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Prediction of Bank Failure Using Camel and Market Information: Comparative Appraisal of Some Selected Banks in Nigeria.

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Abstract
This paper attempted to predict bank failure using CAMEL and stock market information. The study reviewed journal, seminal papers, articles, websites and banks' annual financial statement. The study covered five accounting years between 2006 and 2010. Multiple discriminant model was used to predict bank failure and the status of Nigerian banks. It was discovered that almost all the banks used for the study had their Z score fall within bankruptcy region. An attempt was further made to thoroughly evaluate managerial quality because experience has shown that bank failure in Nigeria was largely due to managerial inefficiency . Managerial quality were evaluated using variable such as total loan to total deposit, interest expenses to total deposit and operating expenses to total deposit. We concluded that bank failure is as a result of poor CAMEL rating as well as excessive risk taking and the end results are credit crunch, unemployment, illiquidity etc . we suggested that the only way to contain bank failure is by ensuring regular and transparent on site and off site examination by CBN and NDIC.
Keywords: bank failure, CAMEL, stock market information

1.1 Introduction

The role of banks in any economy is so enormous and therefore economic growth and financial sector development are interdependent. The financial intermediation of banks has placed the banking sector in a very key position in the economy. It can therefore be rightly said that failure of this sector may result in the failure of the whole economy and this is the reason why the sector is so regulated. However, inspite of the various regulations, rules and principles of sound practices put in place, banks have been failing since 1930 and the situation is been aggravated decade by decade. The spate of failure in the banking sector is so alarming and must therefore attract the attention of every stakeholder if government must achieve its macro economic objectives and vision 2020. Daily Times(1996),Tribune(1999),Thisday(2002) captured the extent of operational failure of Nigeria banks from 1989, 1995,2000 to 2002. The report showed that the number of failed banks increased from 9 in 1989, to 60 in 1995 and from 60 in 1995 to 91 in 1998 and from 91 in 1998 to 95 in 2002 and to 100 in 2009 thereby necessitating the need to monitor the activities of bank because it is not an exaggeration to conclude that bank failure is a national disaster which should be averted by all means because of its negative effects on the nation. Over the years, numerous authors have attempted to predict corporate failure using various methodologies. Jimoh [1993] employed logit and regression models in early warnings signal determination. Adefila (2002), Olaniyi(2006) employed multiple discrimanant analysis. The most well known model is Altman's 1968, 1977 multiple discriminant analysis of 33 bankrupt and 33 non bankrupt manufacturers. Also the acclaimed Richard J. and Taffler UK base Z scores model of 1983 was a good model for predicting corporate failure. Ercan and Evirgen (2009) investigate the factors that were important in the failure of Turkish banks, using a principal component analysis methodology.

This study employs multiple discriminant model to predict bank failure and the status of Nigeria banks . This study covers five accounting years between 2006 to 2010.The study employed discriminant variable or data that include: Working capital, Retained earnings, EBIT, Equity or 1st tier capital as well as total asset to total book debts that can be obtained from financial information and statement of the banks being evaluated.

The discriminant analysis uses CAMEL variables. SEC (2005) recognizes that the performance of a company is highly influence by quality of management and board and that managerial quality is part of the organization portfolio. However, in order to determine managerial performance or quality of the selected bank

for this study, the profile of both board and management were reviewed and were assign rating on the basis of their academic qualification ,exposure, banking experience, personality and connection. More importantly, Gunsel (2007) and Reddy and Prasad (2011) uses ratio of total loan to total deposit, ratio of expenses to total deposit cum operating expenses to total deposit to ascertain managerial quality and this was factored into this paper.

