and third parties (debt holders) resources input; not restricted to the owners input alone. In the second definition, there is a problem of definition of fund. Is it paid up share capital or paid up share capital plus all reserves? However, the definition of CBN and NDIC may be acknowledged except that the last three functions of the capital may be queried on the ground of non fundamental of capital in any organization.

In banking context and practice so far, capital has a wider and probably misleading meaning since it will include paid-up share, statutory reserves, share premium, capital reserve, revaluation reserve, general reserve, special reserve, retained profit and any other reserve created in the normal course of the banking business which ordinarily

should have been available for distribution to shareholders either as dividend or bonus. In banking, the combination of these variables is recognized as capital; obviously, this meaning may be faulty as capital is not in any way equivalent to shareholders' funds irrespective of any view expressed by other experts.

From the definitions above, observations and its composition, capital could be defined as the financial resources in use in an organization at any point in time either provided by the owners, through debt holders or combination of these two groups, with the potentials to achieve the objectives of the organization. On the other hand, recapitalization could be defined as a policy of adjusting the existing capital of an organization by the regulatory authority to a specified amount based on the prevailing economic and financial conditions, but with a major aim to repositioning and improving the general performance and competitiveness in the industry.

2.3 Capital Requirement in Banks

2.3.1 Importance of Adequate Capital

In banking, capital creates a strong incentive to manage a bank in a prudent manner, because the bank owners' equity is at risk in the event of a failure. Models of banks' capital are tied to unexpected losses. The assumption is that expected losses in the ordinary course of business should be covered by the normal operating earnings. Thus, bank's capital plays a critical role in the safety and soundness of individual banks and the banking system. Therefore, for losses beyond the normal range of expectations, sufficient capital should be in place to absorb the loss and leave the bank stable and able to continue operating effectively hence there is the need for at least adequate capital requirement in the banking sector (BCBS, 1998).

Banking is like any other business with certain risks and return characteristics. Equity

capital being business-neutral would move to and find its level in an industry or firm in terms of its risk-return structure. In other words, it depends upon the risk appetite of a particular class of investors and the expected return that satisfies this appetite. This is the generic behavior of capital. Any capital regulation that infringes upon this law would force the investors to seek alternative equilibriums, which may often be detrimental to economy, not to speak of depositors' interest. The regulation would thus defeat the very purpose for which it is intended. When capital is allowed to exploit its risk potential fully, the depositors' interest is protected as a consequence of it (BCBS, 1998).

So far as the behaviour of equity capital is concerned, what is true of any other industry is true of the banking industry also. Banking is the most regulated business of the world and capital regulation is the arch pillar of this regulatory structure; the more complex it is, like Basel II, the higher the regulatory satisfaction.

There is increasing reluctance to let capital find its own level in the banking industry. The central argument against this is that social, economic and financial cost of bankruptcy is tremendous for the banking industry and, central to this risk of bankruptcy is the failure of banks to honour commitment to the depositors who are assumed to be gullible, not knowing what banks are doing with their money and not able to distinguish between 'good' banks and 'bad' banks. Despite this statement, Calmoris and Wilson, (2004) provide evidence from their study of banking crisis during the Great Depression that depositors were able, in some degree, to identify weak banks and to make roughly accurate assessment of the deposit risk by following market movements related to stock prices of banks and changes in bank leverage.

The increasing transparency requirements being placed on banks now have the effect of making the depositors more knowledgeable than they were before now. It is often

postulated that the risk of bank's business is always very high. Cebenoyan and Strahan (2004) are perhaps, echoing the general consensus that it is difficult to imagine another sector of the economy where as many risks are managed jointly as in banking. It follows, therefore, that a bank with comparatively higher risk associated with its business, and a default having high financial and social cost should have higher equity component in its capital structure than firms in other industries.

One could however, argue that debt-equity ratio of a bank may be higher than that of any other firm. This is because it may be that either the banks are not as risky as are perceived to be or there exists some other economic laws which make the bank highly leveraged or both. So far as the former is concerned, the issue can be approached from an opposite angle, that is, a higher level of capital would lower the default probability. However, Thomson (1991) finds that a higher equity ratio does not always predict a lower probability over all reasonably near future periods. This finding may only be applicable to other industries not banking because of the special functions of bank capital. Banks are considered special and so is the bank capital. It could nearly be established that the function of banks' capital is primarily to protect the interest of the depositors. Away from the conventional corporate financial theory, it is held that banks do not require capital as a primary source of financing but to underpin the risk of loss in value of exposures, businesses, among others, so as to protect the depositors and general creditors against loss (Matten, 2001). This special attribute of bank capital has now entered into banking textbooks, the primary articulation of which was done in Basel I Accord. The capital adequacy lies at the heart of supervision, and all supervisory authorities require their banks to hold capital against the risks of potential losses arising from their business operations. This is so argued (Berger, Herring, and Szego, 1995), because banks systematically have the highest leverage than firms in

any other industry.

The literature on the rationale for capital requirement in financial institutions is extensive and has been the subject of several recent surveys (Berger, Herring and Szego, 1995 and Santos, 2001). Bank regulators have long regarded the prevention of systematic risk as the fundamental rationale for imposing capital requirements on banks. The assumption is that the shareholders will not take account of the social costs of systematic risk in their capital decisions and so will tend to hold less capital than if these spillover costs were considered.

According to the New Basel Capital Accord: an explanatory note (2001), adequate bank capital is often defined in 2 tiers. Tier 1 consists of shareholders equity, all disclosed reserves less goodwill, if any. Tier 2 is made up of: General provisions / general loan-loss reserves, Revaluation reserves, Hybrid (dept/equity) capital instruments, Subordinated term debt, Undisclosed reserves (not allowed for U S banks) and Less: Investments in unconsolidated financial subsidiaries and Less: Investments in the capital of other financial institutions.

Total capital will therefore be Tier 1 capital + Tier 2 Capital. This total capital is then divided by the sum of a bank's risk-based assets to generate the appropriate risk-based capital ratio which determines the adequacy or otherwise of a bank's capital. The Basel Committee on Banking Supervision's 1988 Capital Accord set 8% of the above result to be the minimum of a bank's capital. Therefore, any capital ratio of less than 8% of risk-adjusted assets will be technically insolvent and requires injection of cash from the owners to maintain the level of the bank's operations. The 1988 Basel Capital Accord or Basel I (Basel Committee on Supervision (BCBS) (1988), which set minimum capital standards for banks was really the first international accord of its kind. That is, it is also applicable to Nigeria and it is exactly what the CBN and NDIC

use in determining the adequacy or otherwise of Nigerian banks capitals. However, the study will not adopt this measure, but the new capital base of the Nigerian banks.

2.3.2 Regulatory Category of Capital

The idea of imposing minimum levels of capital on all banks began in the United States in 1981. Prior this date, Federal and State Regulatory authorities used a subjective approach that relied on peer group comparison to decide if a bank had enough capital. Capital ratios used to measure adequacy of capital then were: Total capital to Total deposit; Total capital to Total assets and Total capital to Total risk assets. (New Basel Capital Accord: an explanatory note, 2001).

The recent approach is imposing a minimum capital standard on all banks for the regulators to enforce and avoid the pitfall of peer group measurement.

In 1992, the FDIC and other federal bank regulators created five capital-adequacy categories of banks for purposes of implementing "prompt corrective action" when a bank becomes inadequately capitalized. The FDIC improvement Act of 1991 has the following five capital-adequacy categories of banks:

(i) Well capitalized – This category must have a ratio of total capital to risk-weighted assets of at least 10 percent, a ratio of Tier 1 (or core) capital to risk-weighted assets of at least 6 percent and a leverage ratio (Tier 1 capital) to average total assets of at least 4 percent.

(ii) Adequately capitalized – This group must have a minimum ratio capital to risk-weighted assets of at least 8 percent ratio of Tier 1 (core) capital to risk-weighted assets of at least 4 percent and leverage ratio of at least 4 percent.

(iii) Undercapitalized – This describes any bank that fails to meet one or more of capital minimums for an adequately capitalized bank as defined above and is subject

to a variety of mandatory or discretionary regulatory restrictions, including limits on the dividends and management fees it is allowed to pay, or on any proposed merger unless approval is obtained in advance from the regulators.

(iv) Significantly undercapitalized – Any bank belonging to this group possesses a ratio of total capital to risk-weighted assets of less than 6 percent, a core (Tier 1) capital to risk-weighted assets ratio of under 3 percent and a leverage ratio average of less than 3 percent. A bank in this category is subject to all the restrictions faced by undercapitalized banks (as described above) plus other restrictions such as mandatory prohibitions on paying bonus and raises to senior staffers without regulatory approval.

(v) Critically undercapitalized – This category applies to banks whose ratio of tangible equity capital to total assets is 2 percent or less (where tangible equity includes common equity capital and cumulative perpetual preferred stock minus most forms of intangible assets). Banks in this lowest capital group face all the restrictions applying to undercapitalized banks plus having to get regulator approval for such transactions as granting loans to highly leveraged borrowers, making changes in their charter or bylaws and the rest.

In Nigeria, the CBN has not attempted to classify banks' capital into the above categories; this may be due to instability in the banking system, untrue and possibly misleading financial report including improper recognizing of earnings, inability or insincerity to identify different types of capital and other factors.

The debate surrounding capital and its adequacy is an important concern for both banks as well as the regulators thus has been at the forefront of policy discussions over the years. Despite the immense amount of work that has been devoted to the issue, there has been little in the way of agreement among the various commentators as to the guiding principles (Pringle, 1975).

Firstly, the effectiveness of capital in curbing excessive risk taking by banks and reducing the probability of bankruptcy is contested. The orthodox argument (Berger, Herring and Szego, 1995) is that capital acts as a buffer against failure, thus requirements that force banks to hold more capital will reduce the likelihood of bankruptcy. Other authors however, disagree and suggest that capital requirements may indeed lead to increased risk taking by banks (Koehn and Santomero, 1980). Secondly, whether capital requirements have any impact on a bank's actual capital decision is also a moot point.

Previous empirical work on the effectiveness of bank capital requirement in determining actual capital levels has contrasting results. However, Peltzman (1970) finds no requirement effect on bank capital whereas Mingo (1975) finds that capital adequacy requirement had a significant impact on bank capital.

2.3.3 Need for Capital Regulation in Bank

The acknowledged importance of the financial system avis-a-vis the banking sector for better functioning of an economy is very clear. It is obvious that banking crisis can have large disruptive effects on the real economy. For a long time, policymakers have put considerable effort into the design of banks' capital, as a way of safeguarding overall financial stability. The Basel Accord was issued in 1988, market risk was dealt with in 1996 and a revised (risk-based) framework was issued in June 2004, (Basel II). Accompanying this policy effort, were the issues on the bank capital and capital regulation.

The need for any regulation in banking business usually comes from a market failure such as externalities, market power or asymmetry of information between buyers and

sellers. In the case of banking, there is still no consensus on whether banks need to be regulated and, if yes, how they should be regulated. This partly reflects the lack of consensus on the nature of the market failure that makes free banking not optimal (Kaufman and Benson 1996). However, there are justifications that are often presented for regulating banks: the risk of a systemic crisis and the inability of depositors to monitor their banks (Goodhart, Hartmann, Llewellyn, Rojas-Suarez, and Weisbrod, 1998).

Banking is still the most regulated among all industrial sectors of an economy whether it is a fully controlled, partially controlled or a market economy. Some twenty-five years ago, Buser, Chen and Kane (1981) hold that banks have traditionally been conceived as more than just another business firm; they operate under unusual regulatory restrictions including entry limitations, interest rate ceilings, reserve requirements and government guarantees on their deposit liabilities. The situation has not changed much since then, only that the earlier systems of regulated deposit rates, among others have now been replaced by regulatory capital requirement. The regulatory zeal has traversed the national boundaries.

Banking is now the only industry which has been subjected to international capital regulation through Basel Capital Accords. The meaning of all such Accords is simply that someone else other than the market tells the bank promoter that he must bring in so much equity to the firm calculated by a certain prescribed methodology. The purpose of capital regulation is therefore to harmonize capital for banks (BCBS, 1988).

Regulatory zealousness that surrounds the banks in the name of international convergence of capital standards or prudential norms stem from the belief that banks are too risky to be allowed to operate as a market institution; it is a bull which must be

held by the horns. It is rather ironical that while reforms are being made all around the world to move capital to the market, banks are kept aside from this global movement despite the fact that it is at the centre of the financial system that makes the wheels of the business move. None of the financial liberalization indexes developed by various researchers, the latest being that of Abiad and Mody (2005), consider bank capital regulation as an indicator of financial repression, though they all have put credit control at the top of the list ignoring the fact that capital regulation is the worst form of credit control as it ultimately controls the quantum of credit (Bhattacharya, 2006).

Capital regulation is motivated in part by concern over the negative externalities that may result from banks' default that are not taken into account in the market capital requirements (Berger *et al,* 1995). These authors clarify further that other things being equal, owners prefer to fund the firm almost entirely with debt, but increasing leverage also increases the risk of incurring the costs of financial distress, and the expected costs of financial distress increases as the capital ratio declines and the probability of insolvency rises. Saidenberg and Schuerman (2003) have observed that capital requirements should protect the banks against adverse market conditions and prevent them from taking extraordinary risks.

The one important message of capital regulation is that bank managers, supervisors, and other market participants must become better adjusted to risk and better able to act on according to risk assessments at the proper time. Bank supervisors must address the issues proactively rather than after the risks are realized (Saidenberg and Schuerman, 2003). Basel II in particular aims to provide incentives to adopt more advanced risk-sensitive approaches toward capital adequacy through more risk-sensitive minimum capital requirements and increase the emphasis on assessments of credit and operational risk throughout financial institutions and across markets

(BCBS, 2004).

Despite this, regulatory capital standards often require banks to maintain equity cushions exceeding what they would otherwise choose based on market discipline alone. When this happens, banks may view these standards as a form of regulatory taxation, more so, because cost of equity in banks is generally perceived to be much greater than the cost of the debt. No amount of regulation can catch up with innovations, which predominantly come up at the call of equity capital in response to existing regulations.

The level of capital so determined makes the firm to take appropriate level of risk. Capital regulation interferes with the risk-return function of banks as it may force banks to operate below its risk capacity. The model of Kopecky and Vanhoose (2004) predicts that when capital requirement is binding in the short-run, the banking system would reduce loans and expand holding of securities. Crocket (2000) has also expressed concern that binding capital requirement may exacerbate the business cycle, particularly at the trough.

Pauls and Lacour-Little (2004) have also found that current regulatory standards are too high requirements for banks with regionally diversified portfolio. Tying regulatory capital requirements more closely to economic risks for mortgage assets would likely reduce incentives for such institutions to engage in regulatory capital arbitrage. Santomero and Watson (1977) show that too tight a capital regulation leads banks to reduce their credit offers which give rise to a fall in productive investments. Acharya (2001) also points out that capital adequacy regulation in some context could even accentuate systemic risk. Bhattacharya and Thakor (1993) hold that a higher capital requirement acts as a tax on depositors that discourage risk taking behaviour of banks by reducing inter-bank competitions for deposits.

From the above, it could be summarized that the fundamental purposes of regulating banks' capital are to reduce the risk of banks' operational failures, to maintain the confidence in the system and limit losses to all the stakeholders including the government and economy.

2.4 Reason for Recapitalization in Banks

Recapitalization is a broad name that covers many processes. One of these is merger and acquisition, another involves capital restructuring, management overhauling, among others. Van Horne (2002) refers to recapitalization as any change in capital structure, in operations or in ownership that is outside the ordinary course of business. The incentive to recapitalize often arises because the firm's market falls significantly below its full potential or intrinsic value. Case materials highlight important causes of this value gap including poor corporate performance or financial distress, changes in corporate strategy, and mistakes by the capital markets in valuing corporate assets. Closing the value gap potentially benefits the entire firm's claim holders and stake holders, provided they can agree on how to share the gains.

Recapitalization is expected to improve the bank's performance by ensuring adequate capital and profitability as well as enhancing the banks' intermediation capacity. Related literature especially, Dziobek and Pazabasioglu (1998) suggest on how to restore banks' solvency and balance sheet in the following ways: raise additional capital (from existing or new owners or from government; reduce liabilities (write down certain debts) and boost value of assets (recover problem loans and collaterals). In Nigeria, the first option is adopted to improve the performance of the banking operations.

Recapitalization activity is generally associated with three motivations in the

academic literature, namely: to address poor performance of the affected company, to exploit strategic opportunities and to correct valuation errors. The literature distinguishes different types of transactions, encompassing multiple forms of changes in firm's organizations (Van Horne (2002).

Gilson (1998) is in agreement with Van Horne (2002) when he states that recapitalization is meant to address corporate underperformance, financial distress, changes in business' corporate and strategic policy, and information gaps between the firm and the capital market. He gives examples to include financial re-organizations and bankruptcy (liquidation); equity restructuring through corporate spin-offs and targeted stock offerings and restructuring employees' claims through lay-offs, downsizing and negotiated wage give-backs. He concluded that for most firms however, recapitalization is a response to severe financial distress, following large declines in firm's profitability, market value or competitive position and operational under performance.

Gilson (1998) refers to recapitalization as the process undertaken by firm to address problems of general underperformance and develop strategies to improve its capacity for better performance. Conceptually, Gilson has framed the reasoned questions for this process as follows: when does it make sense to recapitalize a firm?, what kind of recapitalization is most appropriate for addressing the particular problems or challenges the firm faces?; to implement a recapitalization, what key decisions must managers make, and what barriers must they typically overcome?, how much value will the exercise create?, what actions can managers take to ensure that the capital markets fully credit the firm for the value created by recapitalizing?

Any recapitalization exercise is therefore expected to adequately answer the above questions if it must be embarked upon for the purposes highlighted in the previous

paragraph.

According to Akinsulire (2008), recapitalization refers to changes in the capital structure of a company. In some cases, the ownership structure is also changed in order to make it operate more effectively. He is of the view that it is not when a company is in distress alone that it can recapitalize, although most of the time, this is when it is considered appropriate. Akinsulire (2008) states that recapitalization is not a guess work, but an organized scheme of revitalizing a company to a better structure and focus and suggests three stages involved in process as follows: diagnosis – identification of the causes of the problem; prescription – to proffer appropriate solutions and monitoring – monitor the implementation of proffered solutions.

Iskander, Meyerman, Gray and Hagan (1999) however, are of the view that recapitalization is a set of discreet decisive measures taken in order to increase the competitiveness of the enterprise and thereby to enhance its value.

What drives the decisions to recapitalize? For many of the firms, the decision is triggered mainly by a financial crisis. In these cases, management may have little choice but to recapitalize, to fend off a hostile takeover or avoid bankruptcy. For some other firms however, recapitalizing is done pre-emptively. In these cases, managers either anticipate a crisis, or they seek to take advantage of a strategic opportunity. Through analysis of these cases, significant value may be created by pre-emptive recapitalizing. This is consistent with Donaldsons (1994) who claim that voluntary or pre-emptive recapitalizing can, for some firms, generate more value than recapitalizing done under the threat of a hostile takeover or bankruptcy.

Iskander, Meyerman, Gray and Hagan (1999) in their own views claim that corporate recapitalization involves restructuring the assets and liabilities of corporations, including their debt-to-equity structure (if any), in line with their cash flow needs to

promote efficiency, restore growth and minimize the overhead costs. Hailemariam (2001) concludes that company executives often recapitalize their companies for enhancing productivity, reducing costs or increasing shareholders' wealth. Corporate recapitalization can have a variety of goals, such as making the firm more cost competitive, abandoning a flawed corporate strategy, or taking other measures to increase the firm's market value.

The literature has established that recapitalization may impact on operating performance through investment distortions such as excessive risk taking (Jensen and Meckling, 1976) and under investment, although at the same time the disciplinary effect of leverage of management has also been emphasized (Jensen, 1986).

The scope of corporate recapitalization is increasingly becoming a global programme. For instance, Gilson (1998) finds that over the period 1981-1996, public companies with combined assets of more than half a trillion dollars filed for bankruptcy protection in the United States. Over the same period, over 350 public companies underwent corporate spin-offs, divesting businesses with a total equity market capitalization of more than $200 billion. In addition, assets of approximately equal value were recapitalized through consensual reorganizations outside of bankruptcy court. In 1996 alone, there were more than 50,000 business bankruptcy filings in the United States. By some estimates, as many as 10 million employees were laid off in the United States under corporate restructuring programmes.

The classic motivation for corporate recapitalization is to redeploy the firm's assets to higher uses. As long as the recapitalization improves the firm's operating performance and increases its post-transaction cash flow and debt servicing ability, it creates for shareholders and the economy. In summary, the 2005 recapitalisation is mainly aimed at addressing the long term financial and operational problems with a view to

turnaround the DMBs in Nigeria for satisfactory performance.

2.5 Recapitalization in the Nigerian Banking Industry

2.5.1 Bank Crises and Process of Recapitalization by CBN

Before 1952, banking operations were carried out without defined rules and regulations guiding the mode of operations. In the absence of enabling law, the banking businesses were conducted in whatever manner the owners thought well taken into cognizance the risk involved in the business. Not very long after establishment, most of these banks developed problems in the manner they were established. Because of the technicality of these problems, almost all of them became technically insolvent and thereafter failed (CBN and NDIC, 1995).

Banks' failure was first recorded when the Industrial and Commercial Bank Limited failed in 1930. Between 1930 and 1958 when the CBN was established, more than 21 banks failures were recorded (CBN and NDIC, 1995). However, the scope of the failure has increased between June 1989 and 1995 when the Nigerian government directed withdrawal of deposits of government and other public sector institutions from commercial banks to CBN (CBN and NDIC, 1995).

The directive clearly exposed most of the weak banks to more financial hazards and some of them technically collapsed. Between 1994 and 1998, 26 banks were transferred to NDIC for liquidation, thus bringing the number of liquidated banks since 1994 to 31 (CBN, 1998). Between 1999 and 2002, four other banks were liquidated (Sunday Tribune, 23rd November, 2003). The major cause of this failure was traced to high undercapitalization of the banks.

Banking crises therefore were triggered by weakness in banking system characterized mainly by undercapitalization that resulted to persistent illiquidity, insolvency, high

level of non-performing loans and weak corporate governance, among others. Bank crises usually start with inability of the bank to meet its financial obligations to its customers and other stakeholders which usually give rise to runs on banks, the banks and their customers engage in massive credit recalls and withdrawals which may also necessitate Central Bank liquidity support to the affected banks. Some forms of intervention strategy may take place in the form of consolidation or recapitalization. Bank consolidation, which is at the core of most banking system reform programmes, occurs, some of the time, independent of any banking crisis.

Irrespective of the cause, however, bank consolidation through recapitalization is implemented to strengthen the banking system, embrace globalization, improve healthy competition, exploit economies of scale, adopt advanced technologies, raise efficiency and improve profitability (Adegbaju and Olokoyo, 2008). Ultimately, the goal is to strengthen the intermediation role of banks and to ensure that they are able to perform their developmental role of enhancing economic growth, which subsequently leads to improved overall economic performance and societal welfare.

Capitalization is an important variable of reforms in the Nigeria banking industry, because it is always assumed that a bank with strong capital base has the ability to protect the confidence of the customers, public and other stakeholders as well absolving losses that may arise from non performing liabilities.

Recapitalization is a fundamental reform objective. It literarily means increasing the amount of long term finances used in financing the organization. Recapitalization entails increasing the debt stock of the company or issuing additional shares through existing shareholders or new shareholders or a combination of the two. It could even take the form of merger and acquisition or foreign direct investment. Whichever form it takes the end result is that the long term capital stock of the organization is

increased substantially to sustain the current economy trend in the global world (Adegbaju and Olokoyo, 2008). Asedionlen (2004) is of the view that recapitalization may raise liquidity in short term but will not guaranty a conducive macroeconomic environment required to ensure high asset quality and good profitability.

Recapitalization in Nigeria comes with every amendment to the existing banking laws. In 1969, capitalization for banks was N1.5m for foreign banks and N600,000 for indigenous commercial banks. In 1979, when Merchant banks came on board the Nigerian banking scene the capital base was N2m. As from 1988, there had been further increase in the capital base, particularly coupled with the liberalization of the financial system and the introduction of SAP in 1986. In February 1988, the capital base for commercial bank was increased to N5m while that of the Merchant bank was pegged at N3m. In October the same year, it was jerked up to N10m for commercial bank and N6m for Merchant banks. In 1989, there was a further increase to N20m for commercial bank and N12m for Merchant bank (Adegbaju and Olokoyo, 2008).

With the CBN assumption that well-capitalized banks would strengthen the banking system for effective performance, it increased the minimum paid-up capital of commercial and merchant banks in February 1990 to N50 and N40 million from N20 and N12 million, respectively. Distressed banks whose capital fell below existing requirement were expected to comply by 31st March, 1997 or face liquidation. Twenty-six of such banks comprising 13 each of commercial and merchant banks were liquidated in January, 1998. Minimum paid up capital of merchant and commercial banks was raised to a uniform level of N500 million with effect from 1st January, 1997, and by December 1998, all existing banks were to recapitalize. The CBN brought into force the risk-weighted measure of capital adequacy recommended by the Basle Committee of the Bank for International Settlements in 1990. In 2001,

when the Universal banking was adopted in principle, the capital base was jerk up to N1billion for existing bank and N2 billion for new banks.

In July 2004, the CBN announced the need for banks to recapitalize to minimum of N25 billion for all deposits money banks operating in Nigeria with a deadline of 31st December, 2005.

2.5.2 Distress and Recapitalization in Nigeria

Distress could be described as an unhealthy condition where the affected bank will be unable to meet the cash withdrawal demand of its customers mainly because of illiquidity of the bank. Alashi (1993) associates distress with a cessation of operations of a financial institution. Thus, the expression, financial distress, is commonly employed to describe two distinct, but closely related conditions in an enterprise – illiquidity and insolvency. The immediate consequences of distress in the financial system is a sharp reduction in the value of the systems' assets, resulting in apparent or real insolvency of many financial institutions accompanied by some runs and possible liquidation of some of these institutions (CBN, 2004).

The signs of distress include persistent illiquidity, negative net-worth covered with paper profit, soaring savings deposits rates and accommodation of high-risk/high-return customers, and persistent contravention of rules coupled with the inability to honour obligations (Agene, 1995 and Ogunleye 1993).

Distress could be limited, that is where its occurrence is identified with a single or small number of banks and its impact has not adversely affected the public confidence in the system. Distress could also be systemic, where there is a serious concern because of the contagious effects which could threaten the stability of the industry and engendering panic within the general public. The panic springs up some reactions

among market actors particularly, clients and monetary authorities (Brownbridge, 1998).

Bartholomew, Mate and Whalen (1995), defines systemic distress as a sudden, usually unexpected, collapse of confidence as significant portion of the banking or financial system is experiencing financial crisis. This definition leaves the determination of what actually is a systemic crisis to the monetary authorities. However, Caprio, Gerald and Kilingebiel (1998) see a systemic distress as a situation where the net worth of the financial system's capital base is affected. This definition appears to be empty since its focus is on capital base. For instance, a bank with negative shareholders funds may be doing better than the bank with even high capital, however in the short run until the injection of new capital.

Soludo (2004) and Usman (2005) conclude that the Nigerian banking system was experiencing systemic distress before the commencement of the consolidation exercise. For example, as at June, 2004, out of the 89 banks operating, 62 were found to be sound, 13 were marginal players and the rest (14) were unsound. A banking system in which over 30% of the players are unsound was certainly disturbing.

The manifestations of a systemic distress would include: the loss of confidence in the payment system, lower savings mobilization, reduction in the extension of credit, preponderance of short term credit, loss of confidence by depositors and eventual runs on the institutions (Caprio *et al,* 1998 and Odusola, 2001).

From available reports, the major problems that led to distress and outright failure of banks are: inadequate capital including operational/working; reckless lending, leading to poor assets quality; absence of effective and sound management; weak earnings associated with operational losses; poor liquidity ratio due to ineffective management and absence/weak credit policy (CBN and NDIC, 1995).

Most of these problems are synonyms and can be aptly and fundamentally described as equivalent to the content (paragraph 14) of the governor of CBN's address on 6th July, 2004 on the Nigerian banking sector reform when he says "the fundamental problems of the banks, particularly those classified as unsound, have been identified to include: *persistent illiquidity, poor assets quality and unprofitable operations* …". Paragraphs 17 and 18 of the same address state that "the summary from the foregoing is that the Nigerian banking system faces enormous challenges which if not addressed urgently could snowball into a crisis in the near future. We don't have to wait for the crisis to explode before acting". He went further to say that "the Nigerian banking system today is fragile and marginal".

In view of the above, the CBN came up under paragraph 21 of the address with a banking reform in the first phase to include among others, the requirement that the minimum capitalization for banks should be N25 billion with full compliance before the end of December, 2005.

With this new capital directive, the Central Bank of Nigeria (CBN) has recapitalized the Nigerian banks five times between 1999 and 2005 alone. In 1999, the minimum capital requirement was N500 million. Between the years 2000 and 2001 it moved to N1 billion for new entrants and N1.5million for existing ones. In 2002, it was raised up to N2 billion and N1 billion for new entrants and existing banks respectively and in 2003 it became N2 billion for all banks and finally to N25 billion in 2005 (Agusto, 2004 and CBN, 2004). Umoh (2004:5) is of the view that the "capital of a bank is expected to fund fixed assets, absorbed future operational losses and determine the volume of risk assets created by the bank". However, the governor did not go further to direct how the new capital (cash injection) shall be utilized.

One important directive is the establishment of a minimum capital base for all the

banks in Nigeria. Yet, the N25 billion capitalization is not very clear as to its structure. Is it the paid up share capital alone, paid up share capital with statutory and all other reserves or simply the share holders' funds as always being reported in banks' financial statements.

Umoh (2004, p. 6), in justifying for recapitalization says that

> the justification lies in the fragility and distressed condition of the banking sector. Before the deregulation of the sector in the late 1980s, there existed at least seven (7) insolvent banks which distressed conditions were not resolved.

He gave the recapitalization required of distressed banks as from 1995 when 60 of the 115 operating banks were adjudged to be distressed. In 1995, recapitalization required for the 60 distressed banks stood at N24.3 billion while that of 1996 stood at N42.3 billion for the 47 distressed institutions (Umoh, 2004). The highest of all was reported in the year, 2003 when the figure moved from N20.6 billion in year 2002 to N79.7 billion. The recent recapitalization is aimed at achieving cost efficiency through economy of scale and to diversify and expand the range of banking activities; therefore this scheme is a veritable way of achieving a more efficient and effective allocation of resources (Soludo, 2004).

Biodun (2005) is of the view that the new minimum capital of N25 billion is a growth inducer. He further states that the average ratio of the banks' equity to total liabilities in Nigeria during 1991 to 2004 was 5.86% which translates into a multiplier of 17.06% and an average business volume of N426.6 billion for any bank in compliance with the new minimum capital. In a global survey of the ratio of banks' equity to total liabilities, banks were found to fall in the range of 4.4% to 5.5% implying multiples of between 18.18 and 22.73%. If these are set against the new minimum capital requirement in Nigeria, the bank should grow to balance sheet size of between N454.5

billion and N568.25 billion (Biodun 2005).

In the words of Ajayi (2005), banks' recapitalization through consolidation is motivated by four key economic factors: economies of scale; economies of scope; potentials for risk diversification and banks' management's personal incentives. Osho (2005) and Uchendu (2005) believe that those benefits from banking reforms cannot just come without incurring some costs, such as job losses; lowering of the gross domestic product and high recapitalization costs as a reasonable component of the gross domestic product. They drew the examples from Malaysia, Korea, Indonesia, and Thailand. They conclude that in spite of the huge sums spent on the banking sector reforms, the benefits always far outweigh the cost in the medium term to long term.