1.2 Research Problem

The crisis rocking the financial sector of the economy started to attract major international attention immediately after the failure of bank Herstat in Germany and financial crises in Latin America in 1974 and 1980 respectively. An attempt to wage war against this deadly disaster in 1980s led to the formation of Bank for International Settlement Committee in 1988. The focus then was shifted to capital inadequacy problem because all the bank that failed around this time was grossly undercapitalized. However, the public confidence in the sector continued to dwindle as a result of massive failure of banks in 1990s even after the Bank for International Settlement committee has introduced several palative measures. The wide spread of the effects of Asian crisis in 1997 and that of Mexico in 1994 created further doubt as to the effectiveness of various measures introduced by regulatory bodies and international bodied such as the BASEL committee. The situation now appears that the stakeholders have not gotten a panacea that will forever remove the tendency of failure in the system because it is apparent that all the attempt by Governors of Central bank in the G20 countries could not avert the failure in their respective countries not to talk of the emerging economies.

Although the failure of banks in the 70s and 80s was as a result of inadequate regulatory frameworks on capital inadequacy, such failure continued at alarming rate even when regulation and rules for sound banking practice like: BASEL Accord of 1988 and 2004, Bank and Other Financial Institution Decree (BOFID) of 1991, prudential guideline on asset classification and provision for loan losses (SAS10) as well as Failed Banks (recovery of debts) and Other Financial Malpractice Act of 1994 were put in place . However, the latest development shows that despite the introduction of early warning signal such as CAMEL in addition to regulatory framework to predict bank failure, the banks that failed in 1970, 1980, 1990, 2002 and 2007 had quite different characteristics due to financial innovation , technology and this has raised a question as to whether CAMEL and Stock market information were effective in predicting bank failure.

The failure of banks has resulted in loss of confidence by the depositors and all the stakeholders thereby negatively affecting the financial intermediation role of banks.

The rate of bank failure has discourage savings, deposits and fund mobilisation because of deteriorating interests in safe keeping and lack of interest by shareholders to inject additional capital. However people are no longer interested in savings and investments with banks, which of course, hindered the performance of cottage industries, small and medium enterprises that serves as the engine of growth to the economy of Nigeria.

The regulatory bodies such as the Nigeria Deposit Insurance Corporation (NDIC) and central Bank of Nigeria (CBN) are always on rescue mission spending taxpayer money on bank bail out or at worst pay certain percent of depositors' insured fund in case of liquidation to depositors and equally battle with bank failure since the sector serves as agent for implementing government monetary policies. Therefore any instability and threat in the sector will have hazardous and grievous effect on the attainment of Government monetary policy objectives and government vision 2020.

1.3 Justification for the study

The spill-over effect of bank failure in our economy has called for a need to analyze the financial condition of Nigerian banks with a view to identifying the bank(s) that are prone to systematic risk or that failed the CAMEL testing or rating. The study was conducted to create a watch list of troubled banks to be monitored by supervisory authorities.

Finally, the study attempts to extend other studies conducted by Adefila (2002) , Olaniyi (2007) and Ofor (2010)

1.4 Objectives of the Study

1. To determine whether the potential of bank failure could have been predicted, accurately or inaccurately using accounting data and stock market performance of the selected banks
2. To examine the extent of operation failure in Nigerian banks.
3. To evaluate the stock market performance these bank within a period of five accounting year covered.

1.5 Layout Of The Study.

The research paper is structured as follows; section one consist of general introduction, research problem, justification of the study and objectives of the study. Section two is a review of literature. Third is research methodology, results and data design . finally, the paper concludes with a discussion of the implication of the study's findings for the stakeholders.

SECTION 2
LITERATURE REVIEW

2.1 The concept Of Capital Adequacy, Managerial Quality, Earning Strength And Liquidity Efficiency (CAMEL)

Capital Adequacy determines how well banks can cope with shocks on their balance sheets. It measures the bank's solvency. Capital adequacy of a bank is measured in relation to the relative risk weights assigned to the different category of assets held both on and off balance sheet items. Three ratios are often used to evaluate capital adequacy.

Equity /total assets
Equity /total loans
Equity + loan loss reserve /loans.

Assets Quality: The solvency of a bank is at risk when its assets become impaired. The quality of an assets needed to be evaluated to know the ability of the assets to perform or carry out the objectives for which they are acquired. It is normal to ascertain whether they are in good working condition and this can be done by checking the age as well as ensuring that appropriate provision have been made for depreciation to determine the assets real book value. So it is important to monitor indicators of the quality of the assets in terms of over exposure to specific risks trends in nonperforming loans and the health and profitability of banks as a corporate entity. Credit risk is inherent in lending, which is the major banking business. It arises where a borrower defaults on the loan repayment agreement, which causes the bank to loose trends of cash inflow projected, which will eventually affect the profitability as well as shareholders funds through extra loan loss provisions.

According to king (2006),two indicators used for evaluation of asset includes:

Managerial Quality: The competence of the staff and management of a bank can be deduced from the performance indices. However, it is necessary to check qualifications (Academic and Professional) as well as experience of the top management. It is expected that banks with quality staff will be more efficient and be less likely to drift towards distress. The two indicators for managerial quality are:

Total operating expenses/ total revenue ratio.

A higher ratio indicates inefficiency of bank management and increase the probability of banking distress (Jimoh, 1993).

Earning Strength: The continued viability of a bank depends on its ability to earn an adequate return on assets and capital employed. This enables a bank to fund its expansion, remain competitive in the market and replenish and/or increase its capital. Some ratios that measures banks earning strength according to Ebhodaghe (1995) include:

1. Return on Equity (ROE)
2. Return on Assets (ROA)
3. Net Interest Income /Total Revenue
4. Loan loss provision and
5. Personal expenses

Liquidity Sufficiency: banks may be driven toward insolvency due to poor management of short-term liquidity. Indicators of liquidity insufficiency for a bank includes large maturity mismatches. An unmatched fund flow position potentially exposes the bank to the risk of illiquidity. The ratio used includes Deposit/Total assets as an indicator of bank liquidity. Perfect liquidity implies that liabilities ranked by maturity be matched by corresponding assets. The size of deposits (short-term liabilities) over total assets gives a rough estimate of liquidity risk associated with deposit withdrawal (Olaniyi 2006). CAMEL rating is used in assessing the health state of banks as well as their classifications. Certain warning signals are however common to most financial institutions and these include

Persistent illiquidity: The inability to meet current obligations on a persistent basis.

Persistent levy of penalties by regulatory authorities for failure to meet certain laid down regulatory requirements.

Negative net worth: This may not be disclosed in the books if covered with paper profits especially where inadequate or no provisions have been made for bad and doubtful debts.

Alarming high operating cost: This may result in overstating, in anticipation of future expansion and/or rapid expansion by opening too many branches within a relatively short period of time, accompanied by payment of higher salaries more than the industry's average in order to discourage staff from leaving.

Charging of excessive interest on loans and advances. This is brought about by the necessity to cover the high cost of deposit, accommodation of high risk in a bid to increase profit rapidly.

Accelerated deterioration of Portfolio: This is as result of an increase in advances to risky customers with a resultant development of hard core overdraft accounts (Babalola, 2005).

Shibut, Tim and Sarah (2003), in their 2003 banking review, point to the prompt corrective action (PCA) provisions in the Federal Deposit Insurance Corporation Act of 1991 (FDICA) as the mandate for banking regulatory framework to promptly close critically under capitalized banks. Capital amounting to two percent of tangible assets has been set as the threshold for classification as a critically under capitalized bank.

By the time a bank's tangible capital ratio falls to the two percent threshold, it is often too late to save the bank; particularly as asset quality deteriorates forcing banks to write down assets values, severely weakening the bank's capital position and leaving the FDIC to pick up the pieces. This is a major reason why board of governor's of the Federal Reserve devised the "CAMEL" rating system which evaluates bank capital, Asset quality, management, earning, liquidity, and sensitivity to market risk to create a watch list of troubled banks to be monitored between on site examination.