At times, recapitalization may not be able to achieve proportionate returns to the owners instead, adverse result may be recorded. In this respect, Deloitte (2005) notes that the common reasons for merger failures include unexpected issues relating to technology, credit, customer and capacity; unclear intangible merger objectives; poor management of different corporate cultures; unrealistic expectations of possible synergies; overpayment for the acquired organization and underestimating the information technology integration effort.

No matter the way it is considered, the current consolidation exercise has a number of impacts either positively or negatively. According to Garba (2006), the impacts or simply effects of consolidation can be broken into two broad categories, namely brand and structural effects. The brand effects will offer differentiation in the financial system determined by financial might and capital base. However, with the current consolidation, the differentiation factor will gradually be communized. This is

because more banks will possess more financial might bringing them closer to the established banks such as First Bank Nigeria Plc and United Bank for Africa Plc (Garba, 2006).

2.6 The Concept of Financial Performance

The term performance is not as simple as it sounds; people often mean very different things when they talk about performance. There are several aspects of performance, each of which contributes to the overall performance in an organization. Despite the evolution of various available benchmarks and performance measurement, the answer to what is performance may still be hard to pin down. The banking sector aims for strong performance, but few worry about what constitutes such performance. Perhaps they should. The current run up of the stock market, at a time when corporate profits are fast declining, raises the question of whether or not banks are doing satisfactory good job for their shareholders.

No performance review is beyond dispute, for instance, reported profit is a matter of opinion. If income is to be measured in terms of the increase or decrease in the wealth of an enterprise, obviously some definitions of that stock of wealth is required. Three basic measures of wealth are evident from the literature (Akinsulire, 2008 and Pandy, 2003) as follows:

1. financial capital – the equity stake in an enterprise in money terms;
2. real financial capital – the equity stake in an enterprise in real terms (the proprietary concept);
3. operating capacity capital – the ability of the enterprise to maintain its ability to provide goods and services (the entity concept).

Hunger and Wheelan (1997) define performance as the end result of activity and the appropriate measure selected to assess corporate performance is considered to depend on the type of organization to be evaluated and the objectives to be achieved through that evaluation. Performance measurement is therefore the process whereby an organization establishes the parameters within which programmes, investments, outputs and acquisitions are reaching the desired results (Hunger and Wheelan, 1997).

Authors like Ellis-Christensen (2010) and Walden (2007) believe that Performance measurement include: i) The use of statistical evidence to determine progress toward specific defined organizational objectives. (ii) The process of developing measurable indicators that can be systematically tracked to assess progress made in achieving predetermined goals and using such indicators to assess progress in achieving these goals. (iii) A process of assessing the achievement of pre-determined goals and objectives through the measurement of the following types of indicators: inputs, processes of delivery of activities and services outputs, and outcomes.

These authors and Hunger and Wheelan (1997) further explain that performance measurement i) involves ongoing data collection to determine if a program is implementing activities and achieving objectives ii) the ongoing monitoring and reporting of program accomplishments, particularly progress toward pre-established goals. It is typically conducted by program or agency management iii) a system for assessing performance of development interventions against stated goals.

From the above, it could be affirmed that performance measurement is a measure or evaluation of achievement with predetermined or expected target of an organization. It can also be looked at as the process whereby a company establishes the parameters within which achievements, programmes, investments, outputs and acquisitions are

reaching the desired results.

The critical and fundamental objective of banks is to enhance the shareholders' value through constant improvement in performance. Therefore the management of any bank will work towards achieving this goal. The yardstick to ensure that this target is achieved is through the performance measurement of the banks. Researchers and writers have offered a variety of models for measuring this performance, however little or no consensus is reached as to what model or approach could be described as most valid set of performance criteria (Cameron, 1981: Lewin and Minton, 1986). For instance, a researcher has suggested that studies on corporate performance should include multimedia criteria analysis (Cameron, 1986 and Hitt, 1988).

Weiner and Mahoney (1981) indicate that there are numerous measures of corporate performance that could serve as dependent variables. However, more important that the specific measure chosen is the use made of multiple measures because different criteria of performance are likely to be differentially affected by the various independence variables (Lieberson and O'Connor, 1972). Ostroff and Schmitt (1993) support the multimedia criteria analysis as they are of the view that the multidimensional view of performance implies that different models or patterns of relationships between corporate performance and its determinants will emerge to demonstrate the various sets of relationships between the dependent and the dependent models.

In banking industry, the regulatory authorities used common rating system, that is CAMEL to assess the performance of a bank for soundness or otherwise. However, the arrangement of CAMEL was criticized by Wirnkar and Tanko (2007) and suggested another acronym of CLEAM; however, this has not been tested either by

the regulatory authorities or financial institutions. C is the test of capital adequacy; A is for the determination of the assets or loans and advances quality while M is for the assessment of management quality. The E is for the measurement of earning of the bank and the L stands for the test of liquidly ratio. The result if this rating system will confirm the condition of a bank.

Evaluation of banks' financial performance using this rating system (CAMEL) revealed that the causes of banks problems in Nigeria are: gross under capitalization in relation to the level of bank operations and low earnings with huge operational losses (Ebhodagbe, 1995). Others are high level of classified loans and advances, illiquidity reflected in the inability of the bank to meet customers' cash withdrawals and weak management. The CBN and NDIC (1995) also confirm the inadequacy of capital and operational losses to be the main causes of banks' performance.

However, the CBN classified ten banks (First bank of Nigeria plc, United bank for Africa plc, Zenith international bank ltd, Union bank of Nigeria plc, Oceanic bank international plc, Intercontinental bank plc, Guaranty trust bank plc, Diamond bank ltd, Afribank Nigeria plc and Wema bank plc) as the largest, possibly best, when it used multiple (four) criteria for measuring banks' performance in year 2005. The criteria are 1) asset base 2) equity capital 3) deposit base and 4) credit facilities (CBN, 2005).

The performance measurement in Nigerian banks should be purely a matter of circumstances of each case and the level and size of available information. This is because CAMEL has been put into used by both CBN and NDIC, while some results revealed soundness of banks examined, yet these banks may still have some financial and operational defects that had triggered crisis. Some banks with weak assessments using the CAMEL rating system had appeared to be better in performance than those

confirmed healthy. Besides, is the use of the information in the performance measurement that is being considered.

The regulatory authorities in year 2000, added 'S' to CAMEL to become CAMELS. The new S stands for sensitivity of the CAMEL. However, one could argue that this addition is not necessary because CAMEL as parameter is a test of sensitivity on its own. For instance, C = test of capital adequacy that puts it at a minimum of 8 percent on risk assets of a bank; is a sensitive test, as computation result of less than 8 percent means that the bank is technical insolvent. A = loans and other credit facilities should not be more than 52 percent of the trading deposits unless the bank can guaranty constant minimum liquidity requirement. M = good quality management or good corporate governance is also sensitive to effective operations of a bank. E = a bank that is constantly reporting loss is sufficient sensitivity that the bank is not doing well and L = sensitive test of 40 percent on total withdrawal deposit liabilities.

2.7 Performance Measurement Models in Banks

Many researchers and writers have offered a variety of models for measuring performance in banks. However, little or no consensus is reached as to what model or approach could be described as most valid set of performance criteria (Cameron, 1981; Lewin and Minton, 1986). For instance, Cameron (1986) and Hitt (1988) suggest that studies on corporate performance should include multimedia criteria analysis. Weiner and Mahoney (1981) have indicated that there are numerous measures of corporate performance that could serve as dependent variables. However, more important than the specific measure chosen is the use made of multiple measures because different criteria of performance are likely to be differently affected by the various independent variables (Lieberson and O'Connor, 1972).

Ostroff and Schmitt (1993) support the multimedia criteria analysis as they are of the view that the multidimensional view of performance implies that different model or patterns of relationships between corporate performance and its determinants will emerge to demonstrate the various sets of relationships between the dependent and the independent variables.

These various methods did not identify the peculiarities of the banking sector in terms of using multiple inputs to produce multiple outputs. This is the position of Sherman and Gold (1985), Barnes (1987), Smith (1990) Fermandez-Castro and Smith (1994) and Tanko (2006). The trend today in measuring the performance of banks has adopted mainly the non parametric approaches. A non-parametric approach called the data envelopment analysis (DEA) has been extensively used in measuring efficiency and production changes. For instance, Tanko (2006) and Magaji (2009) adopted the DEA to measure the performance of Nigerian deposits money banks.

The performance of firms can be measured in terms of their productive (cost and output) efficiency and allocative efficiency (market power). To measure efficiency, input and output have to be compared with each other and researchers of banking markets face the problems of how to define the inputs and output process. This explains why no techniques have been accepted and thus has brought considerable differences in the measurement of efficiency.

Researchers such as Evanoff and Fortier (1988), in order to overcome these problems have adopted the common measures on banks' performance return on assets (ROA), others include return on equity (ROE) and bank stock price (Maiturare, 2004). These researchers consider the use of ROE as an inappropriate tool for the measurement of banks' performance because banks can divide capital between debt and equity, making the comparison of equity values across banks difficult. Besides, ROE may not

be practicable since equity alone is negligible when considering it in terms of percentage in shareholders funds in bank. This has rendered ROA as the most widely used banks' performance measure as suggested by Evanoff and Fortier (1988). Business Week (April 9, 1984), and (April 8, 1985) also suggested that ROA is the single best performance measure for banks as cited in Rhoades (1987), but there is no justification for the assertion.

On the part of CBN, which classified ten banks (First bank of Nigeria plc, United Bank for Africa Plc, Zenith International Bank Ltd, Union Bank of Nigeria Plc, Oceanic Bank International Plc, Intercontinental Bank Plc, Guaranty Trust Bank Plc, Diamond Bank Ltd, Afribank Nigeria Plc and Wema Bank Plc) as the largest, possibly best, it used multiple (four) criteria for the performance measurement. The criteria are: asset base, equity capital, deposit base and credit facilities (CBN, 2005).

From available literature, the broad performance measurements could be determined to assess the performance of Nigerian banking industry. The profit is the bottom line as all other performance measurements are measured by the returns in the form of what they can contribute to the overall profitability of the banking business. As noted in chapter one, the banks' performance for this work is proxied by deposits, liquidity, loans and advances and profit. However, other performance measurement in banks may include: customers satisfaction, assets base and size, branch network, budget achievement and CBN and NDIC assessment.

All the performance measurements adopted by the previous researchers were centered on one or two measures, that is, profitability/ROE and ROA. However, ROE, usually will not give the fair/expected result because the shareholders' fund is always mistakenly or intentionally treated as equity (E) in banking. Besides, the multiple criteria used by CBN totally ignored profitability. The omission or ignoring

profitability as performance measurement by the regulatory authority – CBN is fundamental. As noted in the earlier chapter, the performance measurement of this study is wider than the previous work on this matter.

2.8 Deposit and Liquidity as a Measure of Banks' Performance

2.8.1 Issues in Deposit and Liquidity as a Measure Performance

Santomero (1984) views liquidity management in banks as akin to a standard inventory problem. The costs of keeping a stock of liquid assets of a particular size are weighed against the benefit of reducing the chance of being out of stock. The key prediction of these theories is that the size of the liquidity buffer should reflect the opportunity cost of return foregone from holding liquid assets rather than loans. It should also relate to the distribution of liquidity shocks the bank may face, and in particular to the volatility of the funding basis as well as the cost of raising funds (for instance, in the interbank market) at short notice.

Unreasonable cost of maintaining cash is avoidable or could be effectively managed knowing the behaviour pattern of the banks' customers. In banking, excess cash or stock of liquid asset should not constitute any problem otherwise, banks should not always looking for more deposits. It is not, however, difficult to establish the amount of stock to be maintained that will not affect the flow of the normal banking operations. Similarly, Rajan (2001) tests whether the credit crunch in Thailand (1998) for example was related to supply or demand factors, and to this end estimate a bank's demand function for reserves. He derived a demand function for excess reserves that depend both on the distribution of the deposits withdrawals, the external cost of finance (penalty rates applied by the Central Bank) and the impact of regulation (the reserve requirement applied by the Central Bank).

The general view is that higher capital improves banks' ability to create liquidity. Liquidity creation exposes banks to risk – the more liquidity is created, the greater are the likelihood and severity of losses associated with having to dispose of illiquid assets to meet the customers' liquidity demands (Diamond and Dybvig, 1983: Allen and Santomero, 1998 and Allen and Gale, 2003). A well-known role of capital is to absorb risk and expand banks' risk-bearing capacity (Bhattacharya and Thakor, 1993: Repullo, 2004 and Von Thadden, 2004), so higher capital ratios may allow banks to create more liquidity.

The theoretical literature produces opposing predictions on the link between capital and liquidity creation. Berger and Bouwman (2007) develop four measures of liquidity creation and presented two alternative hypotheses related to the impact of equity capital on liquidity creation. One set of theories - referred to collectively as the "financial fragility-crowding out" hypothesis - predicts that higher capital reduces liquidity creation. Diamond and Rajan (2000, 2001) who focus on financial fragility, they modeled a relationship of a bank that raises funds from investors to provide financing to an entrepreneur.

The entrepreneur may withhold effort, which reduces the amount of the bank's financing attainable. More importantly, the bank may also withhold effort, which limits the bank's ability to raise financing. A deposit contract mitigates the bank's holdup problem, – because depositors can run on the bank if the bank threatens to withhold effort – and therefore maximizes liquidity creation. Providers of capital cannot run on the bank, which limits their willingness to provide funds, and hence reduces liquidity creation. Thus, the higher a bank's capital ratio, the less liquidity it will create.

Gorton and Winton (2000) show how a higher capital ratio may reduce liquidity

creation through the crowding out of deposits. They argue that deposits are more effective liquidity hedges for investors than investments in equity capital. Thus, higher capital ratios shift investors' funds from relatively liquid deposits to relatively illiquid bank capital, reducing overall liquidity for investors.

Under the alternative "risk absorption" hypothesis, higher capital enhances banks' ability to create liquidity. This insight is based on two strands of the literature. One strand consists of studies by (Diamond and Dybvig, 1983; Allen and Santomero, 1998 and Allen and Gale 2003) which argue that liquidity creation exposes banks to risk. The more liquidity that is created, the greater is the likelihood and severity of losses associated with having to dispose of illiquid assets to meet the liquidity demands of customers. The second strand consists of another set of studies by (Bhattacharya and Thakor, 1993; Repullo, 2004 and Von Thadden, 2004) which found that bank's capital absorbs risk and expands banks' risk-bearing capacity. Combining these two strands yields the prediction that higher capital ratios may allow banks to create more liquidity.

Diamond and Rajan (2000, 2001) and Gorton and Winton (2000) show, however, that banks can create more or less liquidity by simply changing their funding mix on the liability side. Thakor (1996) shows that capital may also affect banks' asset portfolio composition, thereby affecting liquidity creation through a change in the asset mix. Two of the four liquidity measures developed by Berger and Bouwman (2007) also reflect the arguments by Kashyap, Rajan and Stein (2002) that liquidity transformation is present even beyond the balance sheet boundaries, through loan commitments and other claims to liquid funds. Empirical results using the four measures of liquidity creation indicate that, for large banks, the "risk absorption" effect dominates the "financial fragility-crowding out" effect. In other words, for the

sub sample of banks with gross total assets over $1 billion, the net effect of banks' capital on liquidity creation is positive and significant. The opposite net effect holds for the sub sample of small banks, where the "financial fragility-crowding out" effect is the dominant one.

Some empirical studies examine issues related to liquidity creation, but do not focus on the role of capital. Kashyap, Rajan and Stein (2002) provide empirical evidence of synergies between commitment lending and deposits, consistent with their model, but do not test the effects of banks' capital. Gatev, Schuermann and Strahan (2005) find that banks have a comparative advantage in hedging liquidity risk in the economy because banks experience deposit inflows following a market crisis or liquidity shocks that allow them to have more funds to provide the additional loans drawn down under commitments at such times.

Some studies of bank lending behaviour include capital ratios; for example, Berger and Udell (2004) studied procyclical lending and found positive statistically significant effects of capital on the annual growth of business loans. Holod and Peek (2004) examined monetary policy effects and found that the capital ratio has significant positive effects on loan growth. Gambacorta and Mistrulli (2004) used Italian data and found that the impact of monetary policy and GDP shocks on bank lending depends on bank capitalization.

It could be argued this point that higher capital may lead to short term improvement in liquidity creation only if there is excess from the efficient utilization of the capital. However, there is still an outstanding question of what constitute higher capital in banking industry. In the absence of acceptable definition of higher capital in banking, room is then created for theorists and researchers to come up with various opinions as whether or not higher capital could create liquidity.

In practice, higher capital would pave way for increased banking operations as modern infrastructure and other required assets will be put in place. These facilities will give rise to generate more deposits which enable the banks to carry out effectively their intermediary role. From deposits, liquidity asset is created to be used in granting credit facilities or creating liquidity to the eligible customers of the banks and other banking activities that will generate earnings. Therefore, deposits that create liquidity other than assumed excess capital in banks become high rated performance measurement.

2.8.2 The Importance of Deposit in Banks

Deposit of banks represents the amount of cash and cash equivalent accepted, received or collected from customers on behalf of customers and prospective customers for safe keeping, payment on demand, project planning, future withdrawal, interest generating, among others.

Deposits are liabilities (hence termed or described as deposits liabilities) on part of the banks since the deposits will eventually be withdrawn by the customers. To a bank, deposit is a raw material with which it processes to maintain its role of intermediation. Deposits therefore, are the backbone of any deposit money bank. Mobilization of deposit is therefore a major function of banking business because it is an important source of working fund for the banks. Banks have to increase their financial resources by way of deposit mobilization. Deposit mobilization is an indispensable factor in improving the banks' performance.

The main importance of deposits in banks is to provide satisfactory services to its variety of customers at a cost. For instance, deposits create liquidity by way of granting loans, overdrafts and financing projects among others. In addition, deposits

help to expand loaning and advances operations. The success of banks greatly lies on the deposit mobilization performance of the bank as the deposits are normally considered as the most effective source of working fund. Banks operate various deposit schemes such as current, savings, fixed, recurring and other special schemes to meet the varying requirement of their customers.

Section 61 of BOFIA, 1991 as amended to date defines banking business as "the business of receiving deposits on current account, savings account or other similar account …" The same section defines a commercial bank as "any bank in Nigeria whose business includes the acceptance of deposit …" The main business of bank is the mobilization of deposits from customers and at time from prospective customers with the intention of becoming a customer. As noted earlier, deposits mobilized will determine the size of the banks' operations. The bank with large amount of deposits will be able to carry out its functions very well but with good management towards maximization of its profit, and then increasing the shareholders' wealth. Deposits in a bank determine the efforts, efficiency or otherwise put in place by the bank and its staff.

Deposit therefore is a measure of performance in banks; it is an output of a bank. However, it serves well as input when the deposit is used to grant credit facilities to deserving customers. The success of a bank therefore will depend on the size of the deposit mobilized and the efficiency of the management.

Deposit is one of the performance measurements used by CBN to determine the ten largest banks in 2005 (CBN, 2005). Because of the importance of deposits both in banks and the economy, Nigerian Deposit Insurance Corporation (NDIC) was established through the Decree No 22 of 1988. The main objective of the Corporation is to act as financial guarantee on banks' deposits in the event of distress to enable the

depositors recover their deposits.

Generally, deposit insurance is designed to overcome the asymmetry of information in the banking system (Diamond and Dybvig, 1983) and Dewatripont and Tirole, 1994). The bank knows more about the riskiness of its activities than the depositors. A depositor therefore, may be unable to differentiate a good bank from a bad one. Because banks are highly leveraged institutions, depositors have a strong incentive to show up at the bank first to withdraw their funds in case they doubt the financial health of a particular bank. Those at the end of the line may get nothing. In short, deposit insurance is designed to prevent depositors from over reacting to bad news about their banks.

2.8.3 Relationship between Liquidity and Credit Facilities

The empirical work on the relationship between liquidity and bank lending has explored how banks' lending responds to liquidity shocks in aggregate (Bernanke and Blinder, 1992; Kashyap, *et al,* 1993 and Bernanke and Gertler, 1995). More recently, the empiricists have moved away from the use of aggregate data and have begun to use disaggregated bank-level data. The motivation for such a shift in the empirical focus is that the analysis of aggregate data suffers from a serious identification problem (i.e., liquidity shocks are likely to coincide with shifts in a loan demand schedule). Furthermore, the use of bank-level data reveals the exact mechanism of the banks' lending channel because the effects of liquidity shocks on loan supply are much larger for smaller, less liquid, and less well-capitalized banks since the funding opportunities of these banks depend critically on the severity of an adverse selection problem (Kashyap and Stein, 2000; Kishan and Opiela, 2000 and Jayaratne and

Morgan, 2000).

However, empirical works potentially suffer from a subtle identification problem - the lending opportunities of banks might not be completely orthogonal to their balance sheet characteristics and/or their deposits flow. For example, a flow of deposits into banks is not entirely exogenous. Banks with more or better lending opportunities might be willing to pay higher interest rates and attract more deposits so as to finance those lending opportunities.

The low level of capitalization or liquidity is not entirely exogenous either. It is likely to be a symptom of a worsening economic environment that a particular bank is, or has been facing; i.e., more often than not, banks become poorly capitalized and illiquid as they suffer from a large amount of financial losses on their investments.

A bank's deposit growth, when instrumented with bank financial strength, had statistically significant and economically important effects on loan growth during the period of transition from a blanket guarantee to a limited guarantee. These results highlight the role of imperfect substitutability of insured and uninsured deposits in the transmission of liquidity shocks to bank lending.

This is also relevant to a large body of literature on the banks' lending channel in Japan (Ogawa and Kitasaka, 2000; Ito and Sasaki, 2002). The methodology is similar in spirit to more recent papers (Peek and Rosengren, 2000; Gan, 2007; Watanabe, 2007) that make an attempt to pursue more credible identification of financial shocks on the capital position of banks. The results are largely consistent with the commonly-held notion that the presence of problem banks led to a reduction in the flow of intermediated funds and exacerbated the recession in Japan.

The work is also closely related to two recent papers (Khwaja and Mian, 2008; Paravisini, 2008) in terms of its methodology. Khwaja and Mian (2008) make use of

the announcement of a nuclear test by the Pakistani government which precipitated a rapid outflow of foreign currency deposits from the Pakistani banks in order to clearly identify a deposit shock. Paravisini (2008) uses the exogenous infusion of cash from the government to banks in Argentina to study the transmission of liquidity shocks to loan supply.

Banks' provision of liquidity services leaves them exposed to runs (Diamond and Dybvig, 1983). The reason is that a bank needs to operate with a balance sheet, where the liquidation value of its assets is less than the value of liquid deposits in order to provide liquidity services. Under these circumstances, given that depositors' expectations about the value of their deposits depend on the time of withdrawal because of the first come, first served rule, a run can occur without the release of adverse information about the banks' assets and even when there is perfect information about the banks' assets. For instance, if depositors panic, they may try to withdraw their funds out of fear that other depositors will do so first, thus forcing an otherwise sound bank into bankruptcy (Santos, 2001).

The question of how exactly liquidity shocks in the banking sector are transmitted to the real economy has long been a subject of active discussion in the field of both finance and macroeconomics. On the one hand, according to the Modigliani-Miller Theorem, even when exposed to periodic negative liquidity shocks, banks should be able to raise sufficient funds from alternative sources swiftly to make up for the temporary funding shortfall and thus be able to finance all profitable lending opportunities (Modigliani and Miller, 1958).

On the other hand, in the presence of informational asymmetry on the value of a banks' assets (because banks know more about the quality of their own assets than outside investors do), banks will face a lemon premium on external funds, which

means that negative liquidity shocks would raise overall funding costs, thereby forcing banks to cut back on loan supply to nonfinancial sectors (Bernanke and Blinder, 1992 and Stein, 1998). Crises in the financial system of a country implicate great damages to the society, given its role as credit provider to other segments of the economy and its ability to create money.

In the literature of bank runs and liquidity crises, bank runs have been explained either to be caused by depositors' panics (Diamond and Dybvig, 1983 and von Thadden, 1998) or by the weak fundamentals, like a downturn in the business cycle (Gorton, 1988 and Stein, 1998). In addition, Allen and Gale (2007) have demonstrated how aggregate uncertainty can provoke large fluctuations in asset prices and subsequent bank crises on a number of banks in the economy. While business cycle (and implicitly banks' credit losses) has a role in causing bank runs in this field of literature, it does not consider the possibility that banks' diligence in screening could affect the emergence of bank runs.

Diamond and Rajan (2000, 2001) and Gorton and Winton (2000) argue that banks are able to generate different levels of liquidity by simply changing the funding mix on the liability side. Similarly, changes in the asset portfolio result in different levels of liquidity transformation. Among others, Thakor (1996) and Van den (2002) argue that banks' capital impacts the level of lending, asset portfolio composition and liquidity.

However, as was pointed out by Diamond and Dybvig (1983), one of the key reasons why banks are fragile, is because of their role in transforming maturity and providing insurance as regards depositors' potential liquidity needs. Nevertheless, almost no effort has to date been devoted to an analysis of one of the key ingredients that make banks safer institutions: their own holdings of liquid assets. How much liquidity do banks hold as self-insurance against liquidity shocks? How might the size of bank

liquidity buffers be influenced by bank idiosyncratic factors and by macro factors?

Little attention has also been paid to the role that the Lender of Last Resort (LOLR) may play in a liquidity crisis, and especially, how LOLR policy might interact with banks' liquidity policy. Repullo (2003) presents a model that shows that, while the presence of the LOLR may improve the safety of the financial industry, it may also have undesirable effects. In particular, the support of the LOLR in case of a crisis creates a moral hazard problem, reducing the incentive on the part of the banks to self-insure by holding liquidity buffers. Indeed, this line of reasoning may point to a justification for regulatory liquidity requirements, as a *quid pro quo* for LOLR support.

The starting point is banks' role in providing liquidity insurance. Banks collect demand deposits and invest these funds in long-term and illiquid assets such as loans. Loans are not usually callable, but they are also difficult to sell on at short notice because of the informational advantage the originating bank has in loan valuation. It is for these reasons that banks may be vulnerable to liquidity shocks arising mainly from the liability side of their balance sheets.

If a large fraction of depositors demand cash, the bank may need to liquidate illiquid assets. Since this entails a loss of value, a liquidity shortage may turn into a solvency crisis. However, this fragility is also a source of efficiency. Diamond and Rajan (2001) argue that this structure is efficient in that it disciplines banks when carrying out their lending function. The threat of a run is an incentive for the bank to choose projects with high return. More generally, this also suggests that a more liquid bank might not always be desirable for the efficiency of the financial system.

There are a number of mechanisms that banks can use to insure against such liquidity crises. Key among those is for banks to self-insure against liquidity shocks on the

liability side of the balance sheet, by holding a buffer of liquid assets on the assets side. A large enough buffer will reduce the chance that liquidity demands threaten the viability of the bank. A second mechanism is for banks to co-insure in the interbank market. This relies on liquidity shocks being less than perfect correlation across banks, and again requires banks to hold a certain amount of liquid assets to help each other out, in case of idiosyncratic shocks to particular institutions (Rochet and Tirole, 1996). Though, in the face of informational asymmetries and free-rider problems, this type of interbank insurance mechanism may not work perfectly in all situations. This is why the Central Bank (CB) typically acts as a Lender of Last Resort (LOLR) to provide Emergency Liquidity Assistance (ELA) to particular institutions and to provide aggregate liquidity in case of a system-wide shortage.

2.8.4 Liquidity Requirements by the CBN in the Nigerian Banks

Liquidity in banks represents physical cash, bank balances with CBN and other banks, treasury bills/certificates and any other assets of a bank that can easily be converted to cash with minimum risk of loss. Liquidity is the main and most sensitive assets as far as a bank is concerned, since its absence or shortage can generate negative impact on the bank, other banks and the economy as a whole. A bank with liquidity problem a is prospective bank for distress or even failure that could lead the affected bank to close its door to customers.

Liquidity test for minimum requirement is mandatory as far as CBN is concerned and it is one of the CAMEL parameter(s). The application of liquidity ratio is a test of whether or not a bank maintains a minimum of 40 percent of its total withdrawal deposit liabilities at any point in time in liquid assets. A failure to maintain this statutory minimum liquidity ratio is a contravention of CBN regulatory circular and

usually attracts penalty or fine by the CBN. From bank literature, Nigerian banks do not always meet this requirement because of various banks' problems which partly necessitated the recent recapitalization by the CBN (Soludo, 2004). Maintaining the statutory minimum liquidity requirement is a crucial test of performance in any financial institution knowing the role of liquidity in an economy.

2.9 Loans and Advances as a Measure of Banks' Performance

2.9.1 Credit Facilities as an Important Measure of Banks' Performance

Creation of credit facilities is one of the most important functions of banks. The creation of credit is accompanied by the lending and investing activities of banks in compliance with the CBN's circulars and directives. The power of the banking system to create credit is of great economic significance because it results in the elastic credit system that is necessary for economic progress at a relatively steady rate of growth. Banks can thus directly affect the level of economic growth of a country through the granting of credit facilities. It therefore follows that the greater the percentage of a bank's total resources placed in loans, the better the bank's performance (Bruker, 1970). Thus, an important function of the banking system is to provide financial intermediation, and this is reflected in the loans and advances provided by the banks. Consequently, the amount of loans and advances outstanding and the loans and advances to deposits ratio can be used to evaluate the intermediation function of the Nigerian Banking System. The loans and advances to deposits ratio gives an impression of the extent to which banks used the resources available to them and thus considered a positive index of performance of the bank system (Jat, 2006). In 2005,

one of the four performance measurements used by the CBN to determine the largest ten banks is total loans and advances of the banks. This study also adopted this variable as one of the performance measurements.

2.9.2 Characteristics and Riskiness of Loans and Advances in Banks

Literature on banks' regulation is found to be generally biased against banks' ability to manage risk. If there is somewhere a mistrust that is left to themselves, banks will embark on so much risky business as to endanger the interest of depositors. Hence, regulatory intervention is required to force the banks to manage risk. Ironically, the business of the bank is to trade risk. Banks have been managing risk since their inception. Scholtens and Wensveen (2000) rightly questioned whether risk management in banks is really a new phenomenon emerging in the 1960s or 1970s as some authors tend to suggest (Allen and Santomero, 1998).

Banks have shown from historical evidence that risk management in banks existed in the distant past. They see risk as the root of financial intermediation and as its main reason. Bhattacharya (2006) having emphasized that risk management is the core or central function of the banking business has shown how banks as delegated risk managers could mitigate the bankruptcy risks of the borrower and thereby reducing the riskiness of banking business. Risk is a commodity in which a bank deals. It is too much to assume that an institution with such a long history does not know the commodity in which it deals and that someone else must tell them about it (Bhattacharya, 2006). The risk management represents management of credit facilities or simply management of loans and advances.

Creation of credit facilities is one of the most important functions of banks. The creation of credit accompanies the lending and investing activities of banks in

compliance with the CBN's circulars and directives. The power of the banking system to create credit is of great economic significance because it is expected to result in the elastic credit system that is necessary for economic progress at a relatively steady rate of growth.

Banks trade and generate interest on risk assets; because they form the largest portion of a typical bank's balance sheet. They also generate the highest income as well. The risk of these assets is the potential that events, expected or unanticipated have an adverse impact on the bank's capital and earnings (Carse, 2001). As banks generate these risk assets through credit creation, the most important risk the banks are expected to identify, measure, control and monitor is credit risk (Toor, 2006). Contributing to this, Koch (1991) defines risk assets as earning assets. To him, credit risk is the potential variation in net income of the bank and market value of equity, resulting from non-payment or delayed payment.

Some of the risk assets disclosed in the balance sheets of the banks include loans, advances, accounts receivables, investments, equity participation and contingent liabilities. According to van Greuning and Brataonovic (2003), banks are characteristically exposed to a variety of risks in the course of their day-to-day operations. The risks are broadly defined as financial, operational, business and events risks. These risks can result in loss to the banks or affect their liquidity if they are not properly identified, assessed and managed.