Theodossior (1993) was of the opinion that the determination of solvency of banks is an obstacle to prompt action since financial distress may not be apparent in the first instance. He asserted that; ordinarily as long as a bank can meet all of its obligations over the long run, it is considered viable. measuring such stream of income calculating the net present value of the expected cash flows and it provides the economic measure of solvency. However, such estimation can be very difficult to undertake and subjective at best. On the other hand, the reliance on book value solvency or the market of the bank as a proxy for net present value is a very imperfect measure of its arbitrary nature and the possibility that the bank can manipulate the manner in which such activities are carried out are presented.

In response to this identified problem, CBN and NDIC adopted a standard rating system for revealing the extent of distress in any bank in a composition measure categorized into sound, satisfactory and marginally distressed. The parameters that enabled this categorization is called (CAMEL), capital adequacy, Asset quality, management competence, earning strength and liquidity.

Olaniyi (2006) opined that banks adjudged to be distressed by this system are placed on strict supervision or liquidated, but no sooner than latter banks rated as sound by this system enters the distress region. He opined that this however, translates to mean that distress classification is equally a medicine after death. This therefore calls for preventive rather than curative measures in terms of predicting probability of failure for effective decision .

Over the years, numerous authors have attempted to predict corporate failure using various methodologies. The most well known is Altman's 1968 multiple discriminant analysis of thirty-three bankrupt and thirty-three non bankrupt manufacturers. The variables used in this discriminant study are:

1. Working Capital / Total assets
2. Retained earning /total assets
3. Earnings before interest and taxes/total assets
4. Market value equity / book value of total liabilities
5. Sales /total assets.

This model is shown in Altman's (1968) study to be effective in predicting bankruptcy up to two years prior to distress and that accuracy diminishes substantially as the lead time increases "(Altman, 2000)

Altman, Haldeman and Narayanan created the Zeta Credit risk model in 1997 as a second generation discriminant model which appeared to be quite accurate for up to five years prior to failure (Altman, 2000). The zeta (a) model consists of seven variables ; Return on assets,
Stability of earning ,Debt service, Cumulative profitability , Liquidity ,Capitalization , Asset size. While the Altman models have been shown to be useful for manufacturing firms, they have not been shown to work well for financial companies, such as banks.

In 1983, Richard J. Taffler created a UK based z-score model that has been shown in a recent study by Agarwa and Taffler (2007) to have good failure prediction ability. Since 1968, numerous models, methodologies and theories have been put forth to improve upon Altman's 1968 and 1977 models and Taffler's 1983 model. Aziz and Dar (2006) list forty-six articles using the following methodologies, Multiple discriminant analysis , Neutral networks, Logit, Balance sheet decomposition measure (entropy theory), Generic Algorithm, Recursive partitioning (decision tree) analysis , Rough sets model , Credit risk theories, Univariate, Cash management theory, Case based reasoning ,Cumulative sum model (time series), Linearity probability model, Probit ,gamblers run theory. These method are applicable to the following types of companies: manufacturing industries, manufacturing and retail, industrial, mixed industries telecom, retail firms, banks, motor components, constructions, savings and loan association, mining and manufacturing ,nonfinancial firms, oil and gas. Of the above listed models, only one specifically examines banks and two examine savings and loan associations. A search for recent articles covering banks identifies the following articles and methodologies.

Schaeck (2008) uses a quartile regression approach to compare high cost to low cost bank failures.

Ozkan Gunay and Ozkan (2007) use a non-linear artificial neutral networks approach to analyze 59 Turkish banks (36 successful and 23 failed bank).

Ercan and Evirgen (2009) investigate the factors that were important in the failure of Turkishs banks using a principal component analysis methodology. Yim (2007) uses a hybrid artificial neutral networks methodology to predict failure of firms from Austraila financial service sector. She is successful in predicting 100% of failed firms one year before failure, but is only successful in predicting 33.3% of failed firms two year before failure. Jesswein (2009) compares the "Texas Ratio" for a sample of 37 failed banks from 2008 and 2009

compared to 7,075 non failed banks noting that "such a measure offers important insights but may not be sufficient as a general, all purpose tool. According to Jesswein (2009) "the ratio is calculated by dividing the bank's non performing assets (non-performing loans plus other real estate owned) by the sum of its tangible equity capital and loan loss reserves".

Jordan, etal (2009) analyzed the market to book ratio of a sizeable sample of publicly traded bank from 2006 to 2009 using the following explanatory variables, ratio of non interest income to interest income ratio of non accrual asset plus owned real estate to total asset, ratio of tier one capital (equity) to total assets, bank holding company dummy variables ,saving bank dummy variable and geographical location durmmy variables.

2.2 DISTRESS PHENOMENON

Ofor (2009) disclosed that distress in the banking sector is now a global problem. Like a scourge, the distress phenomenon has enveloped the banking industry in some notable countries of the world and has threatened to reduce the once enviable sector of the economy to mere rubble as bankers and customers are caught in crises bordering on the recovery of deposits, managing a failing system and crisis of confidence.

Immediately after the First World War, former Czechoslovakia witnessed declining performance in the activities of her banking sector. This led to the establishment of a Nationwide Deposit Insurance Scheme in 1925 to encourage savings from the confused public and restore the much needed confidence for the sector (Ofor 2009)

In February 1995, Barings Bank, the oldest Merchant Bank in London, went under with losses in excess of $1 billion. The scandal rocked the international banking world and earned a six –and –a half year jail sentence in Singapore for Nick Leeson, a 28-year old trader whose derivative trading activities were blamed for the disaster. As if that was not enough, later in the year, serious problems were disclosed at Daiwa bank in New York, sending American operators on a scapegoat (somebody to blame) – the regulators, auditors, directors etc (Ofor 2009)

In fact, in the United States of America (USA), the banking system suffered distress between 1930 and 1933 in the wave of great depression. Credit News magazine (1930) report that during this time, about one third of commercial banks, basically small unit banks failed. And between 1987 – 1993 an average, of about 150 banks were reported to have failed annually. This led to the establishment of Federal Deposits Insurance Corporation, FDIC in the US to restore confidence in the system.

In Nigeria, the problem of distress and outright bank failure dates back to 1930 when the first bank failure was reported. Indeed, between 1930 and 1958 (when CBN was established) more than 21 bank failures were recorded. However, of great concern is the nature and magnitude of distress that engulfed the Nigerian Banking Sector in the 90s and in the 21st century. The withdrawal of about ₦6 billion in respect of credits backed with foreign collaterals and the transfer of government's deposits away from the licensed banks to the Central Bank of Nigeria in 1989, caused panic in the banking system. Daily Times (1989) disclosed that bank failure in Nigeria necessitated a joint Nigerian Deposit Insurance Corporation (NDIC) / Central Bank of Nigeria (CBN) accommodation facility to the tune of N2.3 billion for 13 banks. In 2009,the failure of six banks in Nigeria necessitated the injection of #620billion bailout facility by CBN and creation of AMCON a year after CBN gave rescue package to banks in distress.

Emerson (1969) opined that the turbulence in the banking industry did not start with this singular government directive; neither did it begin with previous government policies. "Over time", he said, "the industry had developed a hidden deterioration caused by complacency and lethargy. The banking industry is going through a kind of upheaval that is unparalleled in the financial history of Nigeria. The degree of change being brought about by environment pressure is now accelerating at a pace that can only magnify the consequences of mistaken or misguided management action. After decades of almost concrete stability, the banking sector has become increasingly volatile. Developments in the operating environment of banks brought about a host of new players muscling on what used to be golden preserve of big banks – from foreign exchange transactions through loan and capital markets to financial advisory services. The number of banks increased drastically from 81 in 1991 to 120 as at December, 1994 and reduced from 89 in 2004 to 24 in 2005 as a result of bank ***recapitalization*** and from 24 to 22 in 2009 due to merger and acquisition of bank and presently stood at 23 due to licensing of additional new bank by CBN. There have also been numerous competitive and regulatory attacks on both the balance sheet and earnings portfolio of banks. The chronology of events that set in motion the following pronouncements by the authorities are very pertinent. These include: Deregulation 1998,Credit Guidelines 1990, Re-regulation 1991,Prudential Guidelines 1991, Stabilization Securities 1991, Failed Bank act of 1994 , Bank reform of 2004, AMCON act of 2010, Nationalization and reclassification of bank into Regional, National, International in 2010.These are a few of the regulatory inundation the banking industry had to contend with in the 90s and 2000s.On the growth rate of the banking industry, NDIC report showed that the total deposit liabilities of insured banks grew by about 14.8% from ₦128.5 billion as at the end of May 1993 to ₦147.5 billion as at end of May 1994 and to #22,473.4billion as at end of May 2013; a period that witnessed increased frauds and a rise in the number of distressed banks. While the number of distressed banks rose from 9 in 1989 to 60 as at December 1995 and to 100 in 2009, Victor(1996) reported that over N23 billion in local and foreign