Carse (2000) opines that banking involves risks and no amount of care and prudence will prevent the occasional problem from arising. However, good banking involves the judicious taking of risks, managing and pricing them properly, rather than avoiding or hiding them, and in the process making the banking system work for the economy and to the benefit of all stakeholders. In the same opinion, Chemielewski

(2005) asserts that the existence of risk is not necessarily a problem; even the existence of high risk is not necessarily a concern, so long as management effectively manages that level of risk.

The New Capital Accord II (2001) issued by Basel Committee on Banking Supervision (BCBS) is risks-based and it ties the risk assets banks create to their capital. This has generated controversies among researchers on whether this will increase the risk profiles of the banks by making them risk averse. According to Ahmad (2004), while early literatures on banks' capital regulations explain that the imposition of stringent capital requirements may encourage banks to take more risk, a study he conducted on Malaysian banks shows that these requirements did not motivate the banks to take more risks. On the other hand, Jeitschko and Jeung (2003), in their study, find that a bank's risks can be either negatively or positively related to capitalization, depending on the relative forces of the shareholders. However, Gup (2004) and Hassan and Hussain (2006) opine that the 8% requirement for capital adequacy is too low for banks in a country like the U.K. They argue that this is because the risk profile of the banks is higher in most countries and this will encourage the banks to take excessive risks.

Credit facilities comprised of the loans, advances, overdrafts, bills discounted, and other similar transactions granted to customers, staff and board of directors of the bank. CBN Banking Supervision (1990), defines credit facilities to include loans, advances, overdrafts, commercial papers, bankers' acceptances, bills discounted, leases, guarantees, and other loss contingencies connected with a bank's credit risk. As noted above, almost all the credit facilities are granted from the deposits liabilities mobilized.

When a bank grants loans, it could therefore be deduced that it has actively created a

claim against itself and in favour of a borrower, the claims a bank takes from its customers in exchange for its deposits are the banks' assets. This is the main reason to state that, the standard assets of a deposit money bank or commercial bank are overdrafts and loans, bills discounted, investments and cash.

2.9.3 Determining the Quality of Loans and Advances

Provision on classified facilities/bad and doubtful loans is of great importance for bank and its regulators. Provisions here represent the expected losses on a portfolio of impaired and good loans. They constitute a contra-account, which is deducted from the value of gross loans in a balance sheet (Basel Committee, 2003). It is quite evident that this accord will not have much relevance if the measurement of bank capital is not satisfactory. A key input in the measurement of banks' capital is the amount of loan-loss provisions on loans.

As bank loans are, by their economic nature, have no much market-based information to estimate their current value, loan-loss provisions must be estimated. Several countries including Nigeria have provided a provisioning schedule for non-performing loans that takes into account the number of days since the default date and the quality of collateral support. A segment of the academic literature has studied whether or not loan-loss provisioning is used to manage or smooth reported earnings and capital. The accounting and finance literatures have analyzed three main provisioning issues related to private information held by banks on loans as one of the fundamental characteristics which explain the economic role of banks (Diamond, 1984). These include the extent of earnings and capital smoothing, the impact of reported provisions on a bank's stock returns, and the systemic impact on the banking industry of disclosure on loan provisions by one bank.

A number of studies have analyzed the extent of earnings and capital smoothing through a pro-cyclical loan-loss provisioning with high provisions in good times and lower provisions in bad times. For instance, Hasan and Wall (2004) report empirical evidence throughout the world consistently with the earnings smoothing hypothesis. It is argued that the Basel Accord cannot achieve a level playing field if it does not address adequately the loan-loss provisioning practices around the world.

However, two approaches have been suggested to measure credit risk and provisions on a loan portfolio: a *mark-to-market* model and a *default* model. In a mark-to-market mode, the value of loans (both performing and non-performing) is estimated, either with actual market prices or with an estimate of their fair value, which will integrate the probability of default over time, of losses-given-default, and a risk-adjusted discount rate. In the default-mode approach, provisions are estimated only for non-performing loans.

With the exception of cases with readily available market prices, one notices that, in both the mark-to-market mode and the default-mode, one must estimate the expected losses-given-default. It is an important issue as, according to the above literature, bank managers use discretion in loan-loss provisioning. Berger *et al*. (1995), in their critical review of market value accounting, suggest that value adjustment for credit risk should be based on a loan-loss reserve on nonperforming loans. According to regulators (Basel Committee, 1998), these reserves should be prudent and conservative, falling within an acceptable range of expected losses.

2.9.4 Categories of Provisions on Banks' Risk Assets

The practical literatures classify risk assets into five categories, but in practice only four are reflected in the Nigerian banks' balance sheets. According to Van Greuning

and Bratonovic (2003), the importance of asset classification is to assign credit risk grades, which is determined by the likelihood of default. It is also assign credit risk management tool which considers loan service performance and the borrower's financial condition. The standard international asset classification rules as adopted by van Greuning and Bratonovic (2003) are summarized below:

1. Standard /Pass: Standard risk assets are those that service capacity considered to be beyond any doubt. In general, risk assets that are fully secured, including principal and interest, are usually classified as standard or pass, regardless of arrears of other adverse credit factors. These assets are reflected as "performing" in the balance sheets of the banks and a provision of 1% is set aside for them.
2. Watch: These are risk assets with the potential of drifting into the substandard category if not checked or corrected. They pose the danger of jeopardizing the borrower's repayment capacity and the income budget of the bank. This category of risk assets is merely used as a risk management monitoring tool and is not reflected in the bank's balance sheet. The provision on this category is 5%.
3. Substandard: Substandard risk assets indicate credit weaknesses that jeopardize debt service capacity, in particular when the primary sources of repayment are insufficient and the bank is forced to recourse to secondary sources for repayment. Non Performing Assets (NPAs) that are at least 90 days past due in principal and interest are normally classified as substandard. Such risk assets are reflected in the balance sheet of the bank as NPA and a provision of 10% is set aside for them.

4. Doubtful: These risk assets have the same weaknesses as substandard, but their collection in full is questionable on the basis of existing facts. The possibility of these assets deteriorating to loss category is present but certain factors that may strengthen the asset deter its classification until a more exact status may be determined. NPAs that are at least 180 days past due in principal and interest are classified as doubtful. They are also reflected in the balance sheet of the bank as NPA and a provision of 50% is set aside for them.
5. Loss: These are risk assets that are considered uncollectible and of such little value that the continued definition as bankable assets is not warranted. This does not, however, mean that these assets have absolutely no recovery or salvage value; rather they have neither practical nor desirable to defer the process of writing them off. NPA that are at least one year past due in principal and interest are classified as loss. Such risk assets are also reflected as NPA in the balance sheet of the bank and 100% provision against profits is made for them.

Globalization cross-border and the internationalization of banking and finance necessitate the adoption of these standard classification rules because banks that also engage in international lending face additional risks, the most important of which are country transfer, and foreign currency risks (Hassan and Hussain, 2006).

As highlighted above, the quality of any bank's risk assets is measured by the ratio of its NPA relative to its total credit risk. By extension, the health and robustness of a country's financial system is measured by the level of NPA in its banking system, since banking is the dominant sub-sector. So long as banks will continue to extend

credits, NPA are inevitable in their books. What should be of concern is the level of such NPA in the books of the banks.

According to Chakrabarti (2005), default risk is an essential feature of all lending and most banks have had "bad" or unrecoverable loans in their portfolios. As long as such loans form a relatively small part of a bank's portfolio, they are not a reason for extraordinary concern. When such NPA exceed a reasonable threshold, they begin to threaten the viability of the bank by becoming "toxic". They also form a substantial drag for individual banks, in particular, and the banking system of a country in general, representing the poor quality of the assets of the banks which have to be provided for using capital.

NPA is a credit that is past due in principal and interest repayment. Broadly speaking, it is defined as one with interest and or principal repayment installment unpaid for a specified period (Chakrabarti, 2005). There is no controversy in the literature on the standard definition of NPA as most agreed on overdue repayment of principal installments and accrued interests (Altman and Saunders, 1998 and Toor, 2006). However, the "past due" period of classification varies from one country to the other. The study of Toor (2006) also reveals that while in the US default period is 90 days, in countries such as India and UK, default period for consumer loans and residential mortgage loans vary from as short as 30 days to as long as 180 days.

The Basel Committee has since standardized the default periods by recommending 90 days and 180 days as default periods for the recognition of NPA. Accounting for NPA not only differed markedly from country to country before the introduction of standard practice by BCBS, it also offered substantial scope for management judgment; this has a profound impact on the bank's balance sheet and income statements (Toor, 2006).

In Nigeria, Non-performing Assets (NPA) are not new and have been in operations since late 1980 but became more effective in 1990 as they were the single most devastating cause of banks' failure. For example, in 1998 when 26 banks were liquidated in one fell swoop, CBN reported that the NPA for the banks was N101 billion. The distressed banks' outstanding credits alone was N33 billion, or 7.8 percent of the total credits, while provision for NPA stood at N64.5 billion. The NPA ratio in the industry then was 24.4 percent (CBN, 2000). Again, prior to the 2005 consolidation exercise, most of the banks carried huge NPA that distorted their balance sheets.

According to CBN (2005), the assets quality of the banking sector deteriorated in 2005. Their NPA increased from N316 billion in 2004 to N356 billion in 2005, giving a ratio of about 24 percent. Even though the ratio of 24 percent in the year under review was below the target level of 35 percent for setting up a crisis management unit as stipulated in the Contingency Planning Framework for Systemic Distress, it was however, higher than the 20.45 percent and 21.6 percent recorded in December, 2003 and 2004 respectively (CBN, 2005).

A number of studies (Asogwa, 2002; Otu, 2005; Adeyemi, 2006; Enyi, 2007; Hesse, 2007 and Afrivest, 2008) identified NPA as a major cause of banks' distress in Nigerian banking industry. Other direct causes identified are poor credit administration, insider abuse, pressure to meet risk assets and income budgets and harsh economic environment are identified (Altman and Saunders, 1998).

According to Morgan (2008), although the NPA ratio of Nigerian banks dropped significantly from 22 percent in 2003 to 8.5 in 2007, it is still considerably worse than the better performing emerging markets such as Brazil, Russia and South Africa. They conclude that even though there has been a marked improvement in the banks'

assets quality in the post-consolidation, the risk of a sharp increase in NPA increased as private sector credit increased by 98.7 percent in 2007.

In a recent study on Nigerian banks, Fitch Ratings (2009) confirms the drop in the NPA ratios of the banks as investigated by Morgan (2008) but expressed concern on their exposure in share backed loans and margin lending, in addition to oil and gas, and communication. According to the Fitch Ratings study, transparency and disclosure in credit risk by the banks have also fallen short of international best practice as most of the banks prefer adopting Nigerian generally accepted accounting principles, to international financial reporting standards in preparing their financial statements.

2.10 Profit as a Measure of Banks' Performance

2.10.1 Role of Profit in Banks

Profit is said to be the bottom line (of any performance measurement) since it determines the success of any bank, as no business will want to be identified or associated with failure or loss. A bank with constant record of negative operational results (loss) will have its going concern threatened and a loss of confidence by depositing public in the bank.

Profit is a measure of successful performance not only in banking sector but in other sectors of the company. However, at times profit is difficult to define due to method or rate of depreciation compared with similar banks, implementation of the CBN Banking Supervision Prudential Guidelines on credit facilities, management emphasis or conservatism, among others.

Profit could be defined as the financial returns from the successful use of financial capital within a period of time or financial year without impairing the capital. It could

also be seen at as the growth in financial capital resulting from usage between the beginning and end of a defined period of time taking into consideration any additional capital introduced within the year under review.

The relevance and role of profit in banking is crucial for a number of reasons. Profit is the bottom line and foundation upon which the two main pillars of banking – strength/adequacy of capital and competence of management are based (Crosse and Hempel, 1980). Published profit in the financial statements reassures depositors that the business is competently managed, and it is recognized that any retained profit will need to make a substantial contribution to the maintenance of the appropriate capital base, particularly in an inflationary situation (Bank of England, 1975 and Committee of London Clearing Bankers, 1978).

In the words of Bhatia (1978), profits perform many useful functions in an economic system. It allocates capital, compensate investors for risks assumed, reward operating efficiency resulting from price-output decisions and provide for future expansion. Profits provide the first line of defence against the risk inherent in banking and therefore, reassures not only depositors but also all stockholders of the safely of their investments particularly in times of economic adversity (Jat, 2006).

As observed by the committee of London clearing Bankers (1978) unless the banks can earn an adequate return on the resources they employed, their ability to play their role in the economy fully and effectively will be prejudiced. Banks whose profitability is below required figure, are less likely to accept the risk of venturing into new markets, initiating new programmes or convenience oriented services for their customers or developing innovating credit packages for both businesses and consumers.

Profits are the intangible reward which the market oriented economies bestow on

those businesses that have identified and answered the demand of the consuming public (Rose, 1981). Since these functions are the essential elements of economic performance, profits and profitability ratios may be employed as indices of a banking system's economic performance. Rose (1981) emphasized this when she wrote that increasingly, management regulatory authorities, the stockholders and the investment community at large are looking at the bottom line – profitability – as a measure of how well a bank is performing.

When return from a particular segment of the business, (even if, till recently it has been the main line of business) has shown a declining trend the enterprise would look for alternative business opportunities to compensate the decline in order to maintain the required return on equity. In the same vein, banks are also changing their strategies by moving towards financing small-sized companies, cutting barriers to venture into long-term project financing and joining the league of universal banking.

On the other end, technology of credit appraisal and other risk management techniques are also moving a step to take on the emerging dimension of banking. It is true that the share of banks in the expanding financial industry has fallen, but as percent of GDP, a dynamic stability is observed (Schmidt, Hackethal, and Tyrell, 1999 and Scholtens and Wensveen, 2000). Hence, although the banking industry has been under pressure with ups and downs between decades, there appears to be no sign that the industry is fading away. This is also substantiated by the fact that return on assets (ROA) and return on equity (ROE) in banks are on rising trends since 1935 (Bhattacharya, 2006). This is so, despite the strictest prudential norms in assets classifications, provisioning requirements and income recognition that were put in place by regulatory authorities.

2.10.2 Profit as a Measure of Banks' Performance

Information about the return (or profit) a firm earns on its past investments to the point of the calculation enables shareholders to assess the performance of the company's management, guides the firm's future capital-allocation decisions, and helps investors predict the future investment returns and cash flows that will support the corporate value.

Profit has been playing a critical role as a driver of corporate behaviour, yet there are very strong differences in attitudes among academics and practitioners. In particular, the use of accounting data has been and is still extremely controversial. Fisher and McGowan (1983:45) state that "there is no way in which one can look at accounting rates of return and infer anything about economic profitability".

There are surprising differences in the treatment of profitability between sectors within industries. There are various measures of profitability and they can provide a good answer to the wrong question and a much less good answer to the question that requires answer. That is, suitably calculated the internal rate of return (IRR), often called the economic rate of return and the accounting rate of return (ARR), often also called return on capital employed have a precise and intimate relationship with the cost of capital and net present value (NPV). Loosely, if IRR and or ARR is above the cost of capital, then the NPV is positive and the firm is earning an excess return i.e earning more than the absolute minimum needed to cover cost and compensate for risk.

One could argue that a firm that is earning, for instance, half a percent more than the cost of capital is not really doing well in all cases. On the other hand, it is to say that, there is no *per se* reason why profits in excess of the cost of capital represent anything other than the effective working of a competitive market.

Accounting rate of return or return on capital employed (capital employed here simply refers to shareholders' funds) for a period is typically defined as the earnings of an investment during the period divided by the capital employed in the investment at that time. A particular concern is how to update the asset values that are used as a base for capital employed use either historic prices, historic updated by capital value, replacement cost or values based on deprival value yet the return on a firm's future investments plays a key role in many valuation models, including Miller and Modigliani (1961), Gordon (1962), Leibowitz and Kogelman (1990), and Danielson and Dowdell (2001).

Feltham and Ohlson (1996), Ohlson and Zhang (1998) and Zhang (2000) refer to accounting as conservative if on average market values exceed book values. In contrast, Basu (1997) and Watts (2003) emphasize asymmetry in the recognition of anticipated losses as opposed to the non-recognition of anticipated gains. This tendency suggests that, given conservative accounting, the return on capital will relatively be distorted to the underlying internal rate of return (IRR). Furthermore, it has been shown that such distortions may not revert over time, but can persist indefinitely for firms in a steady state. Brief (2002), Penman (2003), and Gjesdal (2004) derive steady state characterizations of return on investment (ROI) in finite horizon settings.

One could say that the firm and its financial statements are an aggregate of individual investment projects undertaken at different dates in the past. These investment projects are assumed to have the same underlying economic profitability. This is consistent with the perspective in Penman (2003), Gjesdal (2004) and Richardson, Sloan, Soliman and Tuna (2006). Periodic growth is represented as the rate of change

in new investments. In effect, a growing firm effectively conducts the same representative project, albeit on a larger scale in more recent periods.

A major simplification of the model is that growth is treated as an exogenous variable. This assumption seems most plausible in a competitive industrial setting, where in equilibrium, all firms earn the required cost of capital on their investments, independent of their growth rate. In a competitive industry, aggregate growth in new investment (or decline) will be determined by changes in aggregate demand, yet the growth of individual firms, or the entry of new firms, is essentially indeterminate.

A central question in the industrial organization literature is whether in the long run, firms' profits tend to revert to competitive levels. To answer this question, a variety of profit measurement methodologies have been developed (Mueller, 1986 and Stark, 2004). Some authors, including Fisher and McGowan (1983), have argued that it is generally impossible to infer economic profitability from reported accounting rates of return.

Different financial analyses have developed a number of methods. Probably, the most comprehensive and significant study relating to banks' profits was carried out by Revell (1980). The study investigated trends in the interest margin and the cost of intermediation in 80 series of aggregated operating accounts of banks and savings banks in 18 countries. Considerable efforts were made to standardize the accounts and other statistical data used, although caution was expressed in comparing banks in different countries. Revell concluded that the best single indicator of the cost of intermediation is the Gross Earnings Margin (GEM) because it represents what consumers have to pay for the services provided.

The GEM is the total revenue of the institution (apart from abnormal items) less what it has to pay customers and holders of debt capital for the use of resources employed

in financial intermediation. Revell's methodology cannot usefully be applied in the Nigerian case because of the paucity of data and information on some of the necessary and useful balance sheet items. Banks' profit measurement systems are largely weighted towards providing historical financial information. Whether at a bank-wide, line-of-business, legal entity or product level, performance is usually characterized in terms of income statement or balance sheet tenus (John, 2005).

The adoption of risk-adjusted capital adequacy guidelines, successive years of poor profitability and the conceptual and practical failings of previously used measures, such as asset growth, have led management to focus on return on equity (ROE) (John, 2005). He further states that, banks' executives are finding that measuring risk-adjusted return on equity, while important, is not the entire requirement. Just as their counterparts in manufacturing and processing industries discovered, the ROE report card provides a summary level picture of which parts of the bank are contributing to – or detracting from – shareholder value. It does not provide information as to the ways or whys of performance, much as a thermometer provides little in the way of diagnosis.

Another common profit measurement is return on capital employed (ROCE). However, Enyi (2007) argues that the use of the ROCE as a performance indicator is though desirable but nonetheless spurious and capable of giving misleading information. He opined that the true measurement of efficiency in the use of capital resources cannot be done using capital employed as defined in a company's balance sheet. This is because the balance sheet capital employed is a static measure of capital employed at a date and not for the entire period. He concludes that the result would invariably be influenced by the static nature of the value of capital employed as at that date. He further posits that such a measure will produce a larger than life result as the

capital employed at balance sheet date will always tend towards producing an average rather than the total resources employed.

One may disagree with Enyi (2007)'s view because in the normal financial computation, return is measured with the capital employed at the end of the year or period, not at the beginning. Therefore, any addition of capital or reserves created in any year under review will be inclusive in the capital with which the return is measured. However, the case would be different when a company has negative shareholders' funds.

The return on capital employed is a measure of efficiency of management in the application or use of the organization's available funds or resources in a given financial period. For this purpose, capital employed represents shareholders fund which is made up of equity and all reserves unless otherwise specified. It is measured by comparing the recorded profit by a bank with the capital used (in earning the profit).

Several writers in the field of corporate performance have studied the position concerning the usefulness of the information conveyed through financial statements and have concluded that such information can only be useful if it facilitates decision making by its users (Ande, 1996). This view is in agreement with what Ezeagba (2001) states that the first objective of financial reporting is to provide information that is useful to present and enable potential investors, creditors, and other users of a firm's financial statements in making rational investment, credit and other important business decisions. Such decisions will have to do with the evaluation of the performance of such companies.

Users will want to know how well companies are doing and also to know if it can be improved in the foreseeable future. This is the reason why the use and interpretation

of a firm's financial results must be done with utmost care and desirable professional expertise. Besides, it obviously provides a basis for assessing the internal and external performances of the firm.

The internal performance analysis is required for guiding the management towards maximizing the shareholders' wealth (Lucey, 2003), while the external performance analysis on the other hand is required by investors and other third parties to show how far the management has been able to do just that. Enyi (2007) maintains that a firm's internal performance determines its external position in the stock exchange bearing the economic forces of demand and supply of its stocks, which invariably is influenced by the firm's performance. Performance indication can only be meaningful to the user if it bears a true reflection of the relationship that it was intended to test.

The return on capital employed (ROCE)/shareholders funds is a measure of efficiency of management in the application or use of the organization's available funds or resources in a given financial period. For this purpose, capital employed is taken as shareholders fund which is made up of equity and all reserves. It is measured by comparing the profits made by the company with the capital used in making the profit and set as a percentage or fraction (Egungwu, 2005).

Agu (1985) in measuring profits and profitability of the Nigerian Banks System using return on assets (ROA), return on equity (ROE) and the average consumer price index finds that the financial health of banks and consequently their performance are dependent on profits declared and that the ability of banks to control and reduce operating cost will greatly determine the amounts of profits to be declared. He however could not statistically determine the relationship between profits and operating cost.

In another study on bank performance, Fanning (1981) notes that the two fundamental measures of a bank's performance are growth in total assets size and the growth in the operating profits before taxes, interest and extraordinary items. It is widely accepted that profit would be a satisfactory measure of a firm's performance since it provides a good indication of the efficiency with which the firm uses the resources available to it (Papps, 1982). Ojo (1979), in his study compared rates of return on investment or profit earnings of individual banks and conclude that commercial banks in Nigeria have been performing satisfactorily in terms of their profitability and growth. However, most of the banks are still far from realizing the great potential scale economies and therefore, are yet to bring about the greatly desired improvement in services and performance. Profit as a measure of performance is measured using various approaches, namely return on assets, return on equity, among others. Similarly, Mock and Chau (2003) used profitability to measure corporate performance.

2.11 Other Determinants of Banks' Performance

In practical term, continuous increase of capital alone cannot act as the sole satisfactory performance determinants in Nigerian banks. Therefore, the following are considered as other determinants of banks performance in Nigerian:

2.11.1 Good Corporate Governance

Corporate governance, in a micro perspective is the way and manner in which a company is directed, administered and controlled. In other words, it could be the relationship between shareholders, directors and management to get the objectives of the company fulfilled. The Nigerian Securities and Exchange Commission (SEC) and

Corporate Affairs Commission (2003) define corporate governance as the way and manner in which the affairs of companies are conducted by those charged with the responsibility, as a positive link to national growth and development.

In a narrow perspective, it is viewed merely as being concerned with the structures within which a corporate entity or enterprise receives its basic orientation and direction (Rwegasira, 2000). In this respect, Mikailu (2008) refers to corporate governance as corporate decision-making and control, particularly the structure of the board and its working procedures. He went further to state that the concept is used to refer to a company's compliance with the provisions of best practices.

Good corporate governance structures encourage companies to create value through enterpreneurism, innovation, development and exploration and provide accountability and control systems commensurate with the risks involved. Therefore, to achieve the objective of corporate governance the board of directors, elected by shareholders, represents the owners' interest and thus has an obligation to approve all decisions that might affect the long run performance of the firm and to oversee and evaluate the performance of the management team (Schellenger, Wood and Tashakori, 1989).

In summary, corporate governance is a tool for enhancing the performance and will have a long impact on a company's existence. In addition, it influences how the objectives of a company are set and achieved, how risk is monitored and assessed and how performance is optimized.

2.11.2 Leadership

Unlike corporate governance which deals with the management of a company and outside the company, management and leadership deal mainly with the internal matters of the company. The challenging nature of banking business, including flatter

structures and recognition of the efficient use of human resources, coupled with advances in social democracy, have combined to increase the growing importance of leadership.

Researchers in the field of leadership have focused on the individual in the leadership position, leader-member relations, the task structure of the leadership situation, the interaction between the leader and the group and the decision-making power of the leaders (Fiedler 1967; Robbins and Coulter, 1999). Leadership is related to motivation, interpersonal behaviour and the process of communication. Good leadership should involve the effective process of delegation. Aliu, (2007) is of the opinion that leadership should not be limited to leaders' behaviour resulting into subordinate behaviour because leadership is a dynamic process; the leader-follower relationship is reciprocal and effective leadership is a two-way process which influences both individual and organizational performance. To be effective, leadership has to be seen, and it is best seen in action" if the results/performance must be achieved. By virtue of the sensitive role of leaders in a company, they are expected to take decisions within the constraints placed upon them by organizational and environmental factors.

Top decision makers or board of directors are expected to have an overall company perspective and consequently to become involved in organizational strategies to acquire resources that will assist in furthering the accomplishment of their objectives (Harvey, 1982). Leadership is a variable that must be treated with extra care in a company if it must perform to attain its targeted goal.

2.11.3 Organizational Structure

The company structure will usually depend on the resources available to the company

and these resources are expected to directly affect the economic activities and its ability to utilize the environment effectively (Weiner and Mahoney 1981). Organizational structure and variables such as efficient management, advanced technology, modern assets, size and technology have been ascertained by researchers to have a significant impact on performance (Woodward, 1965; Aldrich, 1972 and Thompson 1967). In addition, large banks will have greater production capacity and should be able to generate greater sales with less overhead costs and efficient operations, thereby indicating the relationship between profit and size (Weiner and Mahoney, 1981).

Kriesberg, 1962; Rumelt, 1974; Luffman and Reed 1982) have suggested that a single business firm often seeks to diversify in order to grow and spread its risk across markets. As firms become larger, they tend to increase their market share and enjoy economies of scale thereby enhancing their efficiency and profit level (Bourgeois, 1980).

2.11.4 Enabling Operating Environmental Conditions

Enabling Operating Environment is observed as a prominent factor in determining firm performance (Johnson & Scholes, 1999). Looking at the Nigerian context, the environmental factors that may affect bank's performance may include infrastructural facilities and economic, business, social and legal environments.

Infrastructural environment involves adequate and steady supply of electricity, security, good communication, water supply, motorable roads, among others. Economic environment deals mainly with economics matters such as favourable or unfavourable cost of production or services to the company and customers, adequate and effective workforce, availability of good management team, optimal use of

available resources for optimal output, among others. In this regard, Levine and White (1961) and Johnson and Scholes (1999) point out that corporations develop a network of relationships with suppliers and customers in the domestic and global markets to cope with environmental uncertainties. Weiner and Mahoney (1981) are in support of Levine and White (1961) and Johnson and Scholes (1999) and state that macro measures affect corporate performance

Another factor that may affect banks' performance is the social condition which deals with the culture, custom, religion and value system of the society where the bank operates. A bank must recognize the value, culture and custom if it must remain in the banking business of that society. Another environmental factor still is the legal environment. Where the legal environment is not conducive for any legal matter, the result will affect the banks' performance, and in Nigeria, the Central Bank of Nigeria (2004) reported that the legal environment within which banks and investors operate is far from being ideal.

2.11.5 Number and Quality of Services

For any banking business to successfully compete and stand noticeable among its competitors, Quareshi & Briggs (2003) argue that the bank must meet or exceed the pace of rapidly changing technology while also lowering costs, increasing quality and improving customer services. Sinn, Dayel, Lurther, Grasshoff and Herbeck (2005) observe that top performers in the banking industry employed such successful strategies as developing sophisticated customer relationship management approach, achieving higher customer penetration, employing smart channel mix, exploiting niche opportunities and leveraging superior products and processes to aggressively attack target markets.

Banking business can achieve these opportunities through developing products and product mix that constantly meet customers' satisfaction. According to Stanton (1981), product refers to a set of tangible and intangible attributes, including packaging, colour, price, manufacturer's prestige, retailer's prestige and manufacturer's and retailer's services, which the buyer may accept as offering want – satisfaction.

The higher the number of products developed by banks, the better for the banks' customer to be adequately satisfied with the services to enable them stays with the bank. This statement is in agreement with the view of Kotler and Keller (2007) when they opine that a company would be wise to measure customers' satisfaction regularly because one key to customers' retention is customers' satisfaction. A highly satisfied customer generally stays longer, buys more as the company introduces new products and upgrades existing products, talks favourably about the company and its products, pays less attention to competing brands and is less sensitive to price, offers product or service ideas to the company and costs less to serve than new customers because transactions are routine.

In summary, where good new products are developed and well packaged with first class services to the customers, the results will be an increase in the deposits of the bank from both existing and new customers and assets will equally be created through granting of loans and advances to meet the customers' satisfaction.

2.11.6 Government Intervention

Monetary policy is one approach that governments could intervene in the operational activities of banks because it is designed either to reduce or raise the level of money supply using various policy instruments. A monetary policy that is designed to

increase money supply is considered expansionary (or loose) and it is aimed at countering cyclical contraction or controlling deflationary pressures. At times, it may be designed to lower money supply in order to reduce inflationary pressures (Rinji and Musa, 2008). Monetary policy refers to actions taken by the monetary authorities, usually the central bank to effect monetary and other financial policies, through the influence over the available and cost of credit in the pursuit of broad objectives of sustainable growth of output, price stability, healthy balance of payments position, control of money supply, and influencing interest rates to make money cheaper or more expensive (to access) depending on the prevailing economic conditions and thrust of policy (Lipsey, 1997).

Monetary policy therefore seeks to influence economic activities using the tools available to the central bank in order to address and rectify the lapses and imperfection that characterized modern monetary systems. One of the objectives of monetary policy is appropriate interest rate regime. The aim is to moderate the wide range fluctuations of the interest rates. A rising interest rates represents higher cost of capital, which will negatively affect the overall costs of doing business. Raising interest rates makes it difficult for all categories of investors and banks customers to access capital at reasonable terms and conditions. The end result of high interest rates act as disincentive to customers of banks to borrow for economic activities and may adversely affect the performance of the banks.

The central bank achieves this through the use of various tools referred to as instrument of monetary policy. The tools that are most applicable to banking sector include re-discount rate window and special deposit. In rediscounting rate, the central bank raises or lowers the lending rate depending on the economic condition. For

instance, when the central bank lowers the discount rate, it will then make it cheaper for banks to borrow from the central bank and this will in turn lower its lending rate.

2.12 The Impact of Recapitalization on Banks' Financial Performance

What should be the capital of a bank for effective performance has been one of the most controversial issues in the history of the banking sector the world over. Much of the debates have revolved around two questions: who should set capital standards for banks; the market or the regulatory agencies and what is a reasonable standard for bank capital? Ajayi (2005) viewed capital as an important component of reforms in the banking industries owing to the fact that a strong capital base can absorb losses stemming from non performing assets and mismanagement.

Capital is a strong factor of production and so, one cannot be talking about performance without capital, but what is in doubt is which quantity of capital can generate the desired return (Mainoma, 2005). Usman, (2005) contends that Nigerian banks were undercapitalized and that, this undercapitalization were not without its consequences. The banks were therefore unable to support large transactions particularly in the oil sector that is highly capital intensive and this is because of the need for big infrastructural factors (Mainoma, 2005).

The weakness of the capital base in Nigeria has hindered the performance of the banking sector (Soludo, 2004). When the nations banking sector is compared with other emerging economies, the Nigerian banking sector is poorly developed and extremely small. Most of the banks in Nigeria had less than US $10 million before the recapitalization of 2005. No doubt, the smaller banks are more vulnerable to external shock but may perform, putting into consideration other parameters like management efficiency and liquidity (Mainoma, 2005).

Though there seem to be a plethora of literature on the performance of banks both in the developed and developing economies, there has been very little research as to ascertain whether the more capital shareholders inject, the better the performance and vice versa. Capital most definitely affect performance of any enterprise, since without it there cannot be any meaningful production. In this regard, Santomero and Vinso (1977), Peek and Rosengren (1997) assert that increase in capital does not materially lower a bank's failure risk as many banks may still fail even if their capital were doubled or tripled. Acharya (2002) also posit that capital above certain level will increase systematic risk.

Rhoades (1993) carry out a study on the mergers through recapitalization taking place between 1981 and1986 in the USA using regression to measure the change in performance – Return on Assets and Return on Equity. He found that increased performance did not significantly relate to the recapitalisation. The methodology used may be satisfactory for its objectives. Similarly, Hughes, Lang, Mester and Moon (1999) examine the impact of recapitalisation on profit and the decree of profit inefficiency in the USA. They found that recapitalisation had improved safety measured by reducing the banks' risks of insolvency.

To explain the nexus between capital and performance, Hannan and Wolken (1989) assert that capital does not affect performance but Madura and Wiant (1994) posited that the quantum of capital may not necessarily explain the performance of banks but other factors do. Peter (1999: 3) viewed capital in the following words.

> *When all else falls, it is the owner's capital (net worth) that forms the ultimate defence against risk. In banking, owner's capital harbours losses from bad loans, poor securities investments, crime and management misjudgment so that the bank can keep operating until its problems are corrected and if losses are so large that they overwhelm not only the other defenses but also the owner's capital the institutions will be forced to close its doors. Owner's*

capital is the bank's last line of defence against failure. Thus, the greater the risk of failure from whatever service, the more capital a bank should hold.

Price Water House Coopers (2001) carried out a study to assess the impact of capital on performance. The finding of the study shows that the relationship is neither universally positive nor is it statistically significant. In addition, the study found that capital has a strong influence on managers' performance and the performance of employees and invariably affects the profit situation of the bank. However, the quantitative analysis proves that there is a positive and statistically significant relationship between capital, investment and profit.

A study was conducted by Sawada and Okazaki (2003) on recapitalisation through consolidation on the financial performance of banks in Japan focusing on the deposit growth rate and return on assets. They found that the recapitalisation (which is similar to the Nigerian policy) has a substantial positive impact on deposit growth but negative impact on the profit. The technique used was regression which may not be suitable because of the comparison of performance before and post recapitalisation as the appropriate technique is t-test. Again, Basu, Druck, Marston and Susmel (2004) carry out a study on the impact of recapitalisation on banks performance in Argentina and their findings suggest a beneficial effect on returns.

Hosono, Sakai and Tsuru (2005) study the motives and consequences of the recapitalisation of banks in Japan. They used a t-test for the null hypothesis and the difference between pre-recapitalisation financial ratio and the post-recapitalisation financial ration had the mean zero. They therefore conclude that recapitalisation tended to go through a decline in ROA during the first four years and then increase ROA about five years after recapitalisation. Here, only one variable/performance indicator was used, which however, cannot be completely relying on to conclude that

there is no difference in the general performance of Japan's banks on recapitalisation. Some similar studies in Nigerian noted earlier include: Ojo, 1979; Agu, 1985; John, 2005; Egungwu, 2005; Enyi, 2007; Adegbaju and Olokoyo, 2008; Raymond, 2008 and Ndabo 2008.

These studies however, were mainly limited to the relationship between capital and profit/returns, they do not cover some other important variables like deposit liabilities which are like raw materials of banks, loans and advance that banks mainly trade with to generate profits and liquidity which is a test of ability and sustainability of any bank to meet its withdrawal obligation. The absences of these other performance indicators may affect the adequacy of the measurement.

The nexus between the capital level of a bank and performance has not been adequately explored theoretically and therefore only sparingly empirical. Beiger, Herring and Szego (1995) found that higher capital ratio often explain little of the variation in a bank's performance. In the same vein, Kimball (1998) believes that for a transaction to be profitable, managers must assign the appropriate amount of capital. Profit generates new capital and maintains capital. As Gardener (1982) observes, retained earnings are the main source of cushioning in the capital account. Not only do profits feed the capital account in this way, but also losses to be absorbed in banks' capital can be written off only against accumulated (retained) profits and earmarked reserves generated through accumulated profits in the capital account.

2.13 Theoretical Framework

The theory of capital which is deemed appropriate to this study has over the years been developed by economists and socialists ranging from Adam Smith (1723 – 1790) to Karl Marx (1818 – 1883). Capital theory analysis links the theories of production,

growth, value and distribution to explain why capital produces a return that keeps capital intact yet yields interest or a profit which is assumed permanent. Classical economists like Marxist and Friedman interpreted capital as raw materials and the wages fund. To Marxist, capital is a social mode of production and the Austrian school maintained that time was crucial to the concept of capital.

According to the classical theorist - Friedman argued on the assumption that the market place is democratic though free markets are not based on one-man-one-vote but rather on one-naira-one-vote. In other words, those with sufficient money can potentially overwhelm the votes of thousands of ordinary people. Proponents of the classical view emphasize the fact that businesses do not serve the same goals as other organizations in a pluralistic society. They are distinct because their sole focus is on economic behaviour and their primary goal and maximization (according to the proponents of the classical theory). They justified by arguing that since companies are funded by shareholders who are the owners of the company, any profit made belongs to them. Secondly, shareholders' rights to profit are protected by contract amongst the various corporate stakeholders - customers, employees, managers and government among others.

There are however, drawbacks to this classical thought as identified by Cohen and Harcourt (2005) that believe the classical theory exaggerates the role of ownership in determining what roles business should play in the society. The radical theory of ownership posits that shareholders are not the owners of a company in its entirety. Businesses are seen to be owned by coalitions of stakeholders each segment of which would have a say in important decisions concerning the improvement of the company's performance as well as restructuring. This school further states that, returns are made to shareholders not because they own the businesses but because

their support in terms of providing adequate capital that is needed in running the affairs of the business.

Capital is the most critical variable in any organization including banks. It is the major problem facing the industry over the years because of the definition of what constitutes the exact amount of capital for the purpose of banking operations. Like in economics, capital is a very important factor in the production process because with capital in place, other factors of production can easily be obtained. From the foregoing, capital seems to be the heartbeat of the performance of any economic venture.

The amount of capital of banks is a concern for the owners, regulatory agencies and general public. The thicker the capital base the lower the probability of insolvency of the bank. In case of insolvency, depositors may not get their deposits back in full amount and as at the time they require. Therefore, the amount of capital is an indicator of bank's soundness. When depositors are insured, the concern about banks' safety and soundness is shifted to the insuring agency. Because of the functions stated above, the value of capital in place of banks becomes the focus of attention for regulators, management of the bank, public and other stakeholders.

Capital therefore is an important component of reforms owing to the fact that a bank with strong capital base will have the ability to absolve any abnormal financial shock and losses that may arise through non performing assets. Reforms in Nigerian banking sector are due to highly undercapitalization; insufficient deposit, persistent illiquidity, weak management practices brought about by weak performance and the tolerance of deficiencies in the corporate governance behaviour of banks (Uchendu, 2005). Banking sector reforms and recapitalization have resulted from deliberate policy response to correct impending banking sector crises and subsequent failures.

Asedionlen (2004) opine that recapitalization may raise performance in short term, but may not guarantee a conducive macroeconomic environment required to ensure high asset quality, good profitability and satisfactory continuity.

The proponents of bank recapitalization believe that increased size could potentially increase bank performance through improved revenue generation and cost efficiency gains. It may also reduce industry risks through elimination of weak banks and create better diversification opportunities (Berger, 2000) and Berger, Herring and Szego (1995). Ajayi (2005) is also of the view that banks' consolidation through recapitalization could lead to economies of scale, economies of scope, potentials for risk diversification and banks' management's personal incentives.

However, the opponents of increased bank capital argue that the exercise may increase banks' propensity towards risk taking through increase leverage and off balance sheet operations (De Nicolo and Gianni, 2003). Osho (2005) and Uchendu (2005) are in agreement with De Nicolo and Gianni as they are of the view that the benefits of recapitalization cannot just come without creating unemployment, lowering the gross domestic product and high recapitalization costs as a reasonable component of the gross domestic product.

In recognition and support of the proponents (of increased bank capital), that well-capitalized banks would strengthen the banking system for effective operations and performance, the CBN in 2004 announced the adjustment of capital of all deposits money banks in Nigeria to the minimum base of N25 billion with effect from 31st December, 2005.

The argument for and against recapitalization only suggests the theoretical base as the outcome of each argument will not be conclusive until it is proven. However, the justification for adopting the capital theory is premised on the problem and objectives

of the study. The objectives assumed on the argument in favour of the proponents that increased capital would lead to an increase in Nigerian banks performance.

2.14 Summary

Financial capital is considered inevitable by the banking regulators because of the importance attached. This led to international introduction of the Basel Capital Accord for bank capital regulation. The fundamental purposes of regulating banks' capital are to reduce the risk of banks' operational failures, to maintain the confidence in the system and limit losses to all the stakeholders including the government. Again, the justification to regulate banks and its capital is because of the corporate governance problems arising from the separation of ownership from management. However, because of the capital regulation, the banking industry is denied the task of finding its own level of required capital for operations.

The approach is the imposition of a minimum capital standard on all banks for the regulators to enforce and avoid the pitfall of peer group measurement. The purpose is for prompt corrective action when a bank becomes inadequately capitalized for effective performance. The categories are well-capitalized, adequately capitalized, under capitalized, significantly capitalized and critically undercapitalized (BCBS, 2004). The Nigerian banks' authority is yet to put in place these categories; however, it recognized what is undercapitalization (Soludo, 2004). The established under capitalization of Nigerian banks propelled the CBN to adequately recapitalize the industry to address the financial underperformance being experienced.

Recapitalization is a policy undertaken by the authority to increase the existing capital of an industry mainly to address problems of general underperformance and develop strategies to improve its capacity for better performance. Recapitalization is an

important variable of reforms in Nigerian banking industry. This is because it is always assumed that a bank with strong capital base has the ability to perform better, protect the confidence of the customers, public and other stakeholders as well as absolving losses that may arise from non-performing assets.

From the literature, measuring of performance in a bank could first be determined by the amount of profit recorded, because it is the standard with which all other performance measurements can be assessed. The relationship between capital and profit performance is that, profit is the product of a successful use of financial capital. If the profit is big, it is expected to increase the amount of existing capital, if the profit is not withdrawn. If however, a loss is recorded, it will adversely affect the capital. Therefore, maintenance of banks' capital for optimal utilization is constantly required.

Another important performance measurement in banking industry is the size of deposit mobilized at any point in time. This is because the deposit in place determines the level of banks' operations since the main function of a bank is the creation of money through granting of credit facilities to deserved individual and corporate customers and the only main source is the deposit from customers. Therefore, credit facilities or simply loans and advances is another performance measurement criterion in banks as almost all the earnings of banks come through interest on loans and advances.

Liquidity in banking comprises of cash and cash equivalent. That is, any asset that can easily be converted to cash with minimum risk, is another performance measurement in this study. Liquidity is the most sensitive asset as far as banking is concerned since its shortage can generate negative impact on the bank, other banks and the economy because a bank with liquidity crises is simply a prospective bank for distress or even failure. Because of its sensitive nature, the central banks not only in Nigeria but all

over decided to set a minimum liquidity ratio to be maintained by banks and also made it as a penalty for its contravention.

There are various methods of measuring performance in banks. For instance, ROE, ROA, among others were used by various researchers all over. A sensitive industry like banking should have multiple methods of measuring performance to serve as sensitive tests on banks' performance for their soundness and continuity or otherwise. It was based on this narrow scope that a wide performance measurement to include deposit, loans and advances, liquidity and profit was adopted in this study. These measurement performances though not exhausted were treated as dependent variables while the recent recapitalization in Nigerian banking industry was considered as the independent variable of the study. The purpose is therefore to determine whether or not this recent recapitalization has positively impacted on the performance of Nigerians banks after the exercise with the theoretical assumption that increased capital would lead to an increase in performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides the crux of the research work. It deals with the method through which data were collected, analyzed and interpreted. Other contents of this chapter include definition and size of the population, the research instrument, methods of data analysis, variables of the study and their measurements and the techniques that were adopted in testing hypotheses formulated. It is the background against which the readers of this work may evaluate the findings and conclusion of this research work.

3.2 Research Design

Research design provides the framework for finding solution to any problem under study. In this line, Kothari (2008) is of the opinion that the choice of research design is determined by the focused objectives of the study. Therefore, this study adopts correlational research design which by implication involves the use of inferential statistics considering the objectives of the study, hypotheses and the data used. This method is considered appropriate because it will be used to establish whether, and to what degree a relationship exist between two or more quantifiable variables (Gay, 2000). In addition, the result from the test of hypotheses can be used to generalize the findings of the study to the entire population.

3.3 Population of the Study

The population of this study comprises all the twenty four (24) operational deposit money banks (DMB), remaining out of the twenty five (25) banks that scaled the hurdle of the recapitalization as at 31st December, 2005 due to the merger of stanbic

and IBTC banks, which reduced the number of the banks from 25 to 24. These banks are listed and attached as appendix A.

The list revealed all the former banks that merged, acquired and restructured to emerge the 25 banks on 31st December, 2005. Another revelation is that out of 89 operating banks before the consolidation deadline, only about 28 percent (or 25 banks) emerged out of 75 that were reformed, leaving 14 banks that were handed over to NDIC for liquidation. The summary of these banks according to their status is tabulated below:

Strata	**Status**	N**o of Banks**
A	Acquisition	12
B	Merger	9
C	Restructure	3
	Total	**24**

The banks that came under acquisition, merger and restructure are tabulated and attached as appendix B.

3.4 The Sample Size

In the determination of sample size, a formula which was invented by Cochran (1977), was used. Sample size need to be scientifically determined as the accuracy of any survey is directly dependant to the sample size. The selected sample size is 11 banks arrived at by the following formula:

$$n = \left(\frac{Z_{\alpha/2}\sigma}{\delta} \right)^2$$

Where:

$\alpha = 0.05$

$Z_{\alpha/2} = Z_{0.025} = 1.96$ (from the table of the standard normal ordinates)

$$\sigma = \sqrt{\frac{\sum_{i=1}^{N}(X_i - \mu)^2}{N}}$$ (the population standard deviation)

$$\mu = \frac{1}{N}\sum_{i=1}^{N} X_i = \frac{1}{24} \times 924.8 = 38.53$$ (the population mean)

N924.8 billion represented the shareholders funds/capital of the 24 deposit money banks as at 31st December, 2006. The detail is attached as appendix C

$$\therefore \sigma = \sqrt{\frac{\sum_{i=1}^{N}(X_i - \mu)^2}{N}} = \sqrt{\frac{10151.246}{24}} = 20.57$$

$\delta = 12\%$ (allowable level of sampling variability chosen)

$$\therefore n = \left(\frac{Z_{\alpha/2}\sigma}{\delta}\right)^2 = \left(\frac{1.96 \times 20.57}{12}\right)^2 = 11.3 \approx 11$$

11 is the optimal sample size to give us the desired precision for our analysis. Literature (Lohr, 2007) has shown that Cochran's formula is the best and most efficient formula for sample size determination. It is so because it is the only formula that can determine the sample size in an infinite population. Moreover, it is the only sample size formula that considers sampling variability, margin of error and the level of significance.

For the purpose of selecting the eleven (sample size) banks out of twenty four operational banks (DMB), the banks were categorized as shown in the preceding paragraph. Stratified random sampling technique was adopted in selecting four banks (equal allocation in each stratum) from strata A and B since there were three banks under stratum C. This approach is called optimum allocation as the selection was

based only on how optimal results will be obtained.

Optimal allocation, otherwise called the Neyman or best allocation is an allocation in stratified random sampling where more samples are selected from strata that can give more information irrespective of the size of the strata. The optimal allocation surpassed proportioned (like selecting 5, 4 and 2 from each strata) allocation (Cochran, 1977). It sought for more information from the strata and increases precision.

Strata	**Status**	**No Selected**
A	Acquisition	4
B	Merger	4
C	Restructure	3
	Total	**11**

The eleven selected banks were: Ecobank Nigeria Plc, Fidelity bank Plc, First bank of Nigeria Plc, Afribank Nigeria Plc, United Bank for Africa Plc, Skye Bank Plc, Fin Bank Plc, Bank PHB, Zenith Bank Plc, Guaranty Trust Bank Plc and Standard Chartered Bank Plc. Two each from old and fairly new generation banks were used in selecting four from the strata A and B, however, simple random sampling method was used in the selection from this generation category. All the three restructured banks were considered.

Osuala (2005) and Asika (2006) are of the opinion that a sample that is either too large or too small may invalidate the result of a study. One should by implication be reasonable enough to determine what constitutes what is too large or small in a population for the purpose of research work. The researcher is therefore of the view that based on the nature of the research topic, the eleven banks (or 46 percent of the total population) is adequate to generate the requisite and adequate data for the study.

3.5 Method of Data Collection

Any research work must collect relevant and valid data to achieve the objectives of the study. For this reason, sufficient, relevant and adequate data were collected with a view to meeting the objectives of the study. The data for this work were collected from two sources, namely primary and secondary.

3.5.1 Primary Source

Oral interview was used at the preliminary stage of this work to serve as a direction, basis and guide to subsequent stages of the research. This source of data collection became necessary especially on those matters that cannot precisely be expressed through the use of secondary data. The data were collected from a Deputy Director and two senior managers in the Banking Supervision Department of the CBN and two senior managers of the Offside Department of NDIC. These departments are responsible for analyzing and interpreting mandatory regular and special returns from all the operating banks in Nigeria, besides, conducting special and other examination based on their returns and interpretation of the returns. The questions of the oral interview were attached as appendix D.

3.5.2 Secondary Source

Documentary source of data for this research were collected from the financial statements (that is, balance sheet, profit and loss account, notes on the accounts, financial summary, directors' reports and accounting policies), from the websites of all the eleven banks under study, the Central Bank of Nigeria annual report, the Nigerian Deposit Insurance Corporation annual report, Fact Book of the Nigerian Stock Exchange and Securities and Exchange Commission (SEC).

Data collected from these sources cover the period 2001 – 2008 financial years of the

banks under study and are used in the analysis and test of the hypotheses of the study. For instance, Agu (1985) uses secondary data to measure banks' profits and profitability and Yomere and Izedonmi (1997) uses secondary data to measure the impact of fixed asset structure on the performance of Nigerian banks. These earlier studies had therefore provided the basis and support for the use of secondary data to measure corporate performance.

The financial statements of these banks were taken based on their separate financial reporting dates. The reported deposits liabilities, liquidity (cash and all cash equivalent), net loans and advances and profits are considered to accrue evenly throughout the reporting period of each of the selected banks in place at the time of report.

The capital (that is, shareholders funds) and the performance variables of this study relating to 2001 to 2004 of the banks under study were obtained from the banks five years financial summaries as reported in their financial statements. Besides, part of the information that was not available through this source was obtained from the CBN's annual report of 2005 and 2005 FactBook of the Nigerian Stock Exchange.

3.6 Techniques for Data Analysis

The independent t-test was considered as a statistical tool in this research because the purpose of the research is aimed at determining whether or not there is significant a difference between the performance indicators of DMBs in Nigeria pre and post the recapitalization exercise. The figures of pre recapitalisation variables of shareholders' funds and the four performance indicators of the studied banks (whose formed new banks through acquisitions and mergers) were added together from the pre recapitalisation figures of each of the affected banks. This becomes necessary to

obtain comparable figures with their post recapitalisation variables.

Independent t-test is the most widely used and versatile tool. Under this consideration, the four performance indicators are the dependent variables while the recapitalization/shareholders' funds represents the independent variable since performance in this case is the function of recapitalization. This therefore shows that there are two independent sample populations, drawn from a normal population and with unknown population variances.

Ideally, they are two populations in this study, before and after recapitalization, which are compared. The test of statistic for the student's t test for difference of two means is therefore given below:

$$\frac{\overline{X}_1 - \overline{X}_2}{sp\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

Where:

$\overline{X}_1 = \frac{1}{n_1}\sum_{i=1}^{n_1} X_{1i}$ (the sample mean of the first population)

$\overline{X}_2 = \frac{1}{n_2}\sum_{i=1}^{n_2} X_{2i}$ (the sample mean of the second population)

n_1 (the number of observations in the first population)

n_2 (the number of observations in the second population)

$sp = \sqrt{\frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}}$ (is the pooled standard deviation of the two populations)

$S_1^2 = \frac{1}{n_1 - 1}\sum_{i=1}^{n_1}\left(X_{1i} - \overline{X}_1\right)^2$ (the sample variance of the first population)

$S_2^2 = \frac{1}{n_2 - 1}\sum_{i=1}^{n_2}\left(X_{2i} - \overline{X}_2\right)^2$ (the sample variance of the second population)

Decision Criterion

Reject the null hypothesis if $p < 0.05$, using the SPSS, version 15 p-value or reject the null hypothesis if $|t| > t_{0.025,n_1+n_2-2}$ using the table of critical values of the students t-distribution.

In addition, the Pearson product correlation coefficient (PPCC) was used to determine the extent of the relationship between the shareholders' funds and the performance indicators. The PPCC was considered in the work because, the variables are continuous with an interval scale of measurement. All tests of significance were done at 5% levels.

The Karl-Pearson Product-Moment Correlation Coefficient formula is given below:

$$r = \frac{n\sum_{i=1}^{n} x_i y_i - \sum_{i=1}^{n} x_i \sum_{i=1}^{n} y_i}{\sqrt{\left[n\sum_{i=1}^{n} x_i^2 - \left(\sum_{i=1}^{n} x_i\right)^2\right]\left[n\sum_{i=1}^{n} y_i^2 - \left(\sum_{i=1}^{n} y_i\right)^2\right]}}$$

Where:

$\sum_{i=1}^{n} x_i$ is the sum of the first observation X (also called the first moment of X)

$\sum_{i=1}^{n} y_i$ is the sum of the second observation Y (also called the first moment of Y)

$\sum_{i=1}^{n} x_i^2$ is the sum of squares of the first observation X (also called the second moment of X)

$\sum_{i=1}^{n} y_i^2$ is the sum of squares of the second observation Y (also called the second moment of Y)

$\sum_{i=1}^{n} x_i y_i$ is the sum of the cross-product of X and Y (also called the cross-product of X and Y)

Hence, the name product-moment, that is a formula composed from products and moments only.

Further more, the researcher introduced Path Correlation Analysis model to determine which among the performance indicators has positively or negatively benefited from the recapitalization exercise in ranking order. Path analysis is an extension of the regression model, used to test the fit of the correlation matrix against two or more causal models which are compared.

An exploratory data analysis to test for both direct and indirect relationships between shareholders funds and each of the performance indicators of the banks – deposits, liquidity, loans and advances and profit; the path correlation is used to investigate the actual causal relationships among these variables. In this regards, the shareholders fund (y) is the independent variable while the four performance indicators $(X_1, X_2, ..., X_4)$ are the dependent variables.

For the path correlation analysis, a correlation matrix below is used:

Y	1	r_{y1}	r_{y2}	r_{y3}	r_{y4}
X_1	r_{y1}	1	r_{12}	r_{13}	r_{14}
X_2	r_{y2}	r_{12}	1	r_{23}	r_{24}
X_3	r_{y3}	r_{13}	r_{23}	1	r_{34}
X_4	r_{y4}	r_{14}	r_{24}	r_{34}	1

The r's are pair wise product-moment correlations between the two variables. Since there are five variables, then there should be 25 (5 * 5) pair wise correlation in the matrix form.

The path analysis is a device for analyzing the causal relationship between two or more variables. This is achieved by partitioning the total correlation coefficient into

its linearly related variables as direct contribution of a given variable and indirect contributions of other variables (parameter) involved. The goal of path analysis is to provide plausible explanations of observed correlations by constructing model of cause and effect relation among variables.

The path correlation between Y and each of $(X_1, X_2, ..., X_4)$ can be recomputed as:

$$r_{y1} = P_1 + r_{12}P_2 + r_{13}P_3 + r_{14}P_4 \quad (1)$$

$$r_{y2} = r_{12}P_1 + P_2 + r_{23}P_3 + r_{24}P_4 \quad (2)$$

$$r_{y3} = r_{13}P_1 + r_{23}P_2 + P_3 + r_{34}P_4 \quad (3)$$

$$r_{y4} = r_{14}P_1 + r_{24}P_2 + r_{34}P_3 + P_4 \quad (4)$$

The above four equations are called the path equations and their solution yields the path coefficients. Where the path coefficients $(P_1, P_2, ..., P_4)$ are the respective direct contributions of $(X_1, X_2, ..., X_4)$ to Y and $r_{12}P_1$ measures the indirect contribution of X_1, to Y via X_2, among others. These path coefficients can be obtained through the solution of the system of equations.

Where Y = shareholders funds

X_1 = deposits

X_2 = liquidity

X_3 = loans and advances

X_4 = profit

In general, r_{ij} is the correlation coefficient between variables i and j, as the case may

be, the i and j are just subscripts as i = 1, 2, 3, 4 and j = 1, 2, 3, 4.

Validation Tests for Path Correlation Analysis

The path correlation analysis is a new model and that there is no evidence to prove that it has been previously used and tested. It is however, adopted in this study, therefore, it becomes mandatory to carry out validation test. For this purpose, path coefficients, various statistical inferences and diagnostic methods for detecting autocorrelation, multicollinearity, normality, detection of outliers, goodness of fit tests among others were computed as the tests for this path model. The Statistical Package for Social Sciences (*SPSS*) version 17.0 was employed for part of the analysis.

Statistical Inferences for Detecting Autocorrelation

Autocorrelation is a problem in the path analysis as well as regression model as it can make the model invalid. The available tests for autocorrelation are based on the principle that if the true disturbances are autocorrelated, then this fact can be detected through the autocorrelations of the least squares residuals. Durbin-Watson Autocorrelation Test is the most popular test for autocorrelation. Durbin and Watson have suggested a test which is applicable to samples. The procedure for the test is outlined as follows:

H_0: The errors are not autocorrelated with the first order scheme

H_1: The errors are autocorrelated with the first order scheme

To test the null hypothesis, we use the Durbin-Watson statistic given below:

$$d^* = \frac{\sum_{t=2}^{n}(e_t - e_{t-1})^2}{\sum_{t=1}^{n} e_t^2}$$

The sample residuals are used to compute the empirical value of the Durbin-Watson statistic. Finally, the empirical Durbin-Watson statistic must be compared with the theoretical value. That is, the value of Durbin-Watson statistic which define the critical region of the test. Durbin and Watson have tabulated these upper and lower values at the 5%and 1% levels of significance. Alternatively, the p-value can be used as applied in most statistical packages.

Statistical Inferences for Detecting Multicollinearity

In path analysis and regression diagnostics, we occasionally worry that the regressors are correlated (the so-called multicollinearity problem). But multicollinearity violates no basic assumptions. Unbiased, consistent estimates will occur, and their standard errors will be correctly estimated. The only effect of multicollinearity is the difficulty to get coefficient estimates with small standard error.

In path analysis, in particular, the nature and significance of the relations between the predictor variables and the response variable are often of particular interest. When the predictor variables are highly correlated among themselves, intercorrelations or multicollinearity among them is said to exist. In this respect, we shall compute the Eigenvalues & Condition Index test for multicollinearity. As particularly used for this study, from the eigenvalues of the $(X'X)$ matrix, we can respectively derive what is known as the condition number *K* and condition index $CI = \sqrt{K}$ as follows:

$$K = \frac{\max imum \quad eigenvalue}{\min imum \quad eigenvalue}$$

Where:

$$CI = \sqrt{K} = \sqrt{\frac{\max imum \quad eigenvalue}{\min imum \quad eigenvalue}}$$

Then we have this rule of thumb. If K is between 10 and 100, there is a moderate to

strong multicollinearity and if it exceeds 100, there is severe multicollinearity. Alternatively, if the condition index $CI = \sqrt{K}$ is between 10 and 30, there is moderate to strong multicollinearity and if it exceeds 30, there is severe multicollinearity. Some statisticians believe that the condition index is the best available multicollinearity diagnostics for all kinds of regression models (Gujarati, 2003).

Statistical Inferences for Detecting Outliers

Sources of outliers or influential observations include: improperly recorded data, observational errors in the data, misspecification and outlying data points that are legitimate and contain valuable information which improve the efficiency of the estimation. It is constructive to isolate extreme points and to determine the extent to which the parameter estimates depend upon these desirable data. Scatter diagrams should also be examined, but these diagnostics are only the first line of attack and are inadequate in detecting multivariate discrepant observations or the way each observation affects the path analysis. Accordingly, Belsley, Kuh and Welsch (1980) define an outlier or influential observation as the one which, either individually or together with several other observations, has demonstrably larger impact on the calculated values of various estimates (coefficients, standard errors, t-values, among others) than is the case for most of the other observations.

Statistical Inferences for Normality Test

One of the assumptions of the path analysis is that the values of the regressors, regressand and residuals be normally distributed. The normal probability plot is a powerful and reliable normality test for path analysis.

3.7 Summary

Being the fulcrum of any research, this chapter presents the procedures that were applied to infer conclusion of the study. The population of the study is all the 24 operational banks with sample size of 11 using Cochran (1997) formula. Both primary and secondary data were used, but the primary source was only used to serve as a direction and guide to the subsequent stages of the study. The techniques used to analyze data were also discussed. They are t-test, correlation coefficient and path correlation analysis.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the statistical analysis and interpretation of the data collected from the sampled banks in relation to the impact of recapitalization on performance of the Nigerian banks. Specifically, four variables were selected for the analysis. These are deposits liabilities, liquidity, loans and advances and profits of the Nigerian banks. A total of eleven banks were involved in the analysis. These included Fidelity Bank plc, Bank PHB, Finbank Plc, United Bank for Africa Plc, Zenith Bank Plc, and Standard Chartered Bank ltd. Others were, Skye Bank Plc, AfriBank of Nigeria Plc, First Bank of Nigeria Plc, EcoBank PLc and Guaranty Trust Bank Plc.

Data were collected from the relevant financial statements of these banks, CBN: BSAR and the Factbook of the Nigerian Stock Exchange for the period between 2001 and 2008. Year 2001 was selected because of the available data that could be compared with the 2005 after recapitalization exercise. This is because most of the banks' financial years end before 31st December, and therefore become impracticable for the affected banks to incorporate in their financial statements the minimum recapitalization of 2005. However, the minimum of N25 billion must have been raised and been in operation before 31st December, 2005.

The study believe that the period between 2001 and 2004 which is equivalent to four

years would be adequate enough to capture operational/performance changes that might occurred in the system. Besides, we equally believe that the periods 2005 to 2008, that is four years period would equally be accepted for research work since further data were not readily available from the sampled deposit money banks (DMBs). Two periods of performance measurements (before and after 2005 recapitalization) were therefore considered in the analysis in order to determine the impact of the exercise on financial performance of Nigerian banks.

4.2 Data Presentation, Descriptive Statistics and Stationarity Test

4.2.1 Data presentation

The research work adopted two sets of variables, that is dependent and independent. The two variables were tested in each of the hypotheses formulated in chapter one. In the first hypothesis, independent variable is recapitalization, proxied by shareholders' funds while the dependent variable is deposit liabilities. It is considered that the deposit liabilities are the function of recapitalization.