currencies was lost to fraud in Nigeria over the preceding three years with a total of 750 reported cases of fraud including '419' (Advance fee fraud). Business News (2011) reported that #187.23billion was lost by over 2.7 million depositors as a result of liquidation of 46 bank by NDIC from 1994 to date. Also speaking on the increasing distress syndrome Ebhodaghe (1995), disclosed that as at December 1994, non-performing loans and advances rose to an average of 27.40 per cent of the total deposits of the banking industry and as high as 60.33 per cent for the distressed banks. The implication of this is that not less than sixty kobo of every one naira deposit in distressed banks was tied down in loans that were not performing . According to IMF and Global Financial Stability (2011) Nigerian bank non performing loans to total loan stood at 36.10% in 2009, 7.20% in 2008 and 11.60% in 2011. Furthermore**,** Ebhodaghe (1995) observed that distressed banks have continued to use depositors' funds to finance capital projects, staff salaries and other expenses. There are many definitions of distress as there are definers. The Oxford Advanced Learner's Dictionary defined distress as causes of great pain, discomfort or sorrow, serious danger or difficulty." In the financial sector, distress is viewed mainly from the angle of funds. Benston et al (1986) described distress as a situation of complete or near-complete loss of shareholders funds. Alashi (1993) associates distress with a cessation of independent operation or continuance with the assistance of relevant authorities such as a deposit insurance institution. The implication of the above definitions are that distress is undesirable and that any organization in distress is not meeting its set objectives. However, in order to provide a more embracing definition of distress for banks, it will be necessary to state some broad set objectives of a typical financial institution and also synthesize those factors that will make a financial institution unhealthy. Ebhodaghe (1993) opines that the broad objectives and aspirations of a typical financial institution will be to meet its obligations to customers as and when due as well as to its owners and the economy within which it operates. On the other hand, speaking on the factors that could make a financial institution unhealthy, Ologun (1994) stated that a financial institution will be described as unhealthy if it exhibits severe financial, operational and managerial weakness. Based on the foregoing, a working definition of distress for the purpose of this study is that a distressed financial institution is one with severe financial, operational and managerial weaknesses which have made it difficult for it to meet its obligations to its customers, owners and the rest of the economy as and when due. Thus, when a bank is said to be distressed, there are technically, two distinct but closely related conditions that come to mind viz insolvency and illiquidity. Wikipedia (2013) stated that a bank failure occurs when a bank is unable to meet its obligation to depositors and creditors because of insolvency.

CBN/NIDC (1995) noted that "while insolvency refers to a condition in which the sum of assets of an institution is less than the sum of its liabilities, a situation which prevents it from honouring its obligation to depositors and other shareholders, illiquidity, on the other hand, described the problematic cash flow position of a firm"**.**