The second hypothesis is centered on the recapitalization which was treated as independent variable and liquidity position as dependent variable. Again, the liquidity of banks is assumed to be the function of the recapitalization before and after the exercise. Hypotheses three and four were not significantly different from variables considered from hypotheses one and two above. The shareholders' funds in the two hypotheses were taken as independent variable while loans and advances and reported profits were the dependent variables. This is because, the two performance indicators were the dependent or the functions of the size of capital in place for the periods under study.

In summary, the shareholders' fund is the only independent variable with four

dependent variables – performance indicators as they were dependent on the recapitalization based on the problems of the study.

The secondary data from the eleven sampled banks used for the study were aggregated and presented in table 4.1 below:

Table 4.1: Performance Indices of the Sampled Banks (2001 – 2008)

Before Recapitalization

Year	Shareholders Funds N'000'000	Deposits Liabilities N'000'000	Liquidity Position N'000,000	Loans & Advances N'000,000	Reported Profit N'000,000
2001	51,550	458,555	404,387	136,237	15,295
2002	60,934	523,728	497,981	200,141	19,326
2003	82,487	606,663	566,825	228,042	33,669
2004	111,774	749,419	584,972	308,459	38,954

After Recapitalization

Year	Shareholders Funds N'000'000	Deposits Liabilities N'000'000	Liquidity Position N'000,000	Loans & Advances N'000,000	Reported Profit N'000,000
2005	245,935	1,007,579	717,695	485,127	47,591
2006	415,355	2,307,900	1,722,824	840,381	72,468
2007	618,149	3,516,538	2,687,296	1,471,873	145,141
2008	1,530,511	6,248,724	4,813,428	2,894,428	269,623

Source: Computed from the sampled banks' financial statements and various CBN: BSD annual reports and Fact Book of NSE

The data above were aggregated mainly because of the nature of hypotheses of the study and the required data analysis technique (- independent t test) to be used. The

data should have been treated severally, that is bank per bank if the hypotheses demand for it. For instance, if the data analysis technique is regression, then the bank per bank would be appropriate. In this case, if data are considered severally, it will mean that the results of the data would be 11 times of the present results which will not add value to the work, instead will make it to be bulky.

The table 4.1 above shows the actual amounts of shareholders' funds for all the eleven banks for four years before recapitalisation. The amounts have steady upward movements from within the years. For instance, in 2001 the amount of shareholders' funds was N51,550,000 then to N60,934,000 in year 2002. It was increased to N82,487,000 in 2003 and finally to N111,774,000 in 2004. The percentage increase between 2001 and 2004 is about 117.

The upward steady movement is also applicable to the performance indicators – deposit liabilities, liquidity, loans and advances and profit. The deposit liabilities in 2001 was N458,555,000 and it moved to N523,728,000 in 2002. It further moved to N606,663,000 in 2003 and then to N749,419,000 in 2004. The percentage increase between 2001 and 2004 is about 63. For liquidity, N404,387,000 was recorded in 2001. It was increased to N497,981 in 2002, N566,825,000 in 2003 and finally N584,972 in 2004. The percentage increase between 2001 and 2004 is about 45. The similar percentage increase in both loans and advances and profits are recorded and are 126 and 155 respectively. On the average, the percentage increase in the performance indicators prior to recapitalisation is about 97 compared with 117 in the shareholders' funds. This is an indication that the performance indicators are not moving in the same rate with capital in place within the same period.

The figures of the shareholders' funds for the eleven banks for the four years after recapitalisation and their respective performance indicators were also shown in table

4.1. The steady upward trend in the pre recapitalisation is also reflecting in the post recapitalisation as depicted in the table. In 2005, the shareholders' funds amounted to N245,935,000 but was increased to N415,355,000 in 2006. It moved to N618,149,000 in 2007 and finally to N1,530,511,000 in 2008. The increase between 2007 and 2008 is about 148 percent compare with the increase of about 69 percent between 2005 and 2006. The overall increase between 2005 and 2008 is about 522 percent compared with 117 in the pre recapitalisation figure. The increase appears to be normal as a result of the recapitalisation policy of the Federal Government.

In the same vein, the performance indicators in this study also recorded steady and noticeable increase between 2005 and 2008. The figure of deposit liabilities in 2005 was N1,007,579,000 but more than double in 2006 with the figure at N2,307,900,000. In 2007, the amount stood at N3,516,538,000 and again increased to N6,248,724 in 2008. The increase in percentage between 2005 and 2008 is about 520. The percentages increase between 2005 and 2008 in respect of liquidity, loans and advances and profits are 571, 496 and 467 respectively. On the average, the percentage increase in the performance indicators after the recapitalisation exercise is 514 compared with 97 which was the figure before recapitalisation. This is an indication that the performance indicators are moving in the same rate with the level of capital in place within the four years. The high increase is the evidence of the implementation of the recapitalisation policy.

4.2.2 Descriptive Statistics

The descriptive statistics is directly generated from the processed raw secondary data shown on table 4.1 above. The full detail result is contained in appendix F. The processed secondary data using SPSS is given below:

Table 4.2: Descriptive Measures of Recapitalization and Performance Indicators

Recapitalization		N	Minimum	Maximum	Mean	Std. Deviation
Pre-recapitalization	Shareholders' funds (N '000)	*4*	*51,549,975*	*111,774,134*	*76,686,222.75*	*26,738,095.50*
	Deposits (N '000)	*4*	*458,555,214*	*749,418,552*	*584,591,169.75*	*125,491,765.57*
	Liquidity (N '000)	*4*	*404,386,908*	*584,971,926*	*513,541,088.00*	*81,849,984.13*
	Loans and Advances (N '000)	*4*	*136,237,040*	*308,458,508*	*218,219,745.00*	*71,385,104.45*
	Profit (N '000)	*4*	*15,294,773*	*38,954,774*	*26,811,211.50*	*11,301,246.67*
Post-recapitalization	Shareholders' funds (N '000)	*4*	*245,935,422*	*1,530,510,762*	*702,487,458.00*	*572,602,426.04*
	Deposits (N '000)	*4*	*1,007,579,217*	*6,248,724,392*	*3,270,185,517.00*	*2,234,410,002.89*
	Liquidity (N '000)	*4*	*717,694,716*	*4,813,428,413*	*2,485,310,863.25*	*1,748,025,764.42*
	Loans and Advances (N '000)	*4*	*485,127,498*	*2,894,428,317*	*1,422,952,579.00*	*1,062,471,842.95*
	Profit (N '000)	*4*	*47,590,797*	*269,623,170*	*133,705,659.00*	*99,616,213.19*

Source: Researcher Computation Using SPSS Software, Version 15

The table 4.2 above shows the nature of data (in Naira term) used in this study. Besides, it helps to compare mean of a variable to disclose if there is any significant difference between the mean of a period compared with another of the same variable for any significant difference in the two mean being compared. From the table, the minimum amount of shareholders' funds for the eleven sampled banks during the period before and after recapitalization are N51,549,975 and N245,935,422 respectively with the maximum figures of N111,774,134 and N1,530,510,762. The shareholders' funds after recapitalization mean is higher at N702,487,458 than before recapitalization figure at N76,686,222.75.

The mean of shareholders' funds before recapitalisation of N76,686,222.75 and standard deviation of N26,738,095.5 implies that the average shareholders' funds is N76,686,222.75 per the eleven-bank while the standard deviation of N26,738,095.5 indicates that the eleven-bank shareholders' funds may differ from the average with an approximate amount of N76,686,222.75 and not more. On the other hand, the mean of shareholders' funds after recapitalisation of N702,487,458.0 implies the average of the bank with standard deviation of N572,602,426.04. The standard deviation shows that the bank shareholders' funds may vary from the average with an approximate amount of N572,602,426.04 and not more. The same interpretation also applies to the performance indicators in this study.

On the performance indicators, the deposit liabilities before recapitalization has a minimum amount of N458,555,214 with maximum of 749,418,552, with a mean of N584,591,169.75 compared with the mean of after recapitalization of N3,270,185,517. The deposit liabilities of after recapitalization recorded minimum amount of N1,007,579,217 compared with the maximum amount of N6,248,724,392. Before recapitalization, liquidity position of the eleven sampled banks has a minimum amount of N404,386,908 with maximum amount of N584,917,926 which generated mean of N513, 541,088. The mean of after recapitalization for liquidity is at N2,485,310,863.25. The before recapitalization mean of loans and advances is at N218,219,745 compared with the higher amount of N1,422,952,579 after recapitalization.

The fourth dependant variable of profit shows a minimum amount of N15,294,773 and maximum of N38,954,774 before recapitalization. These figures generated mean before recapitalization of N26,811,211.8 which is lower than the mean from after recapitalization of N133,705,659 as disclose by the above table.

On the overall, the information above shows that as the shareholders' funds increase, so the other four variables increase along the same trend. This means that the banks are able to improve their performances as there is a significant improvement in the mean of the periods compared but with the after recapitalization figures higher that before recapitalization.

4.2.3 Stationarity Test of Secondary Data

Econometric techniques have enabled researchers to use technique like stationary test (that is, unit root test) to determine how consistent and reliable is the time series data in used. This is to ensure that the result or outcome of the processed data would be relied upon. If however, the time series data being used or collected is not stationary, it could create white noise, that is, spurious result. Therefore the first step in the empirical methodology is the estimation of the characteristics of the variables which describe whether or not the variables are stationary or non stationery.

A series is weakly stationary if it has a constant mean, a constant and autocovariances (and autocorrelations) which depend only upon the differences in the time series index. A non-stationary time series data is one in which one or all of those conditions do not hold. If a non-stationary time series data become stationary after being difference once, it is said to be integrated of order one, and is denoted by I (1). If a series is differenced twice to become stationary, it is said to be integrated of order two and is denoted by I (2). In general, a series which is stationary after being differenced *d* times is said to be integrated of order *d*, denoted by I (d). A series which is stationary without differencing is said to be I (0).

If the variables are not stationary, their order of integration is tested using the Augmented Dickey-Fuller (ADF) test which is widely used to test the presence of unit

roots in the variables. In this test therefore, sufficient lag of the autoregressive process is added to achieve white noise residuals. The purpose of augmenting the Dickey-Fuller (DF) regression is to get white noise errors.

The test type in this study is ADF test equation while the test for unit root is made up of level, 1st difference and then 2nd difference. To further test the stationarity of the unit root, test of equation like intercept, trend and intercept and 0 were considered. In this two-step, lagged differences of either 1 or 0 were tested for the preferred stationary result. From these tests, if the ADF is greater than the critical value at defined percentage, usually between 1 and 5 then the time series data is stationary otherwise it is not. Where the time series data are not stationary, the researcher therefore employed the co-integration test to see the extent of the co-integration among the variables.

The secondary data collected from the eleven sampled deposits money banks were subjected to stationary test on each five variables of each of the banks as explained above. The results of the tests shown that, all the five variables for each of the eleven banks met the requirements because the time series data for the study periods 2001 to 2008 were stationary. However, the following are the observations from the tests. The liquidity of United Bank for Africa Plc was only stationary at 10% critical value, but co-integration test confirmed the stationarity of the data. It was therefore included in the overall tests.

Liquidity, loans and advances and shareholders funds of Ecobank Plc were not stationary; however, the co-integration test confirmed the overall stationarity of the data. Other banks' variables that were not stationery included deposit liabilities and loans and advances of First Bank of Nigeria Plc, shareholders funds of Skye Bank Plc, profit and liquidity of Zenith Bank Plc and loans and advances of Bank PHB Plc.

However, further test of co-integration bailed these variables out for inclusion in further tests since the test revealed stationarity of the data. The full details of these tests on each bank are attached as appendix G.

The overall tests for the eleven banks were given in summarized form below. However, the full test detail is equally attached as appendix H.

Stationary Test of Series Data of the Eleven Selected Banks

Deposit

ADF Test Statistic	-3.333048	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,3)
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.490271	0.447120	-3.333048	0.0290

Source: Researcher Computation Using EViews4 Software

With Augmented Dickey-Fuller statistics, the test above shows that the data is stationary between 1 and 5 percent critical value after it has been differenced two times with lag difference of 1.

Liquidity

ADF Test Statistic	-2.863904	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189

		10% Critical Value		-1.6518

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,3)
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-1.349889	0.471346	-2.863904	0.0457

Source: Researcher Computation Using EViews4 Software

The test above using Augmented Dickey-Fuller statistics discloses that the series data (liquidity) for this study fall within the meaning of stationarity of about 5 percent critical value. The integration order is I (2) with lagged difference of 1.

Loans and Advances

ADF Test Statistic	-6.029028	1%	Critical Value*	-5.8034
		5%	Critical Value	-3.7441
		10%	Critical Value	-3.0339

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.179236	0.195593	-6.029028	0.0091

Source: Researcher Computation Using EViews4 Software

The test statistics above indicates that the data is stationary at less than 1 percent critical value after been differenced two times with lag 1.

Profit

ADF Test Statistic	-2.554574	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.751343	0.685571	-2.554574	0.1251

Source: Researcher Computation Using EViews4 Software

With Augmented Dickey-Fuller statistics, the test above shows that the data is stationary between 1 and 5 percent critical value after it has been differenced two times with lag difference of 1.

Shareholders Funds

ADF Test Statistic	-2.542689	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.464943	0.576140	-2.542689	0.0638

Source: Researcher Computation Using EViews4 Software

The Augmented Dickey-Fuller test statistics above confirm that the data is stationary between 1 and 5 percent critical value after it has been differenced two times with lag

difference of 1.

Co-integration Test

ADF Test Statistic	-3.560330	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.418680	0.398469	-3.560330	0.0119

Source: Researcher Computation Using EViews4 Software

The co-integration test statistics above indicates that all the series data is stationary at less than 1 percent critical value after been differenced one time with lag 1. The test is to determine the extent of the co-integration among the variables.

From the ADF tests results above, the time series data for all the eleven banks were stationary at about 5% critical values. This is because the ADF t statistics at almost steady 2nd difference were greater than the critical value at 5%.

4.3 Test of Significant Difference Between the Recapitalization and Performance

The hypotheses raised in the study were aimed at evaluating the impact of the recapitalization exercise on performance of Nigerian banks by comparing two periods, which is before and after the recapitalization. The outcome of the tests of hypotheses on the significant difference between the recapitalization and the performance indicators – deposit liabilities, size of loans and advances, liquidity

position and reported profits before and after the recapitalization exercise were detailed below; however, details of the t-tests are attached as appendix G

4.3.1 Difference between Deposit Liabilities of Nigerian Banks before and after Recapitalization

Hypothesis I: There is no significant difference between the deposits liabilities of Nigerian banks before and after recapitalization.

This hypothesis was tested by comparing the deposits of Nigerian banks before and after the recapitalization exercise. The two sample t-test was used for this test. The result of the test is summarized in table 4.3 below.

Table 4.3: Test of significant difference in deposit liabilities of Nigerian banks before and after recapitalization exercise

Deposit Liabilities	Mean	Std. deviation	T value	T Critical	Remarks
Before	53144652	28541895.33	-5.187	1.96	Sig.
After	300000000	153481969			

Source: Researcher's Computation Using SPSS Software, Version 15

The table 4.3 above shows the result of the descriptive analysis and the test of significant difference between the deposit liabilities of Nigerian banks before and after recapitalization exercise. As observed, the absolute value of the calculated t value (-5.187) is greater than the t critical value (1.96) at 5% level of significance. This is an indication that the banks' deposit liabilities before and after the recapitalization exercise was significantly different. From the mean scores in the table, the banks' deposit after the recapitalization exercise was significantly higher than before the recapitalization. Therefore, the null hypothesis is rejected. This means that recapitalization has greatly increased the banks deposits.

The rise in deposit liabilities after the recapitalization exercise is certainly due to the increased capital. By implication, the recapitalization shows that banks were able to improve on the existing facilities and infrastructure including communication technology, replacement obsolete assets and acquisition of efficient and modern assets to withstand any challenges of the system with the major aim of improving the quality of services and stability in confidence within the banking system, might have motivated the increase in deposits.

Empirical results of the previous researchers on this hypothesis show a somewhat mixed outcome between increased capital and performance – deposit liabilities. A study by Schmitz (2005) found that the effects of changes in deposits differ between constrained and unconstrained capitals. Another study on the effect of mergers and acquisitions on bank performance in Egypt for a period of 2002 to 2007 was conducted by Badreldin and Kalhoefer (2009); 10 banks were sampled and found that there is no clear impact on the performance – deposit liabilities and concluded that banking reforms in Egypt have not been entirely successful in increasing performance. However, a study of Sawada and Okazaki (2003) on financial performance focusing on deposit growth found a substantial positive impact on deposit growth.

The finding of this work provides a conflict with the findings of both Schmitz (2005) and Badreldin and Kalhoefer (2009) in the preceding paragraph but in agreement with the findings of Sawada and Okazaki (2003). The conflicts could be attributed to consolidation strategies adopted by Nigerian banks, the enabling banking environment in Nigeria, confidence in the system and our cultural background, quality of personnel, among others.

4.3.2 Difference between Liquidity of Nigerian Banks before and after Recapitalization

Hypothesis II: There is no significant difference between the liquidity position of Nigerian banks before and after recapitalization.

The liquidity position of Nigerian banks before and after the recapitalization was compared with the aid of two sample t-test to achieve the objective of the hypothesis above. The result of the test is summarized in table 4.4 below.

Table 4.4: Test of significant difference in liquidity position of Nigerian banks before and after recapitalization exercise.

Liquidity	Mean	Std. deviation	T value	T Critical	Remarks
Before	46685553	29864733.1	-4.457	1.96	Sig.
After	230000000	130001537.2			

Source: Researcher's Computation Using SPSS Software, Version 15

As revealed by the table 4.3.2 above, the Nigerian banks' liquidity position after recapitalization exercise was significantly higher than was obtained before the recapitalization. This is obviously observed as the absolute value of the calculated t value (-4.457) is greater than the t critical value (1.96) at 5% level of significant. This therefore, means that the hypothesis – there is no significant difference between the liquidity position of Nigerian banks before and after recapitalization must be rejected. Recapitalization of banks has greatly improved the liquidity status of the banks within the period of study.

There is a higher difference between the liquidity positions of Nigerian banks between the two periods under review. The higher difference in the liquidity position after recapitalization may be due to the difference/excess of injection to meet up the new minimum capital base and the required capital expenditure on the new challenges of

banks for efficient performance. In addition, is the excess from the high deposits recorded in the periods over the usage in the form of loans and advances, financing of projects, and other intermediation activities.

Our finding above is somehow in agreement with the findings of Diamond and Dybvig (1983), Allen and Samtomero (1998) and Allen and Gale (2004), that higher capital enhances banks' ability to create liquidity, but also found that liquidity creation by means of loans and advances exposes banks to risk.

4.3.3 Difference between Loans and Advances of Nigerian Banks before and after Recapitalization

Hypothesis III: There is no significant difference between the size of loans and advances of Nigerian banks before and after recapitalization.

This hypothesis was tested by comparing the mean size of loans and advances of Nigerian banks before and after the recapitalization exercise. The two sample t-test was adopted for the test and the outcome is summarized in table 4.5 below:

Table 4.5: Test of significant difference in the size of loans and advances of Nigerian banks before and after recapitalization exercise.

Size of loans & advances	Mean	Std. deviation	T value	T Critical	Remarks
BEFORE	19838159	9712396.25	-5.655	1.96	Sig.
AFTER	130000000	63496184.45			

Surce: Researcher's Computation Using SPSS Software, Version 15

Table 4.5 above shows the result of the descriptive analysis and the test of significant difference in the size of loans & advances of Nigerian banks before and after recapitalization. It revealed that there is a significant difference in the size of loans and advances of Nigerian banks after the recapitalization exercise. The observed

calculated t value of -5.655 is greater than the t critical value (1.96) at 5% level of significance. Therefore, the hypothesis – there is no significant difference between the size of loans and advances of Nigerian banks before and after recapitalization must be rejected.

The high increase in the size of loans and advances after the recapitalization exercise may be due the to excess nature of deposit liabilities and cash injection (recapitalization) over the value of loans and advances and other facilities granted to deserved customers of the banks.

The previous study by Craig and Santos (1997) and Avery and Samolyk (2003) found that bank recapitalization leads to increase in the size of loans and advances to customers. However, the recent empirical study on the effect of mergers and acquisitions on bank performance conducted by Badreldin and Kalhoefer (2009) on Egyptian where 10 banks were sampled found that there is no clear impact of recapitalization on the performance – loans and advances and concluded that banking reforms in Egypt have not been entirely successful in increasing performance.

This result is not in agreement with our finding and difference may be attributable to the Nigerian banks consolidation strategies, the enabling banking environment in Nigeria compared with Egypt, confidence in the banking system and the cultural background, quality of banking personnel, among others.

4.3.4 Difference between Profit of Nigerian Banks before and after Recapitalization

Hypothesis IV: There is no significant difference between the profit of Nigerian banks before and after recapitalization.

This hypothesis is based on the profit reported by the Nigerian banks before and after

the recapitalization exercise. The two sample t-test was used to compare the two periods as summarized in table 4.6 below:

TABLE 4.6: Test of significant difference in the profit of Nigerian banks before and after recapitalization exercise.

Profitability	Mean	Std. deviation	T value	T Critical	Remarks
BEFORE	2437383	1547779.01	-4.661	1.96	Sig.
AFTER	12155060	6739841.79			

Source: Researcher's Computation Using SPSS Software, Version 15

The table 4.6 above shows that, there is a significant difference in profitability of Nigerian banks before and after recapitalization exercise. This is observed as the absolute value of the calculated t (-4.661) is greater than the t critical value (1.96) at 5% level of significance. The profitability of banks is higher after the recapitalization exercise than before recapitalization.

The difference in the profitability may be due to effective usage of high capital in place since the recapitalization exercise. This should be very clear because capital in a corporate organization like bank cannot satisfactory be measured in isolation. That is, in terms of usage and importance attached to it; it must be measured against the performance in terms of reported profits. This follows, therefore that without efficient use of capital, profit cannot be earned and without adequate capital, there will be no corporate existence. This is because profit is the product of a successful utilization of capital through its employment in banking activities.

Our finding on this hypothesis supports an empirical study carried out by Adegbaju and Olokoyo (2008) on the relevancy of the recapitalization on banks' performance in Nigeria banks before and after the exercise. They found that the mean of key

profitability ratio was significant. Meaning that, there is a statistical difference between the mean of the bank before and after the 2001 recapitalization but the post exercise higher than before the recapitalization.

Similar study which is in agreement with our finding is that of Raymond (2008) that evaluated the pre and post consolidation in Nigeria banking system and found that recapitalization through mergers and acquisitions have a greater effect on firms' growth, profitability and efficiency. Another supporting study is Nadabo (2008)'s comparison on profits before tax of 2006 and 2007 of UBA plc which concluded that recapitalization option had brought about bank efficiency and profitability. In a similar study, Samosir and Soemonagoro (2006) found that merged banks experienced a continuing performance improvement from 1999 to 2005. However, the study of Hosono, Sakai and Tsuru (2005) on the motives and consequences on the recapitalisation of banks in Japan using t-test on the pre and post recapitalisation and found a financial mean ratio of zero. They conclude that recapitalisation will only be effective after five years. The outcome of Hosono, Sakai and Tsuru (2005)'s work is not similar to this study.

The finding of this study is also similar to the study on evaluating the effect of bank mergers comparing pre and post merger performance by Humphrey and Vale (2004). They found that improvements in performance and efficiency could be expected from banking mergers. Another empirical study on the profit – related efficiency conducted by Akhavein, Berger and Humphrey (1997) on the USA banks' mergers and acquisitions from the late 80s to early 90s and found that mergers and acquisitions improved profit efficiency.

A similar study (impact of capital on performance) was conducted by Price Water House Coopers (2001) but was concluded on a mixed result as the study estimated

that the relationship is neither universally positive nor is it universally statistically significant. However, the research found that capital has a strong influence on performance and also on the performance of the employees and then invariably affects the profit position. Other related study on the recapitalization through mergers, acquisition on performance of banks in Indonesia was carried out by Samosir (2003) and found that there were no performance differences between before and after merger exercise.

On the other hand, some studies comparing pre and post mergers performance found that the potential efficient gains derived from recapitalization rarely materialize (Piloff, 1994 and Berger, Demsetz and Straha, 1999). A possible rationale for this puzzle could be that some efficient gains leading to growth might take a long time to accrue (Focarelli and Panatta, 2003). Similarly, Rhoades (199) conducts a study on the mergers taking place between 1981 and 1986 in the USA and found that increased returns were not significantly related to the recapitalisation. Straub (2007), in his study on the reasons for frequent failures in mergers and acquisitions and found that mergers and acquisitions have often failed to add significantly to the performance and then growth in the banking sector. Again, these studies were on the opposite sides of our findings.

Another serious contradiction with our research findings is the work of Linder and Crane (1992) that analyzed the operating performance of 47 banks in New England between 1982 and 1987. Of the 47 mergers in the sample, 25 were consolidations of bank subsidiaries owned by the same holding company. The performance of merged banks is adjusted by the performance of all non-merging banks. That is, the results indicate that mergers did not result in improved performance.

4.4 Test of the Extent of Impact of Recapitalization on Financial Performance

In the analysis of data, a Pearson Product Correlation procedure was adopted to determine the influence of shareholders' funds on the selected variables. The result as presented in table 4.4 indicated significant influence of the shareholders' funds on the selected performance indicators.

Table below therefore shows the correlation matrix of the extent of influence to which the recent recapitalization has impacted on performance indicators of Nigerian banks before and after the exercise.

Table 4.7: **Correlation matrix of shareholders' funds and banks' performance indices for pre and post recapitalization exercise.**

	Share holders funds	Deposits	Liquidity	Loans & advances	Profits
Share holders fund	1	0.795**	0.816**	0.920**	0.899**
Deposits	0.904**	1	0.976**	0.876**	0.887**
Liquidity	0.894**	0.970**	1	0.849**	0.878**
Loans & advances	0.942**	0.951**	0.905**	1	0.935**
Profits	0.965**	0.848**	0.864**	0.881**	1

** Significant at both 5 and 1%. The lower triangle is the before recapitalization and upper triangle is the after recapitalization.
Source: Researcher's Computation Using SPSS Software, Version 15

Table 4.7 above is the correlation matrix of shareholders' funds and the four indicators of bank performance (deposits, liquidity, loans & advances and profit) before and after recapitalization exercise.

The values in the cells of the correlation matrix are the pair wise correlation coefficients. The correlation matrix is a symmetric matrix where the entries on the principal diagonal are all 1s. For instance, the value of 0.795 in the first row, second column is the correlation between the shareholders' funds and deposits while the value in the first row, third column with the figure of 0.816 is the correlation between shareholders' funds and liquidity after recapitalization. They show a strong positive

correlation in each case. The value in the first row, first column, that is, 1, is the correlation between shareholders' funds and itself which must always be perfect, that is 1.

Correlation is the measure of the degree and direction of liner relationship between two or more quantitative variables; hence the value of 0.795 implies a strong positive relationship between shareholders' funds and deposits.

From the table above, the lower triangular matrix is the correlation coefficient of the pair of the variable before recapitalization and the upper triangular is the coefficient of the pairs after the recapitalization exercise. The coefficients obtained are strong and highly positive for both before and after recapitalization exercise. This indicates that the indicator of recapitalization (shareholders' funds) is significantly related to the indicators of performance, both moving in the same direction.

Technically, the coefficients of the before cases are higher than those of the after cases. This shows that the level of significant relationship is higher at the before recapitalization than after the exercise. The detail of the correlation test is attached as appendix H.

4.5 Contribution of Recapitalization to Performance Indicators Using Path Correlation Model

4.5.1 Test of Contribution of Recapitalization to Performance Indicators

Table 4.8 below finds out the extent to which the recapitalization has benefited the four performance indicators. As a step, the table shows the correlation matrix of all the variables in this study.

Table 4.8: Correlation Matrix of all Performance Indices of the Sampled

Banks

Correlations	Shareholders funds	Deposits	Liquidity	Loans and Advances	Profit
Shareholders funds	***1***	***0.987***	***0.988***	***0.995***	***0.990***
Deposits	***0.987***	***1***	***0.999***	***0.996***	***0.992***
Liquidity	***0.988***	***0.999***	***1***	***0.996***	***0.993***
Loans and Advances	***0.995***	***0.996***	***0.996***	***1***	***0.998***
Profit	***0.990***	***0.992***	***0.993***	***0.998***	***1***

Source: Researcher's Computation Using SSPS Software, Version 13

The actual path equations are hereby given as follows using the results of correlation matrix above:

$$0.987 = P_1 + 0.999P_2 + 0.996P_3 + 0.992P_4 \quad (1)$$

$$0.988 = 0.999P_1 + P_2 + 0.996P_3 + 0.993P_4 \quad (2)$$

$$0.995 = 0.996P_1 + 0.996P_2 + P_3 + 0.998P_4 \quad (3)$$

$$0.990 = 0.992P_1 + 0.993P_2 + 0.998P_3 + P_4 \quad (4)$$

Solving the path equations simultaneously, using matrices, we obtained the following path coefficients;

$P = \begin{pmatrix} P_1 \\ P_2 \\ P_3 \\ P_4 \end{pmatrix}$ is the vector of parameters

$K = \begin{pmatrix} 0.987 \\ 0.988 \\ 0.995 \\ 0.990 \end{pmatrix}$ is the vector of constants

$$A = \begin{pmatrix} 1 & 0.999 & 0.996 & 0.992 \\ 0.999 & 1 & 0.996 & 0.993 \\ 0.996 & 0.996 & 1 & 0.998 \\ 0.992 & 0.993 & 0.998 & 1 \end{pmatrix}$$ is the matrix of coefficients

The solution is therefore given as follows using Mathematical Computer Aided Design (MathCAD) package:

$$P = \begin{pmatrix} P_1 \\ P_2 \\ P_3 \\ P_4 \end{pmatrix} = A^{-1}K = \begin{pmatrix} 0.69 \\ 0.66 \\ 0.39 \\ 0.28 \end{pmatrix}$$

4.5.2 Direct Contributions of Shareholders Funds to Performance Indicators

P_1=0.69 is the direct contribution of shareholders' funds to deposits. Here, the deposit liabilities had the highest benefit from the shareholders' funds/capital because, it has a point of 0.69 compared with the benefits of other performance indicators of 0.66 (liquidity), 0.39 (loans and advances) and 0.28 (profit).

P_2=0.66 is the direct contribution of shareholders' funds to liquidity. It is clear that the next highest beneficiary of the capital is the liquidity variable with 0.39 position after deposits. Others are loans and advances with 0.39 direct contribution of shareholders' funds and P_4=0.28 which is the direct contribution of the recapitalization reported profit of the banks.

From the above, it can be directly interpreted that the positive increase in deposit liabilities as a result of recapitalization is not effectively utilized in form of loans and advances to deserving customers. Deposit liabilities of banks are the main sources of funds that banks trade with for profits. The ineffective and or underutilization of these

funds are evidenced in the high liquidity position of 0.66 ranking after deposit with 0.69. Loans and advances came third instead of second if deposits are effectively and adequately distributed (as all credit facilities – loans and advances are granted from deposit liabilities). In this situation, liquid or cash asset is heavily tied down either because of hedging against risks or for whatever reasons and without further enquiry has translated into reduction in earnings/profit as disclosed by the result above.

The excess of deposits over loans and advances should be close to liquidity position of banks if CBN's liquidity regulation is to be adhered to but this result is far from that position.

4.5.3 Indirect Contributions of Shareholders Funds to Performance Indicators

The indirect contribution of shareholders funds figure arising from the calculations is given one after the other as follows:

$r_{12}P_1$=(0.999)(0.69)=0.689 is the indirect contribution of shareholders' funds to deposit liabilities through liquidity which may be due to excess liquidity with banks within the period of study as discussed above.

$r_{13}P_1$=(0.996)(0.69)=0.687 is the indirect contribution of shareholders' funds to deposits through loan and advances. This is the reflection of the above comment. However, it is expected to drop a little as disclosed.

$r_{14}P_1$=(0.992)(0.69)=0.684 is the indirect contribution of shareholders' funds to deposits through profit. The comment here is not much different from the paragraph above but the result is also expected to drop further as it is with the profit result.

$r_{12}P_2$=(0.999)(0.66)=0.659 is the indirect contribution of shareholders' funds to liquidity through deposits. The figure is fairly good as the liquidity is due to under utilization of deposit liabilities.

$r_{13}P_3$=(0.996)(0.39)=0.388 is the indirect contribution of shareholders' funds to loan and advances through deposits. This is the reflection of under utilization of deposits in granting loans and advances.

$r_{14}P_4$=(0.992)(0.28)=0.278 is the indirect contribution of shareholders funds to deposits through profit. This is very clear since profit cannot be transformed without being earned through trading in loans and advances (where interest is generated).

$r_{23}P_2$=(0.996)(0.66)=0.657 is the indirect contribution of shareholders funds to liquidity through loan .and advances. The impact of loans and advances on liquidity disclosed by this result is not debatable since one is dependent on the other.

$r_{23}P_3$=(0.996)(0.39)=0.388 is the indirect contribution of shareholders funds to loan and advances through liquidity. The figure of 0.388 is forced down because of the value of loans and advances in place. However, the main determinant in this result is the value of loans and advances.

$r_{24}P_2$=(0.993)(0.66)=0.655 is the indirect contribution of shareholders' funds to liquidity through profit. The 0.65 should have been higher if sufficient profit is recorded from adequate distribution of credit facilities to deserving customers. However, the figure appears to be satisfactory because of the excess liquidity within the period of study.

$r_{24}P_4$=(0.993)(0.28)=0.278 is the indirect contribution of shareholders' funds to profit through liquidity. This may due to the value of profit as disclosed by the result above.

$r_{34}P_3$=(0.998)(0.39)=0.389 is the indirect contribution of shareholders' funds to loan and advances through profit. The contribution of loans and advances as noted above is not good enough because of the under utilization of deposit liabilities where earnings are generated.

$r_{34}P_4$ =(0.998)(0.28)=0.279 is the indirect contribution of shareholders funds to profit through loans and advances. This result is the reflection of the discussion in the preceding paragraph.

4.6 Analysis of Diagnostic Tests for Path Correlation Model

Diagnostic tests to validate the path correlation model were conducted using the Statistical Package for Social Sciences (*SPSS*) version 17.0. A part from computing the path coefficients, various statistical inferences and diagnostic methods for detecting autocorrelation, multicollinearity, normality and detection of outliers were also computed as follows to test the model:

Detecting Autocorrelation in the Path Correlation Analysis

The Durbin-Watson Autocorrelation Test is the most popular, most flexible and most applied test for autocorrelation. The Durbin and Watson Autocorrelation Test is follows:

Hypothesis

H_0: The errors are not autocorrelated with the first order scheme

H_1: The errors are autocorrelated with the first order scheme

Level of Significance

$\alpha = 0.05$

Test Statistic

$$d^* = \frac{\sum_{t=2}^{n}(e_t - e_{t-1})^2}{\sum_{t=1}^{n} e_t^2}$$

Decision Criterion

Reject the null hypothesis if $p < 0.05$

The rest of the computations done with the SPSS are on the following table:

Table 4.9: Model Summary of Durbin-Watson Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	Sig.
	0.998	0.996	0.991	47,429,742.1	3.103	0.061

Conclusion for Autocorrelation

From table 4.9 above, since $p = 0.061 > 0.05$, we cannot reject the null hypothesis. Hence, the errors are not autocorrelated with the first order scheme.

Detecting Multicollinearity in the Path Correlation Analysis

The Eigenvalues & Condition Index test for multicollinearity was employed here follows using the Durbin-Watson Autocorrelation Test:

Hypothesis

H_0: The errors are not multicollinearity

H_1: The errors are multicollinearity

Level of Significance

$\alpha = 0.05$

Test Statistic

$$CI = \sqrt{K} = \sqrt{\frac{\max imum \quad eigenvalue}{\min imum \quad eigenvalue}}$$

Decision Criterion

Reject the null hypothesis if $CI > 30$

The rest of the computations done with the SPSS are on the following table:

Table 4.10: Collinearity Diagnostic Test

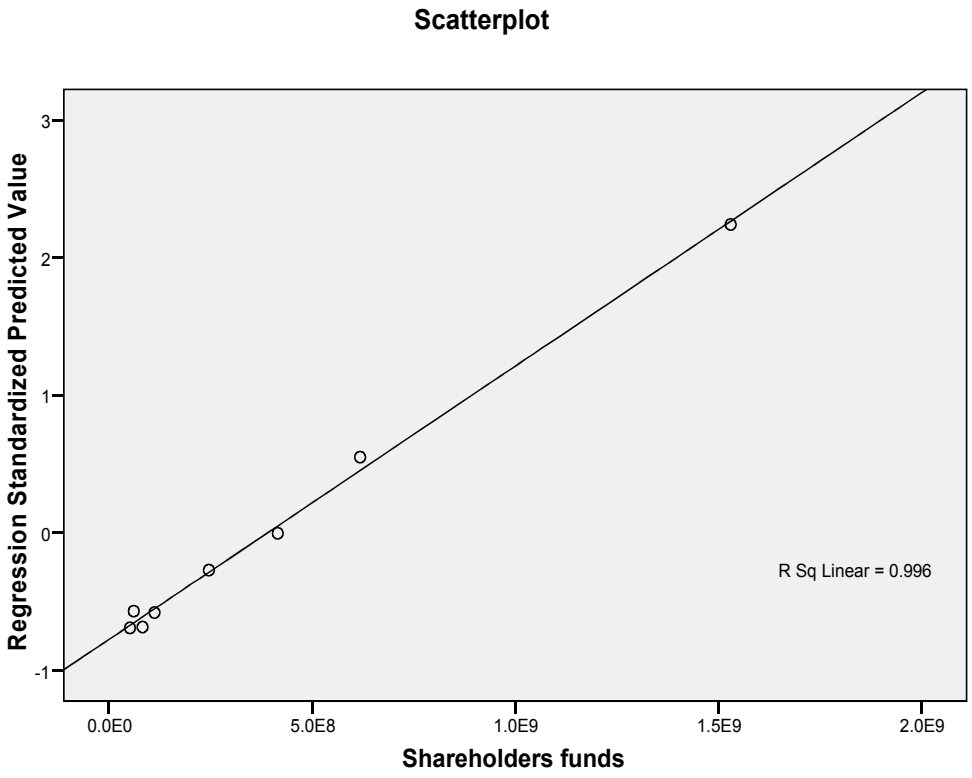
Dimension	Eigenvalue	Condition Index	(Constant)	Deposits	Liqui -dity	Loans and Advances	Profit
1	4.547	1.000	0.01	0.00	0.00	0.00	0.00
2	0.446	3.192	0.39	0.00	0.00	0.00	0.00
3	0.005	29.582	0.04	0.03	0.02	0.01	0.17
4	0.001	26.489	0.57	0.00	0.09	0.83	0.61
5	0.000	28.932	0.00	0.97	0.89	0.16	0.23

Conclusion for Multicollinearity

From table 4.10 above since $p < 30$, in each case, we cannot reject the null hypothesis. Hence, the there are no multicollinearity among the variables.

Statistical Inferences for Detecting Outliers

The scatter plot is employed here to detect outliers as follows:

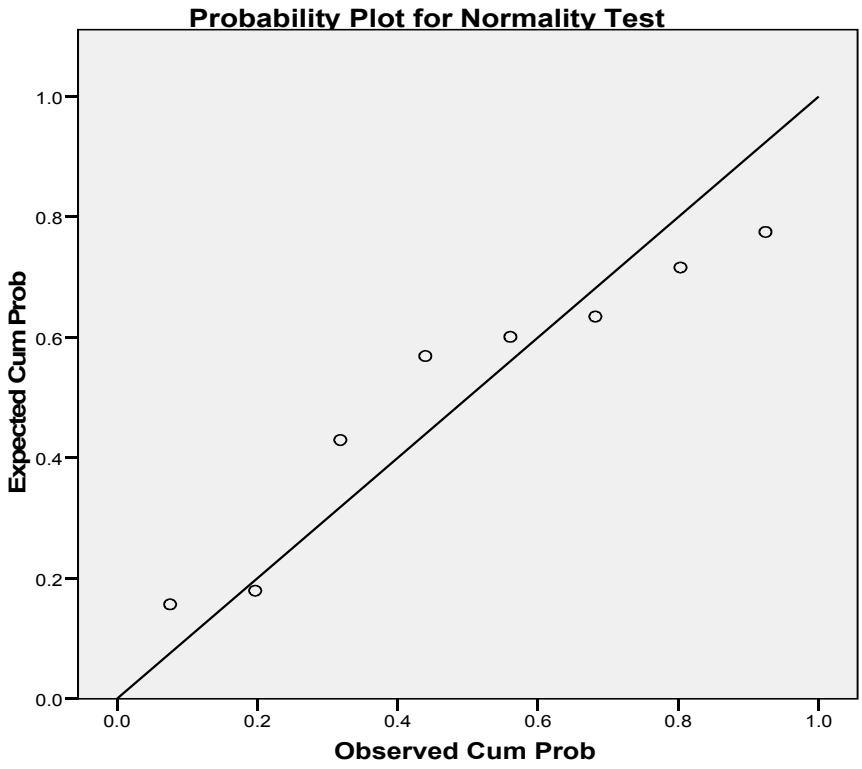


Conclusion for Outliers

From the chart above, all the points are close to the fitted line, there is therefore no evidence of any outlier in the data. Hence, the there are no outliers among the variables.

Statistical Inferences for Normality Test

The normal probability plot is employed here to test for the normality of the data as follows:



Conclusion for Normality Test

From the chart above, all the points are close to the probability line, there is no evidence of any deviation from normality; hence, all the variables are approximately normally distributed.

The validation tests conducted above, confirm that the path correlation analysis model introduced in this study is fit and acceptable, therefore can be employed in a similar study.

4.7 Analysis of Responses from Interview and Discussion

The summary of responses from oral interview conducted were analyzed and discussed below:

The Role of Capital Base in Banking Industry

The respondents confirm that the practical role of capital in banking is mainly to ensure that it is sufficient to continuously support and accommodate the volume of banks' transactions. Capital in banking is a parameter that focuses on the use of internationally accepted capital convergence formula for the measurement of its adequacy. The bank's capital, expressed as a proportion of the total amount of risk weighted assets should not be less than 8 percent (that is, minimum percent of capital adequacy ratio). If the capital adequacy ratio (CAR) is less than 8 percent, the bank's capital is said to be inadequate and will require injection of additional funds to make up for the deficiency. If it is grossly inadequate or eroded, the bank is technically insolvent. At this point, the bank has to be recapitalized.

The responses to role of capital indirectly confirm the view of BCBS (1998). The Committee views capital as critical to the safety and soundness of banks. Therefore, for losses beyond the normal expectation, sufficient capital should be in place to absorb them and leave the bank stable and able to continue operations effectively. In line with above, Umoh (2004, p5) has expanded the role. He opines that the "capital of a bank is expected to fund fixed assets, absorbed future operational losses and determine the volume of risk assets created by the bank".

The 8 percent minimum CAR requirement may be too far from acceptable level no matter the technicality or characteristic nature of this industry. The 8 percent is out of 100 percent, then what happens to 92 percent. Besides, the maximum CAR level which should have been mandatory for the authorities to take decision is not disclosed or is it that it is not yet agreed upon by the Basel relevant committee to determine the just adequate or excess capital of a bank? For the role of capital highlighted above by the respondents, the 8 percent minimum CAR figure does not reveal or disclose time frame for which the computed CAR remains relevant if it must serve the purpose

noted above by the respondents.

Surprisingly, no researcher has commented or questioned on the 8 percent minimum CAR for the banks other than highlighting its functions. BCBS (2004) and Saidenberg and Schuerman (2003) have observed that capital requirements should protect the banks against adverse market conditions and prevent them from taking extraordinary risks and that bank supervisors must address the issues proactively rather than after the risks are realized.

Need to Increase Financial Capital, Bearing in Mind that Foreign Banks which are Highly Capitalized had Failed and are Still Failing

The respondents believe that because of the environment, banking culture and the fact that banking success is not fully based on financial capital, there is need to increase financial capital. The increase in capital is one aspect while another area that is usually ignored is the management or corporate governance. The increase is a welcome idea for expected general improvement in performance, but we have to be careful in managing the affairs of the banks, else it may be worse off.

These views vary but the focus is that there is need for increase in financial capital and improvement in management/corporate governance as it is believed that this would give rise to better performance. The respondents believe that financial capital should always be considered along with corporate governance/management. This recognition is in agreement with the view of Schellenger; Wood and Tashakori (1989) who sees corporate governance as a tool for enhancing the general performance and well being of a company and its shareholders. The respondents' view was in support of Sieff (2001) as reported by Zelzink (2007) who maintains that good management is vitally important at all levels within the bank, from the main board to the banking

hall.

The benefit is however not precise. Besides, none of the respondents mentioned the amount of financial capital that banks should possess other than the subjective minimum amount of N25b imposed on the banks.

The Sole Impact of Recapitalization on Performance in the Nigerian Banks. For the purpose, performance is restricted to deposits, loans and advances to customers, liquidity and profits.

The responses were mainly references to Soludo (2007: 4)'s progress report on one and half years after the consolidation exercise. The achievement was captured using his words:

> The banking sector's consolidation programme was necessitated by the pervasive weaknesses and uncertainty of the banking, and the need to re-engineer and fast-track a system that will engender confidence and power a new economy. So far, the grand objectives of that policy are being achieved, and our consolidation programme has been adjudged about the most successful in the world. The world is celebrating Nigeria's success, and over $1 billion of foreign investment has gone into the sector within the last 12 months, and several hundred millions of dollars are still pouring in. The non-performing loans as percentage of total loans have gone down from about 23% before consolidation to less than 8% currently; total deposits have almost doubled, and credit to the private sector is growing astronomically (annualized at 72% within the first four months in 2007). Today, individual banks can finance big projects valued at hundreds of millions of dollars and also operate in the oil and gas sector – a feat they never could do before now. Interest rates are gradually coming down. As at today, there are over 3,866 branches of banks, up from 3,200 prior to consolidation and the total employment in the sector far higher than prior to consolidation. By the 2007, there will be about 7 or more banks with shareholders fund in excess of $1 billion and over 10 banks with market capitalization of over $2 billion each (there was

none in 2004).

The respondents however, concluded that the recapitalization may improve performance of banks only in the short run. If however, problems of corporate governance are solved along with unethical employment policies of many banks, the objectives of consolidation will be achieved.

The contents of Soludo's progress report are impressive assuming that all could be testified to, but for how long will this achievement continue? It would be too early to start jubilating that the consolidation in Nigeria is a success. This is a progress report of one and half years of a long term project. Normally, one will expect it to be good because, it is only commencing. The challenges and complications of any long term project follow after three years. Soludo's report was in contradiction to the study on the effect of recapitalization on banks' performance conducted in Egypt for a period of 2002 to 2007 by Badreldin and Kalhoefer (2009) where 10 banks were sampled and found that there was no clear impact on the performance. However, it conforms to the empirical study carried out by Adegbaju and Olokoyo (2008) on the relevance of the recapitalization on banks' performance in Nigeria banks before and after the exercise. They found that the mean of key performance was significant.

The Long Term Financial Problems of Nigerian Banks and the Size of Capital (that is assumed to be inadequate)

The respondents to this question only referred the researcher to their responses on question one above. In summary, they believed that the financial problems of Nigerian banks are not restricted to the size of financial capital (inadequate, adequate or highly adequate) alone, but corporate governance and the quality of the employees. If you go to banks, a good number of their staff comes from profession outside

banking or management studies.

This is a very good response especially on faulty, incapacitated or inappropriate employment policy of banks. In earnest, it is a long time and serious problem facing banks which must be addressed. People with limited or zero banking knowledge are employed for various unethical and unprofessional reasons. Once employed, they engage in practices that are injurious to the growth and development of the banking sector. The results are simply inefficient operations, doubtful practice, indirect waste of human resource and poor banker-customer relations. Any organization including banks cannot exist without the required professional manpower which understands the basic requirements, functions and services of the sector. Banking is a profession like accountancy, engineering, medicine, pharmacy and the rest and therefore, its operation must be practised with a high degree of professionalism it requires.

Other Problem Solving Devices that Could Bail out the Nigerian Banks from its Continuous Problems and Provide Means to Improve the Performance

The respondents had common views on this question. Financial capital comes first and it is followed by appropriate workorce. Other problems or factors that required immediate attention if the banks are to improve their performances includes: corporate governance, leadership, organizational structure, enabling environment and the quality of services offered by banks.

The respondents' views are in conformity with the views of Woodward (1965); Thompson (1967); Meyer (1968); Quareshi and Briggs (2003) and Adrian (2007) on importance of organizational structure and variables such as efficient management, latest technology, modern assets, size and technology on banking business and Aliu (2007); Harvey (1982) and Child (1972) on impact of leadership on banks' performance. In addition, the opinions of Levine and White (1961) and Johnson and

Scholes (1999) on favourable operating environment and Kotler and Keller (2007) and Sinn; Dayel; Lurther; Grasshoff and Herbeck (2005) on increasing quality, improving customer services and satisfaction are in support of the respondents' view on this matter.

4.8 Summary and Policy Implications of the Findings

4.8.1 Summary of Findings

Based on the research topic, the recapitalization, which is equivalent to shareholders' funds, became the independent variable. On the other hand, the performance indicators selected were then treated as dependent variables. This becomes possible as the performance in this context automatically becomes the function of capital in place at the end of each year under study.

The four hypotheses were tested and the finding of each shows similar result, that there is a significant difference between the shareholders' funds and the four performance indicators before and after the recapitalization option. The recapitalisation has positively impacted on the four performance indicators. From the mean scores in the respective results, the performance indicators after the recapitalization exercise were significantly higher than were obtained among the banks before the recent recapitalization.

The results of the t test therefore provide sufficient evidence to reject the four hypotheses since in each case the result shows significant difference between shareholders' funds and each of the performance indicators.

The study also finds that the coefficients of correlation obtained from the correlation matrix table above are strong and highly positive both before and after the recapitalization exercise. However, the coefficients of the before cases are higher than

after recapitalization. That is to say that the level of significant relationship is higher before recapitalization than after the recapitalization.

This is an indication that capitals in place before 2005 years were more closely related to the performance indicators in this study. On the other hand, it is to say that the performance level of before recapitalization is closer or stronger than after the increment of capital. Despite the improvement in performance after year 2004, it is proved that capital is not the only deciding variable for favourable performance of Nigerian banks. Another finding of the research is that the quality of services rendered to the customers after recapitalization has no doubt improved significantly and by implication had motivated the increase in the size of deposit liabilities between 2005 and 2008 when compared with the figures of 2001 to 2004. From the high level of deposits, the Nigerian banks were able to satisfactorily play their intermediary role. From the statistics, the quantum and quality of loans and advances had increased tremendously since the recapitalization exercise.

The tests of hypotheses where findings emerged from were based on a short term period, that is, a period covering four years each, 2001 to 2004 and 2005 to 2008. A study of this nature is expected to be on a time series basis; however, for non availability of data because of the short period of time between the recapitalization and this work, we draw the findings from the available data. Therefore, the findings are based on a four-year before and four-year after the recapitalization exercise. The findings could not therefore, answer the question on 'what happens to the performance indicators selected after the four years of recapitalization'?

In addition, the results from path correlation analysis showed that, shareholders' funds or capital of the banks have impacted greatly on the deposit liabilities of the Nigerian banks. However, there is clear evidence that the deposit liabilities resulted from the

recapitalization were not effectively and adequately utilized for further improved profit performance. Following the deposits, is the liquidity which ranked second while loans and advances came third in the contribution margin of the shareholders' funds. The contribution of shareholders' funds to reported profits in the period of study of these banks is not significant when compared with the other three selected performance indicators.

From the oral interview, the 8 percent minimum CAR figure did not reveal or disclose time frame for which the computed CAR remains relevant, besides no percent is established by the relevant authority to determine a bank that is highly capitalized. Another, finding is that financial capital alone is not adequate to significantly and continuously improve the performance of banks, except with efficient corporate governance and right personnel.

4.8.2 Policy Implications of the Findings

The computed favourable performance indicators have significant implications for economic growth and development because the banks are assumed to be playing their intermediary role to all the sectors of the economy within the periods of study.

Another implication is on the budgetary policy. Government through the CBN could direct the banks to put in place workable budget and effective budgetary control that will be based on data available. This is to detect any weaknesses or operational problems that may hinder satisfactory performance in Nigerian banking system. Besides, putting in place good budget is the way to measuring performance of any organization where the actual achievement will be compared with the predetermined figures for corrective action.

Another policy implication of these findings for the policy makers, banks

management and researchers is that emphasis should be placed on improving these performance indicators and other performance determinants of Nigerian banks for continuous performance. However, consideration should be given to the size of capital in use at each period of measuring performance.

Still, the policy implication of the empirical results of the study are that if recent recapitalization is of great benefit to the owners through enhanced profits, dividend and or bonus to the customers through high and satisfactory services which attracted higher deposits and relatively stable economy and banking system, the government and regulatory authority should focus on operational and financial policies that will directly affect all the banks' performance indicators that may be devised by the CBN and possibly NDIC since the variables will have positive impact on the economy. Besides, if the government is interested in the stability, growth and development in the economy, it must create enabling environment for the banking system.

From the current trend (between 2009 and 2010) of banking business, especially in the areas of loans and advances and reported profits, it seems that the results of this study may not be sustainable beyond the period covered since there is observed crises resulting from non performance of loans and advances which is translating to profits declining and liquidity squeeze. This observation will by implication call for further research on the effect of capital in place on financial performance on a long term basis to actually find out whether the financial problems of Nigerian banks are dependent on the size of capital which has since been assumed to be inadequate.

Finally, the data analysis in this chapter is mandatory because the data collected for this work were sampled data. The only way where they can be more sensible and meaningful to provide for possible conclusion, and to represent the entire population of this study is through data analysis where certain level of significance is chosen to

justify inference.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

Any country's banking system which is characterized with long and outstanding operational problems could have its going concern questionable and cause great damages to the country's economy if the problems are not properly, adequately and timely addressed. The embarrassment and negative impact will not only be on the affected bank, but the public, economy and mainly the regulator (CBN), given its role as the engine of growth and development through its function as financial provider to the other sectors of the economy. Once there is a set back in any banking system, the major players or stakeholders will usually respond positively in order to study the problems with a view to finding solutions to them.

The discovery of the causes of Nigerian banking problems that resulted to general under performance necessitated putting in place some regulatory framework for permanent solution to the problems. However, up to 2004 when the recent recapitalization of banks was announced, no definite solution was detected to match the problems. The current attempt to finding solution for the Nigerian deposit money banks' problems has been the recapitalization of the banks through consolidation exercise from the minimum capital of N3 billion (in year 2003) to N25 billion with effect from 31st December, 2005. The CBN believes that high capital base of Nigerian banks could solve the problem of general under performance and then lead to a healthy growth in the system.

Recapitalization is a regulatory policy of adjusting capital of banks to the desired amount by the regulatory authority with the main aim of repositioning the banking sector for an improved performance. To the CBN and other regulatory authorities,

capital is fundamental to banking because of the unavoidable functions that it performs therefore capital is expected to be adequate at all time since the operations of a bank is dependent largely on what constitute its capital.

Banks' capital is treated with care because of the fundamental role of protecting the interest of the depositors and maintaining the public confidence and the economy. Besides, banks' huge, sufficient or adequate capital (as may be determined by the regulators) creates basis for enhanced and continuous flow of deposits for the intermediary functions which gives rise to profit generation while maintaining required minimum liquidity to meet customers' demand and regulators. Based on this, it can be said that capital is measured in terms of its usage, which is performance. Performance in this context means all deposits mobilized from customers, liquidity position at the measured years, the size/quantity or quality of loans and advances mainly granted from customers' deposits and reported profits in the years under review. The importance or role of banks' capital therefore become indispensable and more so, it acts as the engine of growth and development in an economy.

Over the years, the Nigerian banking system has been in financial crises and confusion that go together with operational crises. However, the crises were identified to be weak and or negative capital that has brought about poor operating performance, persistent illiquidity, unprofitable performance, poor asset quality and lack of extension of facilities to the real operational sectors of the economy. These fundamental problems necessitated the recent (2005) sudden recapitalization through consolidation of Nigerian banks (deposit money banks) to N25 billion minimum from N3 billion in 2003. It is believe that since the capital is the basis of performance, then with high recapitalization, the banking system will perform satisfactorily. Therefore, there will be need to test whether or not the performance variables described above go

together with the recapitalization.

Based on this argument, objectives of the study were highlighted and followed by the relevant research questions. For the purpose of test, four hypotheses relating to the performance variable and recapitalization were formulated. The scope of the study was clearly highlighted and the beneficiaries from the study were equally identified.

The concept of capital confirmed that capital is a very important factor in the production process because with sufficient capital in place, other factors of production can easily be obtained. Therefore, capital is mandatory to the survival of any business as its inadequacy may be detrimental to the successful operations of business particularly the banking industry.

Banking is like any other business with certain risk and return characteristics. Capital, being business-neutral would therefore move to and find its level in an industry in terms its risk-return structure. Capital therefore should depend upon the risk appetite of a particular class of investors and the expected return that satisfies this appetite. However, this may not be in agreement with the banking industry because of its regulation. So far, banking is the most regulated business of the world and capital regulation is the arch-pillar of this regulatory structure. This leads to reluctance to let capital find its own level in the industry.

The banking sector is considered special, so, its capital must be properly regulated. This is achieved through satisfactory performance. To provide this function effectively, capital must well balanced and adequate as may be determined by the regulatory authority at any time necessary.

Resulting from inadequacy over the years, the Nigerian banking industry has been in operational and financial crises that had led to serious underperformance and loss of confidence in the system. This necessitated the recent recapitalization of Nigerian

banks (deposits money banks) to N25 billion minimum capital to remove or correct the persistent illiquidity, poor assets quality, unprofitable operations and to generally enhance performance in the system so as to give rise to the nation's economic growth and development.

The study also noted that recapitalization is not the only determining factor of banks' performance since increased capital alone cannot on its own produce results. Other performance determining factors included good corporate governance, leadership, organizational structure, enabling environment, number and high quality of services offered and government intervention.

Chapter three described the methodology employed in the work. The study used correlational design using survey method considering the objective of the study and required data. Secondary source of data were collected from financial statements of the sampled banks, the CBN: banking supervision annual reports, fact book of Nigerian Stock Exchange, NDIC annual reports and Securities and Exchange Commission for the periods 2002 to 2008. The population of the study is the 24 operational banks (DMB) but 11 were sampled. Based on the hypotheses formulated, t-test was used for the test and in achieving the objectives product PPMC was adopted to determine the extent of influence of recapitalization on performance in Nigerian banks.

Chapter four provided with the statistical analysis and interpretation of data used for this research. Stationarity test was conducted on the data to ensure that the data are consistent and reliable for the study.

Different tests were carried out on the four hypotheses formulated using t-test as detailed in chapter three. The results were similar, which revealed that the recapitalization exercise has greatly increased the four financial performance

indicators selected within the period of study. Another test of the extent of impact of recapitalization on the financial performance indicators was conducted using PPCC; the result obtained indicated that the recapitalization is significantly related to the performance indicators as both variables moved in the same direction. However, the cases of before recapitalization are higher than those of the after cases, which means that the level of significant relationship is higher at the before recapitalization than after the exercise.

A test, using path correlation analysis was also carried out to find out the extent to which the recapitalization has benefited the four selected performance indicators. The outcome of the test revealed that deposit liabilities had the highest benefit. The next highest beneficiary is liquidity. Others are loans and advances that came third beneficiary while profit performance ranked last position.

The summary of the findings were also highlighted and was followed by the policy implications of the findings.

5.2 Conclusions

The banking sector in any economy is strategically important to the growth and development of all other sectors in that economy hence, the continuous desire for the banking sector to remain healthy, sound and stable through satisfactory performance. Thus, one major focus that could undermine this importance is inadequate capital. Capital is fundamental for banks' satisfactory performance as it sets in motion and propels the banks for effective operation. This importance led to the recent recapitalization by the Nigerian regulatory authority – CBN.

This study investigates the impact of the recent recapitalization on performance using deposit liabilities, liquidity, loans and advances and reported profits as performance

indicators of the Nigerian banks. From the tests of hypotheses in the preceding chapter, conclusion could be drawn as follows:

a) There is an improvement in the financial performance of the Nigerian banks as a result of the recent recapitalization in the period of study. The financial performance after recapitalization was significantly higher than was obtained among the banks before the exercise.

b) There is a strong and highly positive relationship between the capital and performance indicators before and after recapitalization exercise; however, the performance level of before recapitalization is stronger than after the increment of capital.

c) From b) above, it is further proved that capital is not the only deciding variable responsible for favourable performance in Nigerian banks.

d) The quality of services rendered to the customers after recapitalization has improved significantly which translated to high increase in the size of deposit liabilities. This followed the tremendous increase in the level of loans and advances to customers and had resulted into high profits within the period under review.

5.3 Recommendations

Based on the summary of findings and conclusion above and the necessity for research recommendations as emphasized in the Royal Commission on Banking and Finance (The Porter Report, Canada 1964), the following recommendations are put forward for implementation for further enhancement of the financial performance of Nigerian banks and also to ensure a sound banking practice, stability, growth and development in the nation's economy:

1 Since banks' operations are to some extent the function of a regulatory body, the CBN should always ensure that the banks' maintain continuous positive performance in comparison with their capitals.

2. CBN should put in place an effective, operational and transparent mechanism through the banks' mandatory returns that will capture all known performance variables with which results of banks can always be measured. In addition, internal budgeting is recommended as another means of measuring performance where actual achievements will be compared with the budgeted figures at the end of the budget period for any correction to be effected for future improvement in performance.
3. The CBN and the various stakeholders in the banking sector should focus on policies that will directly affect all the banks' financial performance indicators, for instance deposits, loans and advances (and its sectoral preference allocation, such as the real sectors), liquidity and profitability since they will positively impact on the growth and development of the economy.
4. The CBN should either through monetary policy or circular direct the banks to effectively utilize certain percentage of their deposit liabilities to enhance their earnings capacity and also to enable them play their intermediary role to all sectors of the economy for development. This directive should be monitored as a necessity for full compliance.
5. Since capital is not the only determining factor of banks' performance, emphasis should be placed by CBN on other factors such as investment and maintenance in human asset and efficient corporate governance and
6. The regulatory authorities should establish CAR that determines high and moderate capitalized banks and time frame for which any computed CAR

remains operative.

5.4 Limitations of the Study

The constraints that were encountered by the researcher during the course of this study include the following:

One major constraint is that of inadequate data for this study. The four years pre and fours post recapitalization have limited the research in terms of period covered. As noted, earlier researches of this nature are expected to take a longer period. That is, in the form of time series with period ranging from ten to twenty years. The reason however, is very clear since the recapitalization policy of this nature is a recent development in Nigeria. The readily available secondary data on Nigerian banks since recapitalization exercise are from 2005 to 2008.

Another problem of this study is obtaining of complete secondary data from the various sources. For instance, incomplete and inadequate data from CBN reports and accounts, especially for the year 2005 and non available of annual accounts and reports from the banks under study. Finally is the problem of sufficient cash to support the research work.

Despite the above constraints, the methodology, results, conclusions and reliability of this study are not adversely affected.

Suggestions for Further Study

This work is limited to the assessment of impact of recapitalisation on the financial performance of deposits money banks in Nigeria for a short period, that is four years before recapitalisation and four years after the recapitalisation, hence the following areas are suggested for further research:

i) Impact of recapitalisation on the operational performance of deposits money banks in Nigeria for at least 14 years. The reason is that, only financial performance variables were covered in this study and is for a short period of eight years.

ii) Is financial capital the problems of deposits money banks in Nigeria? This becomes necessary as emphasis is always on the increase of financial capital by the CBN and

iii) Variance analysis of banks' performance within the Nigerian DMBs based on consolidation Status. This study will give the insight of their respective impact on consolidation based on acquisition, mergers and restructure.

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Appendix A

List of Banks with their Members of the Group as 31st December, 2005

S/NO	Group/Bank Name	Members of the Group
1	Oceanic Bank	❖ Oceanic Bank Plc ❖ International Trust Bank
2	* Zenith Bank Plc	❖ Zenith Bank Plc
3	* Guaranty Trust	❖ Guaranty Trust Bank Plc
4	Sterling Group	❖ Magnum Trust Bank Ltd ❖ NBM Bank Ltd ❖ NAL Bank Plc ❖ INMB Bank Ltd ❖ Trust Bank of African Ltd
5	* First Bank Plc Group	❖ First Bank of Nigeria Plc ❖ FBN Merchant Bankers ❖ MBC International Bank Ltd
6	Intercontinental Bank Group	❖ Global Bank Plc ❖ Equity Bank of Nigeria Ltd ❖ Gateway Bank ❖ Intercontinental Bank Plc
7	Wema Bank Group	❖ Wema Bank Plc ❖ National Bank Plc
8	ETB/Devcom Group	❖ Equatorial Trust Bank Ltd ❖ Devcom Bank Ltd
9	* STB/UBA	❖ Standard Trust Bank

		❖ United Bank for Africa Plc ❖ Continental Trust Bank
10	IBTC/Chartered Bank Group	❖ Regent Bank Ltd ❖ Chartered Bank Plc ❖ IBTC Ltd
11	Unity Bank Group	❖ Bank of the North ❖ New Africa Bank Plc ❖ Tropical Commercial Bank ❖ Centre Point Bank Plc ❖ New Nigerian Bank Plc ❖ First Interstate Bank Ltd ❖ Intercity Bank ❖ Societe Bancaire Ltd ❖ Pacific Bank Ltd
12	Union Group	❖ Union Bank of Nigeria Plc ❖ Union Merchant Bank ❖ Universal Trust Bank ❖ Broad Bank Ltd
13	* Afribank Group	❖ Afribank Nigeria Plc ❖ Afribank Int'l Ltd (Merchant Bankers)
14	FCMB Group	❖ FCMB Bank Plc ❖ Cooperative Devpt. Bank Plc ❖ Nig-American Bank Ltd ❖ Midas Bank Ltd

15	Access Group	❖ Marina International Bank Ltd ❖ Capital Bank International Ltd ❖ Access Bank of Nigeria Plc
16	* Skye Group	❖ Prudent Bank Plc ❖ Bond Bank Ltd ❖ Cooperative Bank Plc ❖ Reliance Bank Ltd ❖ EIB Bank Ltd
17	* Platinum/Habib Group	❖ Platinum Bank Ltd ❖ Habib Nigeria Bank Ltd
18	Diamond Bank	❖ Diamond Bank Ltd ❖ Lion Bank Plc ❖ African International Bank Ltd
19	* First Inland Group	❖ IMB Bank Plc ❖ Inland Bank Plc ❖ First Atlantic Bank Ltd ❖ NUB Bank Ltd
20	* Fidelity Group	❖ Fidelity Bank Plc ❖ FSB International Bank Plc ❖ Manny Bank Ltd
21	Spring Bank Group	❖ Guardian Express Bank Ltd ❖ Citizens International Bank Ltd ❖ Fountain Trust Bank Ltd ❖ Omega Bank Plc

		❖ Trans International Bank Ltd ❖ ACB International Bank Plc
22	* Ecobank	❖ Ecobank Bank Nigeria Plc
23	NIB	❖ Nigeria International Bank Ltd
24	Stanbic	❖ Stanbic Bank Ltd
25	* Standard Chartered	❖ Standard Chartered Bank Ltd

Source: CBN BSAR 2005

However, item 10 and 24 merged in 2009 and the name naturally changed to Stanbic IBTC Bank.

Appendix B

Money Deposits Banks in Nigeria and the Reform Mode

S/N	Name of the Bank	Reform Mode
1	Access	Acquisition
2	Afribank	Acquisition
3	First	Acquisition
4	Guaranty Trust	Restructure
5	Stanbic IBTC	Merger
6	Intercontinental	Acquisition
7	Union	Acquisition
8	Wema	Acquisition
9	Platinum Habib	Merger
10	Diamond	Acquisition
11	Equatorial	Acquisition
12	Fidelity	Acquisition
13	Fin	Merger
14	First City Monument	Acquisition
15	Unity	Merger
16	Zenith	Restructure
17	Oceanic	Acquisition
18	Skye	Merger
19	Sterling	Merger
20	United Bank for Africa	Merger
21	Eco	Acquisition
22	Nigeria International	Merger
23	Standard Chartered	Restructure
24	Spring	Merger

Source: Researcher's Field Work, 2009

Appendix C

Shareholders' Funds/Capital of Nigerian Banks in Billion as at 31st December, 2006

S/N	Name of the Bank	N'000'000
1	Access	28.9
2	Afribank	27.0
3	First	59.0
4	Guaranty Trust	36.4
5	Stanbic IBTC	59.7
6	Intercontinental	53.9
7	Union	95.7
8	Wema	20.5
9	Platinum Habib	28.5
10	Diamond	35.0
11	Equatorial	28.4
12	Fidelity	25.6
13	Fin	18.3
14	First City Monument	25.2
15	Unity	30.7
16	Zenith	93.8
17	Oceanic	37.7
18	Skye	26.1
19	Sterling	26.3
20	United Bank for Africa	47.6
21	Eco	29.3
22	Nigeria International	33.8
23	Standard Chartered	32.4
24	Spring	25.0 (Not available hence the minimum amount taken)
Total Shareholders' funds / Capital		**924.8**

Source: CBN (2005, 2006) and from the Banks

Appendix D

The Important Aspect of Oral Interview Conducted with the Management Staff of both CBN and NDIC to Serve as a Preliminary Direction to the Research Work.

Question 1

What in your opinion is the practical role of capital in banking industry?

Question 2

If you are the CBN governor, would you have proposed the recent increase in capital, bearing in mind that foreign banks that are believed to be highly capitalized have failed and are still failing?

Question 3

The CBN has just (31st December, 2005) recapitalized the deposits money banks in Nigeria, what do you think as a principal officer of the CBN is the sole impact of the recapitalization on performance of these banks? For the purpose of this interview, performance is restricted to deposit liabilities from customers, loans and advances to customers, liquidity (cash and cash equivalent or any asset that can easily be converted to cash with minimum risk) and profits.

Question 4

Do you think that the long term financial problems of Nigerian banks could be traced to the size of capital (that is assumed to be inadequate)?

Question 5

In addition to financial capital, do you think there is any other problem solving device that could bail out the Nigerian banks from its continuous problems and provide means to improve the performance?

Appendix E

Analysis of the Oral Interview Conducted with the Management Staff of both CBN and NDIC to Serve as Preliminary Direction to the Research Work.

Q1

Almost all the responses to this question are similar as – they confirm that the practical role of capital in banking is i) to ensure that it is sufficient to support the volume of the banks' transactions ii) whether or not it can accommodate future growth of the bank and iii) to determine whether the bank is heading for a collapse or distress. They did not mince words by stating that capital in banking is a parameter that focuses on the use of internationally accepted capital convergence formula for the measurement of its adequacy. The International Conference of Supervisors recommended that bank's assets be assigned different weight from 0% to 100% depending on the level of risk attached.

The bank's capital, expressed as a proportion of the total amount of risk weighted assets should not be less than 8 percent (that is, minimum percent of capital adequacy ratio). If the capital adequacy ratio (CAR) is less than 8 percent, the bank's capital is said to be inadequate and will require injection of additional funds to make up for the deficiency. If it is grossly inadequate or eroded, the bank is technically insolvent. At this point, the bank has to be recapitalized.

The 8 percent minimum CAR requirement may be too far from acceptable level no matter the technicality or characteristic nature of this industry. The 8 percent is out of 100 percent, then what happens to 92 percent. Besides, the maximum CAR level which should have been mandatory for the authorities to take decision is not disclosed

or is it that it is not yet agreed upon by the Basel relevant committee to determine the just adequate or excess capital of a bank? For the role of capital highlighted above by the respondents, the 8 percent minimum CAR figure did not reveal or disclose time frame for which the computed CAR remains relevant if it must serve the purpose noted above by the respondents.

Q2

The responses to this question had various views as follows: i) the Nigerian banking environment is different from that of foreigners and so there is need to increase the capital base of the banks in order to boost the banking activities, ii) financial capital is not the ultimate in banking, but if it is combined with human capital, the banking system will surely make progress, iii) following the history of the Nigerian banking system, the increase in capital is one aspect while another area that is usually ignored is the management or corporate governance. The increase is a welcome idea, but we have to be careful in managing the affairs of the banks or else they will be worse off and iv) because of the influential nature of our environment, customers and the general public, the increase in capital will improve the general performance of the Nigerian banks.

These views vary but the focus is that there is need for increase in financial capital and improve human capital as it is believed that this would give rise to better performance. The benefit is however not precise. Besides, none of the respondents mentioned the amount of financial capital that banks should possess other than the subjective minimum amount of N25b imposed on the banks.

Q3

The responses to this question were mainly references to Soludo (2007)'s progress report on one and half years after the consolidation exercise. The achievement was

captured using his words:

> The banking sector's consolidation programme was necessitated by the pervasive weaknesses and uncertainty of the banking, and the need to re-engineer and fast-track a system that will engender confidence and power a new economy. So far, the grand objectives of that policy are being achieved, and our consolidation programme has been adjudged about the most successful in the world. The world is celebrating Nigeria's success, and over $1 billion of foreign investment has gone into the sector within the last 12 months, and several hundred millions of dollars are still pouring in. The non-performing loans as percentage of total loans have gone down from about 23% before consolidation to less than 8% currently; total deposits have almost doubled, and credit to the private sector is growing astronomically (annualized at 72% within the first four months in 2007). Today, individual banks can finance big projects valued at hundreds of millions of dollars and also operate in the oil and gas sector – a feat they never could do before now. Interest rates are gradually coming down. As at today, there are over 3,866 branches of banks, up from 3,200 prior to consolidation and the total employment in the sector far higher than prior to consolidation. By the 2007, there will be about 7 or more banks with shareholders fund in excess of $1 billion and over 10 banks with market capitalization of over $2 billion each (there was none in 2004).

The respondents however, concluded that the recapitalization may improve performance of banks only in the short run. If however, problems of corporate governance are solved along with unethical employment policies of many banks, the objectives of consolidation will be achieved.

The contents of Soludo's progress report are impressive assuming that all could be testified to, but for how long will this achievement continue? It is too early to start jubilating that the consolidation in Nigeria is a success. This is a progress report of one and half years of a long term project. Normally, one will expect it to be good because, it is only commencing. The challenges and complications of any long term

project follow after three years.

Q4

The respondents to this question only referred the researcher to their responses on question 2 above. In summary, they believed that the financial problems of Nigerian banks are not restricted to the size of financial capital (inadequate, adequate or highly adequate) alone, but corporate governance and the quality of the employees. Go to banks, good numbers of their staff come from profession outside banking or management studies.

Q5

The respondents had common views on this question. Financial capital comes first and it is followed by appropriate workers, those in the field of banking, accounting and other management studies. Other problems or factors that required immediate attention if the banks are to improve their performances includes: corporate governance, leadership, organizational structure, enabling environment and the quality of services offered by banks.

Secondary Data from the Eleven Banks

Appendix F

FIDELITY BANK PLC

Annual Accounts

	Shareholders Funds N'000	Deposits N'000	Liquidity N'000	Loan and Advances N'000	Reported Profit N'000
2001	1,423,216	9,861,387	5,674,124	2,734,124	477,962
2002	1,915,211	12,280,593	8,868,294	4,934,514	633,796
2003	2,515,423	16,888,123	13,694,019	7,175,055	1,085,070
2004	3,519,624	19,339,616	15,779,565	9,735,682	1,077,509
2005	9,776,922	20,710,854	18,091,529	14,052,493	1,650,499
2006	25,664,717	81,946,304	72,290,040	38,863,149	3,673,398
2007	30,101,287	176,416,137	126,348,913	70,317,818	5,111,364
2008	136,371,740	378,543,497	265,026,952	229,156,283	16,305,628

PLATINUM HABIB BANK PLC

2001	686,107	6,924,425	4,795,430	2,785,637	136,670
2002	798,271	9,920,635	6,440,747	4,375,688	151,098
2003	1,391,946	14,988,356	9,493,950	8,198,653	302,802
2004	2,847,375	20,015,449	14,271,761	8,199,399	885,019
2005	12,660,366	21,893,197	17,578,780	18,612,117	1,055,275
2006	28,441,562	109,272,629	96,240,039	37,137,734	3,515,430
2007	36,187,018	306,961,160	229,660,301	100,158,590	10,282,001
2008	167,480,266	739,441,996	506,584,516	312,881,090	25,806,092

FINBANK PLC

2001	2,017,641	6,349,231	4,395,967	3,414,241	127,786
2002	2,258,667	8,956,634	6,636,048	5,228,531	282,869
2003	2,299,169	10,099,058	6,685,466	6,950,366	598,393
2004	2,444,234	15,101,998	9,294,206	9,991,080	477,942
2005	3,631,925	16,158,560	9,994,864	11,138,102	527,094
2006	(3,463,606)	20,415,262	12,045,907	7,126,116	6,875,419
2007	22,137,040	146,807,479	100,805,190	28,472,438	6,425,576
2008	10,331,075	391,406,334	284,641,148	60,333,254	1,109,448

UBA BANK PLC

2001	8,427,000	133,135,000	119,464,000	23,106,000	1,585,000
2002	9,782,000	131,866,000	133,582,000	40,135,000	2,238,000
2003	13,767,000	142,427,000	123,105,000	46,076,000	4,816,000
2004	18,059,000	151,929,000	130,317,000	56,136,000	5,608,000
2005	17,702,000	205,110,000	168,160,000	67,610,000	6,239,000
2006	47,621,000	757,407,000	666,097,000	107,194,000	12,514,000
2007	164,821,000	897,651,000	667,773,000	320,229,000	26,988,000
2008	188,155,000	1,258,035,000	933,633,000	421,748,000	54,637,000

Appendix F

ZENITH BANK PLC

	Shareholders Funds ₦'000	Deposits N'000	Liquidity N'000	Loan and Advances N'000	Reported Profit N'000
2001	6,725,000	30,688,000	43,124,811	12,620,000	2,802,000
2002	9,306,000	50,134,000	67,428,625	20,226,000	3,999,000
2003	12,651,577	61,574,455	77,140,805	27,290,021	5,440,471
2004	15,671,368	131,095,341	121,891,453	53,391,209	6,404,885
2005	42,100,031	233,038,646	162,698,923	121,625,817	9,187,501
2006	100,642,511	393,308,576	365,166,368	200,237,530	15,589,825
2007	114,586,090	634,492,524	574,957,394	288,111,826	25,676,331
2008	344,348,245	1,185,892,673	1,176,302,666	445,837,390	56,118,708

STANDARD CHARTERED

2001	656,000	3,195,465	4,315,201	1,015,892	161,098
2002	1,617,000	11,416,000	9,861,083	2,466,000	768,000
2003	3,633,000	14,527,000	10,189,762	6,587,000	1,057,000
2005	26,652,839	33,440,322	10,765,950	19,775,762	3,243,329
2006	32,359,381	37,541,980	18,015,375	29,407,636	7,099,932
2007	33,239,090	47,112,977	20,954,414	35,740,124	8,671,929
2008	35,328,943	96,175,801	77,433,815	61,516,057	11,280,779

SKY BANK PLC

2001	1,864,235	5,338,972	3,875,291	3,223,861	397,106
2002	2,052,531	8,778,989	5,903,746	4,985,198	523,266
2003	2,342,380	16,108,760	10,265,453	8,212,450	854,004
2004	2,953,000	20,913,000	12,277,083	10,165,590	918,000
2005	4,447,000	22,623,000	14,005,000	12,123,000	743,000
2006	26,083,000	125,472,000	63,479,000	71,718,000	2,091,000
2007	29,175,000	269,316,000	176,022,000	108,450,000	7,519,000
2008	93,853,000	501,596,000	356,895,000	244,511,000	20,425,000

AFRIBANK PLC

2001	2,823,000	58,287,000	30,418,000	14,595,000	1,090,000
2002	4,332,000	56,955,000	26,048,000	23,687,000	2,231,000
2003	4,791,000	67,915,000	38,512,000	22,573,000	1,209,000
2004	5,317,000	57,989,000	23,723,000	19,078,000	1,566,000
2005	21,387,000	61,601,000	32,539,000	21,351,000	531,000
2006	27,059,000	94,816,000	52,222,000	37,284,000	3,695,000
2007	28,296,023	142,276,727	86,158,526	71,322,541	6,923,076
2008	3,488,971	278,476,093	181,214,665	119,315,630	12,361,091

Appendix F

FIRST BANK OF NIG PLC

	Shareholders Funds N'000	Deposits N'000	Liquidity N'000	Loan and Advances N'000	Reported Profit N'000
2001	17,093,000	148,279,000	145,924,000	46,111,000	6,201,000
2002	17,747,000	168,064,000	186,978,000	61,918,000	5,087,000
2003	25,040,000	191,088,000	230,497,000	56,046,000	13,393,000
2004	38,621,000	206,643,000	195,800,000	78,040,000	14,106,000
2005	44,672,000	264,988,000	194,490,000	114,673,000	15,145,000
2006	60,980,000	390,846,000	251,789,000	175,657,000	16,128,000
2007	77,351,000	581,827,000	430,054,000	219,185,000	22,097,000
2008	339,847,000	661,624,000	577,211,000	437,768,000	38,020,000

ECOBANK NIGERIA PLC

2001	2,522,540	18,665,480	15,078,160	5,266,764	931,773

2002	2,945,733	19,985,261	16,255,968	5,726,271	713,776
2003	3,519,000	19,979,000	16,096,509	8,269,888	1,111,000
2004	4,413,327	28,643,449	20,445,884	11,063,134	1,317,104
2005	26,737,303	32,452,051	43,077,504	19,130,959	2,264,856
2006	29,321,454	84,040,522	53,174,125	52,279,284	5,011,759
2007	34,822,351	22,885,040	144,462,459	116,180,680	10,096,300
2008	31,755,797	310,714,475	202,481,668	144,917,536	(897,642)

GUARANTY TRUST BANK PLC

2001	7,312,236	37,831,254	27,321,924	21,364,521	1,384,378
2002	8,179,453	45,371,284	29,978,345	26,459,247	2,698,254
2003	10,536,421	51,067,765	31,144,698	30,663,550	3,802,500
2004	12,967,978	74,222,497	30,861,568	43,675,606	5,029,725
2005	36,168,036	95,563,587	46,293,166	65,035,248	7,004,243
2006	40,645,542	212,833,770	72,305,298	83,476,852	10,024,936
2007	47,433,188	290,792,372	130,099,975	113,705,183	15,350,231
2008	179,550,725	446,818,523	252,003,983	416,444,077	34,457,066

TOTAL	**3,111,734,495**	**15,395,580,545**	**11,985,097,399**	**6,555,706,488**	**654,253,730**

CUM TOTAL

2001	51,549,975	458,555,214	404,386,908	136,237,040	15,294,773
2002	60,933,866	523,728,396	497,980,856	200,141,449	19,326,059
2003	82,486,916	606,662,517	566,824,662	228,041,983	33,669,240
2004	133,466,745	759,332,672	585,427,470	319,251,462	40,633,513
2005	245,935,422	1,007,579,217	717,694,716	485,127,498	47,590,797
2006	415,354,561	2,307,900,043	1,722,824,152	840,381,301	86,218,699
2007	618,149,087	3,516,538,416	2,687,296,172	1,471,873,200	145,140,808
2008	1,530,510,762	6,248,724,392	4,813,428,413	2,894,428,317	269,623,170

	3,138,387,334	**15,429,020,867**	**11,995,863,349**	**6,575,482,250**	**657,497,059**

Stationary Test of Series Data of Each of the Eleven Bank

Appendix G

AFRI-BANK

Deposit

ADF Test Statistic -2.488071 1% Critical Value* -3.3594

5%	Critical Value	-2.0189
10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,3)
Method: Least Squares
Date: 07/14/10 Time: 13:03
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.240207	0.498461	-2.488071	0.0676

R-squared	0.607334	Mean dependent var	0.000438
Adjusted R-squared	0.607334	S.D. dependent var	0.025614
S.E. of regression	0.016051	Akaike info criterion	-5.249280
Sum squared resid	0.001030	Schwarz criterion	-5.327393
Log likelihood	14.12320	Durbin-Watson stat	1.273486

Liquidity

ADF Test Statistic	-1.617667	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,3)
Method: Least Squares
Date: 07/14/10 Time: 13:05
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-1.547346	0.956529	-1.617667	0.2471
D(LNLIQ(-1),3)	0.082059	0.498037	0.164765	0.8843

R-squared	0.844039	Mean dependent var	0.015719

Adjusted R-squared	0.766058	S.D. dependent var	0.058083
S.E. of regression	0.028093	Akaike info criterion	-3.999730
Sum squared resid	0.001578	Schwarz criterion	-4.306583
Log likelihood	9.999460	Durbin-Watson stat	0.206214

Loans and advances

ADF Test Statistic	-3.453023	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 13:06
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-0.876306	0.253779	-3.453023	0.0746
D(LNLOAN(-1),3)	0.693668	0.193954	3.576458	0.0701

R-squared	0.906199	Mean dependent var	-0.000332
Adjusted R-squared	0.859299	S.D. dependent var	0.020662
S.E. of regression	0.007750	Akaike info criterion	-6.575312
Sum squared resid	0.000120	Schwarz criterion	-6.882165
Log likelihood	15.15062	Durbin-Watson stat	2.848874

Profit

ADF Test Statistic	-2.978406	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,2)
Method: Least Squares
Date: 07/14/10 Time: 13:10
Sample(adjusted): 2003 2008
Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1))	-1.259381	0.422837	-2.978406	0.0309

R-squared	0.639380	Mean dependent var	-0.002349
Adjusted R-squared	0.639380	S.D. dependent var	0.124798
S.E. of regression	0.074943	Akaike info criterion	-2.193164
Sum squared resid	0.028082	Schwarz criterion	-2.227871
Log likelihood	7.579491	Durbin-Watson stat	1.672095

Shareholders fund

ADF Test Statistic	-1.678007	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 13:14
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.282080	0.764049	-1.678007	0.1686

R-squared	0.381581	Mean dependent var	-0.022170
Adjusted R-squared	0.381581	S.D. dependent var	0.106923
S.E. of regression	0.084084	Akaike info criterion	-1.937149
Sum squared resid	0.028280	Schwarz criterion	-2.015261
Log likelihood	5.842872	Durbin-Watson stat	1.244203

CO-INTEGRATION TEST

ADF Test Statistic	-2.617076	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 13:15
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.

RESID01(-1)	-1.090534	0.416699	-2.617076	0.0397
R-squared	0.531966	Mean dependent var		0.000186
Adjusted R-squared	0.531966	S.D. dependent var		0.004180
S.E. of regression	0.002859	Akaike info criterion		-8.744855
Sum squared resid	4.91E-05	Schwarz criterion		-8.752582
Log likelihood	31.60699	Durbin-Watson stat		1.801286

Appendix G

ECOBANK

Deposit

ADF Test Statistic	2.883593	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP)
Method: Least Squares
Date: 07/14/10 Time: 14:02
Sample(adjusted): 2003 2008
Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNDEP(-1)	0.010008	0.003471	2.883593	0.0449
D(LNDEP(-1))	-1.625253	0.257034	-6.323116	0.0032
R-squared	0.908629	Mean dependent var		0.025199
Adjusted R-squared	0.885786	S.D. dependent var		0.071453

S.E. of regression	0.024148	Akaike info criterion	-4.348045
Sum squared resid	0.002332	Schwarz criterion	-4.417458
Log likelihood	15.04413	Durbin-Watson stat	1.748693

Liquidity

ADF Test Statistic	-1.201079	1% Critical Value*	-3.1714
		5% Critical Value	-2.0056
		10% Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNLIQ,2)

Method: Least Squares

Date: 07/14/10 Time: 14:05

Sample(adjusted): 2003 2008

Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1))	-0.474577	0.395125	-1.201079	0.2835

R-squared	0.219562	Mean dependent var	0.002212
Adjusted R-squared	0.219562	S.D. dependent var	0.032352
S.E. of regression	0.028580	Akaike info criterion	-4.121186
Sum squared resid	0.004084	Schwarz criterion	-4.155893
Log likelihood	13.36356	Durbin-Watson stat	2.439794

Loan and advances

ADF Test Statistic	-1.211249	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 14:07
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.425021	1.176489	-1.211249	0.3495
D(LNLOAN(-1),3)	0.695883	0.760947	0.914496	0.4570

R-squared	0.375840	Mean dependent var	-0.006720
Adjusted R-squared	0.063760	S.D. dependent var	0.027044
S.E. of regression	0.026168	Akaike info criterion	-4.141730
Sum squared resid	0.001369	Schwarz criterion	-4.448583
Log likelihood	10.28346	Durbin-Watson stat	0.665864

Profit

ADF Test Statistic	-5.362834	1%	Critical Value*	-6.7615
		5%	Critical Value	-4.0691
		10%	Critical Value	-3.2066

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/14/10 Time: 14:14
Sample(adjusted): 2004 2007
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.569920	0.292741	-5.362834	0.0331
C	0.013346	0.009235	1.445086	0.2853

R-squared	0.934980	Mean dependent var	-0.015085
Adjusted R-squared	0.902471	S.D. dependent var	0.048429
S.E. of regression	0.015124	Akaike info criterion	-5.238168
Sum squared resid	0.000457	Schwarz criterion	-5.545021
Log likelihood	12.47634	F-statistic	28.75999
Durbin-Watson stat	2.487214	Prob(F-statistic)	0.033056

Shareholders Fund

ADF Test Statistic	-3.021687	1%	Critical Value*	-5.8034
		5%	Critical Value	-3.7441
		10%	Critical Value	-3.0339

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 14:17
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.509563	0.499576	-3.021687	0.0567
C	-0.003490	0.032024	-0.108995	0.9201

R-squared	0.752691	Mean dependent var	-0.003335
Adjusted R-squared	0.670255	S.D. dependent var	0.124700
S.E. of regression	0.071607	Akaike info criterion	-2.146066
Sum squared resid	0.015383	Schwarz criterion	-2.302291
Log likelihood	7.365164	F-statistic	9.130593
Durbin-Watson stat	2.223622	Prob(F-statistic)	0.056683

Co-integration Test

ADF Test Statistic	-3.374405	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 14:17
Sample(adjusted): 2002 2007

Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.351649	0.400559	-3.374405	0.0198

R-squared	0.690965	Mean dependent var	-0.002078
Adjusted R-squared	0.690965	S.D. dependent var	0.020120
S.E. of regression	0.011185	Akaike info criterion	-5.997499
Sum squared resid	0.000626	Schwarz criterion	-6.032206
Log likelihood	18.99250	Durbin-Watson stat	2.180550

Appendix G

FIDELITY BANK

Deposit

ADF Test Statistic	-3.161069	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNDEP,3)

Method: Least Squares

Date: 07/14/10 Time: 11:19

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.426117	0.451150	-3.161069	0.0341

R-squared	0.713966	Mean dependent var	-0.001519

Adjusted R-squared	0.713966	S.D. dependent var	0.071084
S.E. of regression	0.038017	Akaike info criterion	-3.524706
Sum squared resid	0.005781	Schwarz criterion	-3.602819
Log likelihood	9.811766	Durbin-Watson stat	2.233499

Liquidity

ADF Test Statistic	-2.071971	1% Critical Value*	-3.6833
		5% Critical Value	-2.0388
		10% Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,3)
Method: Least Squares
Date: 07/14/10 Time: 11:25
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-2.415904	1.165993	-2.071971	0.1741
D(LNLIQ(-1),3)	0.630527	0.725225	0.869422	0.4763

R-squared	0.824621	Mean dependent var	0.006690
Adjusted R-squared	0.736932	S.D. dependent var	0.087932
S.E. of regression	0.045100	Akaike info criterion	-3.052997
Sum squared resid	0.004068	Schwarz criterion	-3.359849
Log likelihood	8.105993	Durbin-Watson stat	2.101390

Appendix G

Loans and Advances

ADF Test Statistic	-3.396887	1% Critical Value*	-5.8034
		5% Critical Value	-3.7441
		10% Critical Value	-3.0339

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 11:28
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.661683	0.489178	-3.396887	0.0426
C	0.007113	0.010651	0.667872	0.5520

R-squared	0.793656	Mean dependent var	0.009006
Adjusted R-squared	0.724875	S.D. dependent var	0.045342
S.E. of regression	0.023783	Akaike info criterion	-4.350539
Sum squared resid	0.001697	Schwarz criterion	-4.506764
Log likelihood	12.87635	F-statistic	11.53884
Durbin-Watson stat	2.186055	Prob(F-statistic)	0.042559

Profit

ADF Test Statistic	-3.520170	1% Critical Value*	-5.8034
		5% Critical Value	-3.7441
		10% Critical Value	-3.0339

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/14/10 Time: 11:22
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.810167	0.514227	-3.520170	0.0389

C	0.006634	0.015471	0.428839	0.6970

R-squared	0.805088	Mean dependent var	0.006537
Adjusted R-squared	0.740118	S.D. dependent var	0.067858
S.E. of regression	0.034593	Akaike info criterion	-3.601139
Sum squared resid	0.003590	Schwarz criterion	-3.757364
Log likelihood	11.00285	F-statistic	12.39160
Durbin-Watson stat	2.341301	Prob(F-statistic)	0.038913

Appendix G

Shareholders funds

ADF Test Statistic	-2.757534	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 11:23
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-3.098576	1.123676	-2.757534	0.1102
D(LNSHF(-1),3)	1.362842	0.966102	1.410661	0.2938

R-squared	0.819799	Mean dependent var	0.017732
Adjusted R-squared	0.729699	S.D. dependent var	0.081349
S.E. of regression	0.042294	Akaike info criterion	-3.181501
Sum squared resid	0.003578	Schwarz criterion	-3.488354
Log likelihood	8.363002	Durbin-Watson stat	0.396378

Co Integration Test

ADF Test Statistic	-2.152219	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962

	10% Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 11:30
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-0.759095	0.352703	-2.152219	0.0749

R-squared	0.433460	Mean dependent var	-0.000516
Adjusted R-squared	0.433460	S.D. dependent var	0.008911
S.E. of regression	0.006707	Akaike info criterion	-7.039618
Sum squared resid	0.000270	Schwarz criterion	-7.047345
Log likelihood	25.63866	Durbin-Watson stat	1.551204

Appendix G

FINBANK

Deposit

ADF Test Statistic	-2.953806	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,3)
Method: Least Squares
Date: 07/14/10 Time: 10:25

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.500901	0.508124	-2.953806	0.0418

R-squared	0.682191	Mean dependent var	-0.153640
Adjusted R-squared	0.682191	S.D. dependent var	1.635803
S.E. of regression	0.922176	Akaike info criterion	2.852696
Sum squared resid	3.401638	Schwarz criterion	2.774584
Log likelihood	-6.131741	Durbin-Watson stat	2.137722

Liquidity

ADF Test Statistic	-3.173497	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNLIQ,3)

Method: Least Squares

Date: 07/14/10 Time: 10:29

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-1.561757	0.492125	-3.173497	0.0337

R-squared	0.713610	Mean dependent var	-0.008318
Adjusted R-squared	0.713610	S.D. dependent var	0.107709
S.E. of regression	0.057641	Akaike info criterion	-2.692310
Sum squared resid	0.013290	Schwarz criterion	-2.770423
Log likelihood	7.730776	Durbin-Watson stat	2.127172

Loan and Advances

ADF Test Statistic	-5.857327	1%	Critical Value*	-6.7615
		5%	Critical Value	-4.0691
		10%	Critical Value	-3.2066

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 10:33
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-8.459155	1.444201	-5.857327	0.1076
D(LNLOAN(-1),3)	5.703064	1.199082	4.756190	0.1319
C	-0.045676	0.016838	-2.712609	0.2248

R-squared	0.990441	Mean dependent var	-0.011465
Adjusted R-squared	0.971324	S.D. dependent var	0.122860
S.E. of regression	0.020805	Akaike info criterion	-4.793534
Sum squared resid	0.000433	Schwarz criterion	-5.253813
Log likelihood	12.58707	F-statistic	51.80828
Durbin-Watson stat	1.652913	Prob(F-statistic)	0.097769

Profit

ADF Test Statistic	-1.198729	1%	Critical Value*	-6.0558
		5%	Critical Value	-2.1383
		10%	Critical Value	-1.7061

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares

Date: 07/14/10 Time: 10:41

Sample(adjusted): 2004 2005

Included observations: 2 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.225461	1.022300	-1.198729	0.4426

R-squared	0.574681	Mean dependent var	0.015959
Adjusted R-squared	0.574681	S.D. dependent var	0.118166
S.E. of regression	0.077064	Akaike info criterion	-1.981515
Sum squared resid	0.005939	Schwarz criterion	-2.634941
Log likelihood	2.981515	Durbin-Watson stat	1.195900

Shareholders fund

ADF Test Statistic	-3.891664	1%	Critical Value*	-5.8034
		5%	Critical Value	-3.7441
		10%	Critical Value	-3.0339

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF)
Method: Least Squares
Date: 07/14/10 Time: 10:43
Sample(adjusted): 2002 2008
Included observations: 5
Excluded observations: 2 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNSHF(-1)	-0.377813	0.097083	-3.891664	0.0301
C	1.023292	0.263335	3.885895	0.0302

R-squared	0.834666	Mean dependent var	-0.001283
Adjusted R-squared	0.779554	S.D. dependent var	0.026937
S.E. of regression	0.012647	Akaike info criterion	-5.613598
Sum squared resid	0.000480	Schwarz criterion	-5.769822
Log likelihood	16.03399	F-statistic	15.14505
Durbin-Watson stat	1.561446	Prob(F-statistic)	0.030088

Co-integration Test

ADF Test Statistic	-4.216354	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID04)
Method: Least Squares

Date: 07/14/10 Time: 11:07

Sample(adjusted): 2002 2008

Included observations: 5

Excluded observations: 2 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID04(-1)	-1.563629	0.370849	-4.216354	0.0135

R-squared	0.809273	Mean dependent var	-0.012678
Adjusted R-squared	0.809273	S.D. dependent var	0.072339
S.E. of regression	0.031592	Akaike info criterion	-3.894975
Sum squared resid	0.003992	Schwarz criterion	-3.973087
Log likelihood	10.73744	Durbin-Watson stat	1.842940

Appendix G

FIRST BANK

Deposit

ADF Test Statistic	-1.399598	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNDEP,3)

Method: Least Squares

Date: 07/14/10 Time: 13:29

Sample(adjusted): 2005 2008

Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.431478	1.022777	-1.399598	0.2966
D(LNDEP(-1),3)	0.994928	0.855202	1.163384	0.3647

R-squared	0.472543	Mean dependent var	-0.002726

Adjusted R-squared	0.208815	S.D. dependent var	0.010620
S.E. of regression	0.009446	Akaike info criterion	-6.179565
Sum squared resid	0.000178	Schwarz criterion	-6.486418
Log likelihood	14.35913	Durbin-Watson stat	1.625500

Liquidity

ADF Test Statistic	-2.183893	1% Critical Value*	-3.6833
		5% Critical Value	-2.0388
		10% Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,3)
Method: Least Squares
Date: 07/14/10 Time: 13:30
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-1.476154	0.675928	-2.183893	0.1606
D(LNLIQ(-1),3)	0.569440	0.588327	0.967896	0.4352

R-squared	0.721207	Mean dependent var	0.001708
Adjusted R-squared	0.581811	S.D. dependent var	0.022223
S.E. of regression	0.014371	Akaike info criterion	-5.340361
Sum squared resid	0.000413	Schwarz criterion	-5.647214
Log likelihood	12.68072	Durbin-Watson stat	1.984266

Loan and Advances

ADF Test Statistic	-1.315046	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 13:44
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNOAN(-1),2)	-1.649845	1.254592	-1.315046	0.3190
D(LNOAN(-1),3)	0.202745	0.636482	0.318540	0.7803

R-squared	0.673530	Mean dependent var	-4.04E-05
Adjusted R-squared	0.510295	S.D. dependent var	0.024787
S.E. of regression	0.017346	Akaike info criterion	-4.964099
Sum squared resid	0.000602	Schwarz criterion	-5.270952
Log likelihood	11.92820	Durbin-Watson stat	1.912417

Profit

ADF Test Statistic	-1.991113	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,2)
Method: Least Squares
Date: 07/14/10 Time: 13:45

Sample(adjusted): 2003 2008

Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1))	-0.973651	0.488998	-1.991113	0.1031

R-squared	0.421476	Mean dependent var	0.007388
Adjusted R-squared	0.421476	S.D. dependent var	0.041939
S.E. of regression	0.031899	Akaike info criterion	-3.901465
Sum squared resid	0.005088	Schwarz criterion	-3.936172
Log likelihood	12.70440	Durbin-Watson stat	0.773753

Shareholders fund

ADF Test Statistic	-1.349039	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 13:48
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.637693	1.213970	-1.349039	0.2486

R-squared	0.261188	Mean dependent var	0.009399
Adjusted R-squared	0.261188	S.D. dependent var	0.038384
S.E. of regression	0.032993	Akaike info criterion	-3.808194
Sum squared resid	0.004354	Schwarz criterion	-3.886307
Log likelihood	10.52049	Durbin-Watson stat	1.095594

Co-Integration Test

ADF Test Statistic	-4.399645	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 13:49
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.223939	0.278190	-4.399645	0.0046

R-squared	0.753161	Mean dependent var	-0.000712
Adjusted R-squared	0.753161	S.D. dependent var	0.003703
S.E. of regression	0.001840	Akaike info criterion	-9.626953
Sum squared resid	2.03E-05	Schwarz criterion	-9.634681
Log likelihood	34.69434	Durbin-Watson stat	1.094067

Appendix G

GT BANK

Deposit

ADF Test Statistic	-2.429739	1%	Critical Value*	-5.2459
		5%	Critical Value	-3.5507
		10%	Critical Value	-2.9312

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,2)
Method: Least Squares
Date: 07/14/10 Time: 14:26
Sample(adjusted): 2003 2008
Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1))	-1.144431	0.471010	-2.429739	0.0720
C	0.022991	0.010281	2.236383	0.0890

R-squared	0.596108	Mean dependent var	0.001907
Adjusted R-squared	0.495135	S.D. dependent var	0.019003

S.E. of regression	0.013503	Akaike info criterion	-5.510652
Sum squared resid	0.000729	Schwarz criterion	-5.580065
Log likelihood	18.53195	F-statistic	5.903631
Durbin-Watson stat	2.037068	Prob(F-statistic)	0.072001

Liquidity

ADF Test Statistic	-1.953911	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNLIQ,3)

Method: Least Squares

Date: 07/14/10 Time: 14:37

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-0.974982	0.498990	-1.953911	0.1224

R-squared	0.485326	Mean dependent var	0.001204
Adjusted R-squared	0.485326	S.D. dependent var	0.017521
S.E. of regression	0.012570	Akaike info criterion	-5.738156
Sum squared resid	0.000632	Schwarz criterion	-5.816269
Log likelihood	15.34539	Durbin-Watson stat	2.011687

Loan and Advances

ADF Test Statistic	-1.171804	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 14:40
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-3.461927	2.954356	-1.171804	0.3620
D(LNLOAN(-1),3)	2.360750	1.824585	1.293856	0.3250

R-squared	0.371774	Mean dependent var	0.009781
Adjusted R-squared	0.057661	S.D. dependent var	0.027363
S.E. of regression	0.026563	Akaike info criterion	-4.111755
Sum squared resid	0.001411	Schwarz criterion	-4.418608
Log likelihood	10.22351	Durbin-Watson stat	0.967989

Profit

ADF Test Statistic	-1.564663	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/14/10 Time: 14:53

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-0.692433	0.442544	-1.564663	0.1927

R-squared	-0.366176	Mean dependent var	0.008967
Adjusted R-squared	-0.366176	S.D. dependent var	0.009143
S.E. of regression	0.010687	Akaike info criterion	-6.062737
Sum squared resid	0.000457	Schwarz criterion	-6.140850
Log likelihood	16.15684	Durbin-Watson stat	0.716385

Shareholders Fund

ADF Test Statistic	-2.930914	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 14:54
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-3.290598	1.122721	-2.930914	0.0994
D(LNSHF(-1),3)	1.143346	0.636363	1.796690	0.2142

R-squared	0.839915	Mean dependent var	0.016715
Adjusted R-squared	0.759873	S.D. dependent var	0.079294
S.E. of regression	0.038856	Akaike info criterion	-3.351053
Sum squared resid	0.003020	Schwarz criterion	-3.657905
Log likelihood	8.702105	Durbin-Watson stat	1.106105

Co-Integration Test

ADF Test Statistic	-3.720930	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 14:55
Sample(adjusted): 2002 2008

Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.403462	0.377180	-3.720930	0.0098

R-squared	0.694613	Mean dependent var	-0.001409
Adjusted R-squared	0.694613	S.D. dependent var	0.015158
S.E. of regression	0.008377	Akaike info criterion	-6.595152
Sum squared resid	0.000421	Schwarz criterion	-6.602879
Log likelihood	24.08303	Durbin-Watson stat	1.950340

Appendix G

BANK PHB

Deposit

ADF Test Statistic	-3.030426	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEPLIAB,3)
Method: Least Squares
Date: 07/12/10 Time: 12:18
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEPLIAB(-1),2)	-1.397033	0.461002	-3.030426	0.0388

R-squared	0.696246	Mean dependent var	-0.041359
Adjusted R-squared	0.696246	S.D. dependent var	1.372544
S.E. of regression	0.756463	Akaike info criterion	2.456530

Sum squared resid	2.288945	Schwarz criterion	2.378418
Log likelihood	-5.141325	Durbin-Watson stat	2.196189

Liquidity

ADF Test Statistic	-3.451868	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLQD,3)
Method: Least Squares
Date: 07/12/10 Time: 12:29
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLQD(-1),2)	-1.496926	0.433657	-3.451868	0.0260

R-squared	0.748504	Mean dependent var	-0.034339
Adjusted R-squared	0.748504	S.D. dependent var	1.488638
S.E. of regression	0.746543	Akaike info criterion	2.430129
Sum squared resid	2.229306	Schwarz criterion	2.352017
Log likelihood	-5.075323	Durbin-Watson stat	2.209775

Profit

ADF Test Statistic	-4.176815	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/12/10 Time: 12:33
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-2.602927	0.623185	-4.176815	0.0528
D(LNPROFIT(-1),3)	0.584362	0.341774	1.709790	0.2294

R-squared	0.940522	Mean dependent var	-0.132599
Adjusted R-squared	0.910783	S.D. dependent var	1.482659
S.E. of regression	0.442858	Akaike info criterion	1.515718
Sum squared resid	0.392247	Schwarz criterion	1.208865
Log likelihood	-1.031436	Durbin-Watson stat	0.659510

Shareholder Funds

ADF Test Statistic	-2.201062	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 15:35

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.352912	0.614663	-2.201062	0.0925

R-squared	0.540437	Mean dependent var	0.008309
Adjusted R-squared	0.540437	S.D. dependent var	0.073047
S.E. of regression	0.049519	Akaike info criterion	-2.996052
Sum squared resid	0.009809	Schwarz criterion	-3.074165
Log likelihood	8.490131	Durbin-Watson stat	2.015983

Loan and Advances

ADF Test Statistic	-1.698313	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 15:39
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.708818	1.006186	-1.698313	0.2315
D(LNLOAN(-1),3)	0.076043	0.549666	0.138344	0.9026

R-squared	0.887762	Mean dependent var	0.011218
Adjusted R-squared	0.831643	S.D. dependent var	0.063216
S.E. of regression	0.025938	Akaike info criterion	-4.159338
Sum squared resid	0.001346	Schwarz criterion	-4.466191
Log likelihood	10.31868	Durbin-Watson stat	0.063000

Co-Integration Test

ADF Test Statistic	-3.478336	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 15:39
Sample(adjusted): 2002 2008

Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.560229	0.448556	-3.478336	0.0132

R-squared	0.665913	Mean dependent var	0.000241
Adjusted R-squared	0.665913	S.D. dependent var	0.002951
S.E. of regression	0.001706	Akaike info criterion	-9.778298
Sum squared resid	1.75E-05	Schwarz criterion	-9.786025
Log likelihood	35.22404	Durbin-Watson stat	2.012044

Appendix G

SKYE BANK

Deposit

ADF Test Statistic	-2.433491	1% Critical Value*	-3.6833
		5% Critical Value	-2.0388
		10% Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNDEP,3)

Method: Least Squares

Date: 07/14/10 Time: 12:49

Sample(adjusted): 2005 2008

Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-2.671219	1.097690	-2.433491	0.1354
D(LNDEP(-1),3)	0.817483	0.663493	1.232090	0.3431

R-squared	0.847378	Mean dependent var	0.003263
Adjusted R-squared	0.771067	S.D. dependent var	0.107649

S.E. of regression	0.051507	Akaike info criterion	-2.787359
Sum squared resid	0.005306	Schwarz criterion	-3.094212
Log likelihood	7.574718	Durbin-Watson stat	2.014468

Liquidity

ADF Test Statistic	-2.267803	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,3)
Method: Least Squares
Date: 07/14/10 Time: 12:50
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-2.221367	0.979524	-2.267803	0.1515
D(LNLIQ(-1),3)	0.695260	0.606233	1.146853	0.3701

R-squared	0.783930	Mean dependent var	0.001295
Adjusted R-squared	0.675895	S.D. dependent var	0.081929
S.E. of regression	0.046642	Akaike info criterion	-2.985769
Sum squared resid	0.004351	Schwarz criterion	-3.292622
Log likelihood	7.971538	Durbin-Watson stat	1.907486

Loan and Advances

ADF Test Statistic	-2.273660	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 12:50
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-2.872428	1.263350	-2.273660	0.1509
D(LNLOAN(-1),3)	0.846628	0.786909	1.075890	0.3945

R-squared	0.872446	Mean dependent var	0.009735
Adjusted R-squared	0.808670	S.D. dependent var	0.128117
S.E. of regression	0.056040	Akaike info criterion	-2.618646
Sum squared resid	0.006281	Schwarz criterion	-2.925499
Log likelihood	7.237293	Durbin-Watson stat	2.002113

Profit

ADF Test Statistic	-2.181561	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/14/10 Time: 12:51

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.101737	0.505022	-2.181561	0.0946

R-squared	0.537044	Mean dependent var	-0.007686
Adjusted R-squared	0.537044	S.D. dependent var	0.073199
S.E. of regression	0.049806	Akaike info criterion	-2.984525
Sum squared resid	0.009922	Schwarz criterion	-3.062637
Log likelihood	8.461311	Durbin-Watson stat	1.882573

Shareholders Fund

ADF Test Statistic	-1.305886	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,2)
Method: Least Squares
Date: 07/14/10 Time: 12:55
Sample(adjusted): 2003 2008
Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1))	-0.638686	0.489082	-1.305886	0.2484

R-squared	0.233076	Mean dependent var	0.009854
Adjusted R-squared	0.233076	S.D. dependent var	0.063943
S.E. of regression	0.055998	Akaike info criterion	-2.775999
Sum squared resid	0.015679	Schwarz criterion	-2.810705
Log likelihood	9.327996	Durbin-Watson stat	2.109456

Co-Integration Test

ADF Test Statistic	-4.850664	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 12:56
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.571604	0.323998	-4.850664	0.0028

R-squared	0.795106	Mean dependent var	-0.000184
Adjusted R-squared	0.795106	S.D. dependent var	0.002176
S.E. of regression	0.000985	Akaike info criterion	-10.87637
Sum squared resid	5.82E-06	Schwarz criterion	-10.88409
Log likelihood	39.06729	Durbin-Watson stat	2.724419

Appendix G

SKY BANK

Deposit

ADF Test Statistic	-2.433491	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,3)
Method: Least Squares
Date: 07/14/10 Time: 12:49
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-2.671219	1.097690	-2.433491	0.1354
D(LNDEP(-1),3)	0.817483	0.663493	1.232090	0.3431

R-squared	0.847378	Mean dependent var	0.003263
Adjusted R-squared	0.771067	S.D. dependent var	0.107649
S.E. of regression	0.051507	Akaike info criterion	-2.787359

Sum squared resid	0.005306	Schwarz criterion	-3.094212
Log likelihood	7.574718	Durbin-Watson stat	2.014468

Liquidity

ADF Test Statistic	-2.267803	1% Critical Value*	-3.6833
		5% Critical Value	-2.0388
		10% Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,3)
Method: Least Squares
Date: 07/14/10 Time: 12:50
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-2.221367	0.979524	-2.267803	0.1515
D(LNLIQ(-1),3)	0.695260	0.606233	1.146853	0.3701

R-squared	0.783930	Mean dependent var	0.001295
Adjusted R-squared	0.675895	S.D. dependent var	0.081929
S.E. of regression	0.046642	Akaike info criterion	-2.985769
Sum squared resid	0.004351	Schwarz criterion	-3.292622
Log likelihood	7.971538	Durbin-Watson stat	1.907486

Loan and Advances

ADF Test Statistic	-2.273660	1%	Critical Value*	-3.6833
		5%	Critical Value	-2.0388
		10%	Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 12:50
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-2.872428	1.263350	-2.273660	0.1509
D(LNLOAN(-1),3)	0.846628	0.786909	1.075890	0.3945

R-squared	0.872446	Mean dependent var	0.009735
Adjusted R-squared	0.808670	S.D. dependent var	0.128117
S.E. of regression	0.056040	Akaike info criterion	-2.618646
Sum squared resid	0.006281	Schwarz criterion	-2.925499
Log likelihood	7.237293	Durbin-Watson stat	2.002113

Profit

ADF Test Statistic	-2.181561	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/14/10 Time: 12:51

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.101737	0.505022	-2.181561	0.0946

R-squared	0.537044	Mean dependent var	-0.007686
Adjusted R-squared	0.537044	S.D. dependent var	0.073199
S.E. of regression	0.049806	Akaike info criterion	-2.984525
Sum squared resid	0.009922	Schwarz criterion	-3.062637
Log likelihood	8.461311	Durbin-Watson stat	1.882573

Shareholders Fund

ADF Test Statistic	-1.305886	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,2)
Method: Least Squares
Date: 07/14/10 Time: 12:55
Sample(adjusted): 2003 2008
Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1))	-0.638686	0.489082	-1.305886	0.2484

R-squared	0.233076	Mean dependent var	0.009854
Adjusted R-squared	0.233076	S.D. dependent var	0.063943
S.E. of regression	0.055998	Akaike info criterion	-2.775999
Sum squared resid	0.015679	Schwarz criterion	-2.810705
Log likelihood	9.327996	Durbin-Watson stat	2.109456

Co-Integration Test

ADF Test Statistic	-4.850664	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 12:56
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.571604	0.323998	-4.850664	0.0028

R-squared	0.795106	Mean dependent var	-0.000184
Adjusted R-squared	0.795106	S.D. dependent var	0.002176
S.E. of regression	0.000985	Akaike info criterion	-10.87637
Sum squared resid	5.82E-06	Schwarz criterion	-10.88409
Log likelihood	39.06729	Durbin-Watson stat	2.724419

Appendix G

UBA BANK

Deposit

ADF Test Statistic	-3.257557	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,3)
Method: Least Squares
Date: 07/14/10 Time: 11:48
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.455971	0.446952	-3.257557	0.0312

R-squared	0.726212	Mean dependent var	0.000668
Adjusted R-squared	0.726212	S.D. dependent var	0.066344
S.E. of regression	0.034714	Akaike info criterion	-3.706475

Sum squared resid	0.004820	Schwarz criterion	-3.784587
Log likelihood	10.26619	Durbin-Watson stat	2.185037

Liquidity

ADF Test Statistic	-1.810315	1%	Critical Value*	-3.1714
		5%	Critical Value	-2.0056
		10%	Critical Value	-1.6458

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLIQ,2)
Method: Least Squares
Date: 07/14/10 Time: 11:54
Sample(adjusted): 2003 2008
Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1))	-0.813681	0.449469	-1.810315	0.1300

R-squared	0.394679	Mean dependent var	0.001728
Adjusted R-squared	0.394679	S.D. dependent var	0.041538
S.E. of regression	0.032318	Akaike info criterion	-3.875382
Sum squared resid	0.005222	Schwarz criterion	-3.910089
Log likelihood	12.62615	Durbin-Watson stat	2.012119

Loans and Advances

ADF Test Statistic	-2.611236	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 11:55
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.547675	0.592698	-2.611236	0.0593

R-squared	0.626304	Mean dependent var	-0.003870
Adjusted R-squared	0.626304	S.D. dependent var	0.041798
S.E. of regression	0.025552	Akaike info criterion	-4.319379
Sum squared resid	0.002612	Schwarz criterion	-4.397491
Log likelihood	11.79845	Durbin-Watson stat	2.055297

Profit

ADF Test Statistic	-2.957212	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 07/14/10 Time: 11:56
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.271633	0.430011	-2.957212	0.0417

R-squared	0.678446	Mean dependent var	-0.006554
Adjusted R-squared	0.678446	S.D. dependent var	0.046758
S.E. of regression	0.026515	Akaike info criterion	-4.245390
Sum squared resid	0.002812	Schwarz criterion	-4.323503
Log likelihood	11.61348	Durbin-Watson stat	1.331344

Appendix G

Shareholders Fund

ADF Test Statistic	-1.859796	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 11:56
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.254957	0.674782	-1.859796	0.1364

R-squared	0.418971	Mean dependent var	-0.014520
Adjusted R-squared	0.418971	S.D. dependent var	0.056197
S.E. of regression	0.042837	Akaike info criterion	-3.285987
Sum squared resid	0.007340	Schwarz criterion	-3.364099
Log likelihood	9.214967	Durbin-Watson stat	1.833226

Co-Integration Test

ADF Test Statistic	-4.264425	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 11:57
Sample(adjusted): 2002 2008
Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.434688	0.336432	-4.264425	0.0053

R-squared	0.750626	Mean dependent var	-0.000230
Adjusted R-squared	0.750626	S.D. dependent var	0.003443
S.E. of regression	0.001719	Akaike info criterion	-9.762075
Sum squared resid	1.77E-05	Schwarz criterion	-9.769802
Log likelihood	35.16726	Durbin-Watson stat	1.812057

Appendix G

ZENITH BANK

Deposit

ADF Test Statistic	-4.253459	1%	Critical Value*	-6.6737
		5%	Critical Value	-4.5810
		10%	Critical Value	-3.7415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNDEP)

Method: Least Squares

Date: 07/14/10 Time: 12:06

Sample(adjusted): 2003 2008

Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNDEP(-1)	-2.057798	0.483794	-4.253459	0.0511
D(LNDEP(-1))	0.539834	0.304845	1.770849	0.2186
C	5.796570	1.354872	4.278315	0.0505
@TREND(2001)	0.059356	0.013691	4.335488	0.0493

R-squared	0.924637	Mean dependent var	0.027363
Adjusted R-squared	0.811594	S.D. dependent var	0.009742
S.E. of regression	0.004228	Akaike info criterion	-7.859222
Sum squared resid	3.58E-05	Schwarz criterion	-7.998049
Log likelihood	27.57766	F-statistic	8.179461
Durbin-Watson stat	2.031845	Prob(F-statistic)	0.110886

Liquidity

ADF Test Statistic	-2.594572	1% Critical Value*	-5.2459
		5% Critical Value	-3.5507
		10% Critical Value	-2.9312

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNLIQ,2)

Method: Least Squares

Date: 07/14/10 Time: 12:07

Sample(adjusted): 2003 2008

Included observations: 6 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1))	-1.340826	0.516781	-2.594572	0.0604

C	0.032343	0.013027	2.482756	0.0680

R-squared	0.627276	Mean dependent var	0.001628
Adjusted R-squared	0.534095	S.D. dependent var	0.019511
S.E. of regression	0.013318	Akaike info criterion	-5.538199
Sum squared resid	0.000709	Schwarz criterion	-5.607613
Log likelihood	18.61460	F-statistic	6.731806
Durbin-Watson stat	1.150555	Prob(F-statistic)	0.060392

Appendix G

Loans and Advances

ADF Test Statistic	-2.321709	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNLOAN,3)
Method: Least Squares
Date: 07/14/10 Time: 12:10
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.093005	0.470776	-2.321709	0.0810

R-squared	0.565782	Mean dependent var	0.002820
Adjusted R-squared	0.565782	S.D. dependent var	0.022659
S.E. of regression	0.014931	Akaike info criterion	-5.393850
Sum squared resid	0.000892	Schwarz criterion	-5.471962
Log likelihood	14.48462	Durbin-Watson stat	1.195901

Profit

ADF Test Statistic	-1.727712	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNPROFIT,3)

Method: Least Squares

Date: 07/14/10 Time: 12:13

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.090995	0.631468	-1.727712	0.1591

R-squared	0.383792	Mean dependent var	0.003752
Adjusted R-squared	0.383792	S.D. dependent var	0.015211
S.E. of regression	0.011941	Akaike info criterion	-5.840903
Sum squared resid	0.000570	Schwarz criterion	-5.919015
Log likelihood	15.60226	Durbin-Watson stat	1.573535

Shareholders Fund

ADF Test Statistic	-2.860633	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNSHF,3)
Method: Least Squares
Date: 07/14/10 Time: 12:14
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.618079	0.565637	-2.860633	0.0459

R-squared	0.659412	Mean dependent var	0.010416
Adjusted R-squared	0.659412	S.D. dependent var	0.060243
S.E. of regression	0.035158	Akaike info criterion	-3.681079
Sum squared resid	0.004944	Schwarz criterion	-3.759191
Log likelihood	10.20270	Durbin-Watson stat	2.501590

Co-Integration Test

ADF Test Statistic	-2.974010	1%	Critical Value*	-3.0507
		5%	Critical Value	-1.9962
		10%	Critical Value	-1.6415

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(RESID01)
Method: Least Squares
Date: 07/14/10 Time: 12:15
Sample(adjusted): 2002 2008

Included observations: 7 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RESID01(-1)	-1.269996	0.427031	-2.974010	0.0248

R-squared	0.594495	Mean dependent var	0.000201
Adjusted R-squared	0.594495	S.D. dependent var	0.003791
S.E. of regression	0.002414	Akaike info criterion	-9.083592
Sum squared resid	3.50E-05	Schwarz criterion	-9.091319
Log likelihood	32.79257	Durbin-Watson stat	2.300642

Appendix H

Stationary Test of Series Data for Eleven Selected Banks

Shareholder fund

ADF Test Statistic	-2.542689	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNSHF,3)

Method: Least Squares

Date: 08/03/10 Time: 13:39

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNSHF(-1),2)	-1.464943	0.576140	-2.542689	0.0638

R-squared	0.611341	Mean dependent var	0.003319
Adjusted R-squared	0.611341	S.D. dependent var	0.028587
S.E. of regression	0.017822	Akaike info criterion	-5.039951

Sum squared resid	0.001270	Schwarz criterion	-5.118064
Log likelihood	13.59988	Durbin-Watson stat	2.035774

Profit

ADF Test Statistic	-2.554574	1% Critical Value*	-3.6833
		5% Critical Value	-2.0388
		10% Critical Value	-1.6608

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNPROFIT,3)
Method: Least Squares
Date: 08/03/10 Time: 13:40
Sample(adjusted): 2005 2008
Included observations: 4 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNPROFIT(-1),2)	-1.751343	0.685571	-2.554574	0.1251
D(LNPROFIT(-1),3)	0.412585	0.375879	1.097653	0.3869

R-squared	0.812418	Mean dependent var	0.007124
Adjusted R-squared	0.718626	S.D. dependent var	0.023661
S.E. of regression	0.012551	Akaike info criterion	-5.611225
Sum squared resid	0.000315	Schwarz criterion	-5.918078
Log likelihood	13.22245	Durbin-Watson stat	0.796991

Appendix H

Loan

ADF Test Statistic	-6.029028	1% Critical Value*	-5.8034
		5% Critical Value	-3.7441
		10% Critical Value	-3.0339

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNLOAN,3)

Method: Least Squares

Date: 08/03/10 Time: 13:41

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLOAN(-1),2)	-1.179236	0.195593	-6.029028	0.0091
C	0.005182	0.001592	3.255169	0.0473

R-squared	0.923760	Mean dependent var	0.003630
Adjusted R-squared	0.898346	S.D. dependent var	0.011017
S.E. of regression	0.003512	Akaike info criterion	-8.175812
Sum squared resid	3.70E-05	Schwarz criterion	-8.332037
Log likelihood	22.43953	F-statistic	36.34918
Durbin-Watson stat	1.588699	Prob(F-statistic)	0.009148

Liquidity

ADF Test Statistic	-2.863904	1%	Critical Value*	-3.3594
		5%	Critical Value	-2.0189
		10%	Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation

Dependent Variable: D(LNLIQ,3)

Method: Least Squares

Date: 08/03/10 Time: 13:41

Sample(adjusted): 2004 2008

Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNLIQ(-1),2)	-1.349889	0.471346	-2.863904	0.0457

R-squared	0.670714	Mean dependent var	0.001962
Adjusted R-squared	0.670714	S.D. dependent var	0.032759

S.E. of regression	0.018798	Akaike info criterion	-4.933273
Sum squared resid	0.001413	Schwarz criterion	-5.011386
Log likelihood	13.33318	Durbin-Watson stat	2.172997

Appendix H

Deposit

ADF Test Statistic	-3.333048	1% Critical Value*	-3.3594
		5% Critical Value	-2.0189
		10% Critical Value	-1.6518

*MacKinnon critical values for rejection of hypothesis of a unit root.

Augmented Dickey-Fuller Test Equation
Dependent Variable: D(LNDEP,3)
Method: Least Squares
Date: 08/03/10 Time: 13:41
Sample(adjusted): 2004 2008
Included observations: 5 after adjusting endpoints

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(LNDEP(-1),2)	-1.490271	0.447120	-3.333048	0.0290

R-squared	0.734687	Mean dependent var	0.001164
Adjusted R-squared	0.734687	S.D. dependent var	0.027941
S.E. of regression	0.014392	Akaike info criterion	-5.467423
Sum squared resid	0.000829	Schwarz criterion	-5.545535
Log likelihood	14.66856	Durbin-Watson stat	2.008006

Co-integrated Test

Dependent Variable: LNDEP
Method: Least Squares
Date: 08/03/10 Time: 13:30

Sample: 2001 2008

Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNLIQ	0.721568	0.159333	4.528690	0.0201
LNLOAN	-0.021173	0.332182	-0.063739	0.9532
LNPROFIT	-0.029834	0.152468	-0.195674	0.8574
LNSHF	0.282318	0.184218	1.532518	0.2229
C	0.170317	0.143548	1.186482	0.3208

R-squared	0.998002	Mean dependent var	3.040642
Adjusted R-squared	0.995337	S.D. dependent var	0.045948
S.E. of regression	0.003138	Akaike info criterion	-8.421554
Sum squared resid	2.95E-05	Schwarz criterion	-8.371903
Log likelihood	38.68621	F-statistic	374.5520
Durbin-Watson stat	2.513722	Prob(F-statistic)	0.000223