One may wonder whether a technically insolvent bank could at the same time be liquid and vice versa. The answer is in the affirmative. A technically insolvent bank remains sufficiently liquid long after it became insolvent if it has a large and stable deposit base, while a solvent bank could run into liquidity problems arising from a mismatch between the maturity profiles of its assets and liabilities. However, Glaessner and Mas (1995) observed that illiquidity, if unassisted by monetary authorities can turn into insolvency if the institution has to sell its assets at a distressed price or pay above market rates on deposits in a desperate scramble for liquidity. In the recent years, the diagnosis of actual causes of bank failure became multidimensional due to technology and introduction of various financial products. For instance the cause of bank failure in US in 2007 is attributed to subprime loan facility, The first signs of the subprime mortgage market collapse in the United States were very high (an unusual event for the subprime market) . High rates of foreclosures, declining home values, borrowers' impaired credit histories, destabilized neighborhoods, numerous vacant and abandoned properties, the absence of mechanisms providing entry into and exit out of the distressed mortgage market (uncertainty froze the market; a limited number of home sales/purchases occurred), and overall economic slowdown created a self-sustaining loop, escape from which was beyond the capacity of market forces to find. Demyanyk and Van Hemert analyzed the subprime crisis empirically, utilizing a duration statistical model that allows estimating for the so-called survival time of mortgage loans, i.e., how long loan is expected to be current before the very first delinquency (missed payment) or default occurs, conditional on never having been delinquent or in default before. The model also allows controlling for various individual loan and borrower characteristics, as well as macroeconomic circumstances. According to the estimated results, credit score, the cumulative loan-to-value ratio, the mortgage rate, and the house price appreciation have the largest (in absolute terms) marginal effects and are the most important for explaining cross-sectional differences in subprime loan performance. However, according to the same estimated model, the crisis in the subprime mortgage market did not occur because housing prices in the United States started declining, as many have conjectured. The crisis had been brewing for at least six consecutive years before signs of it became visible. The quality of subprime mortgages had been deteriorating monotonically every year since at least 2001; this pattern was masked, however, by house price appreciation. In other words, the quality of loans did not suddenly become much worse just before the defaults occurred |the

quality was poor and worsening every year. Observers noted this inferior quality only when the housing market started slowing down| when bad loans could not hide behind high house appreciation, and when bad loans could no longer be refinanced.

2.3 Review of some Distress Resolution Strategies

Based on the available literature, two broad distress resolution strategies have been identified. The first is the short run or emergency measures while the second is the long run measures.

The Emergency Measures:

These aim at stabilizing the financial system as rapidly as possible. Some of the measures usually adopted here range from lender –of –last -resort facilities to special credit facilities, as was done in Thailand and Philippines for financial institutions showing signs of illiquidity. Moreso, there is the intervention by the apex banking institution in the management of ailing banks to help restore confidence as was done in Argentina, Chile and Spain during the early periods of their banking crises. Finally, there is the institution of explicit Deposit Insurance Scheme(DIS) as was the case in Argentina, Chile and the U.S.A.

Back home, some of these techniques have been applied and still being applied to some ailing banks in Nigeria. For instance, the NDIC could be likened to the DIS of the U.S.A.

Moreover , the NDIC has taken over management of some ailing commercial and merchant banks in our country.

The Long-run Measures

These are normally applied when the problem is that of insolvency. The long term measures that have been widely used include the ,mergers and sale, recapitalization, takeover by the government with the aim of turning the institution around and then selling the Institutions through competitive bidding. The ultimate treatment of terminally distressed institutions is of course outright liquidation.

All these options have been applied in the following countries that have suffered severe financial distress viz: Malaysia, Norway, Spain U.S.A. Senegal etc.

SECTION THREE

Data Presentation, Analysis And Interpretation

3.0 Research Methodology

This study employs multiple discriminant model to predict bank failure vis – Vis the status of Nigeria banks . This study covers five accounting years between 2006 to 2010. The study employed discriminant variable or data that include: Working capital, Retained earnings, EBIT, Equity or 1st tier capital as well as total asset to total book debts obtainable from financial information / statement of the banks being evaluated.

MDA(Multiple Discriminant Analysis) is a statistical technique used to classify an observation into one of several a priori groupings dependent upon the observation's of individual characteristics. It is used primarily to classify and make predictions of problems where the dependent variable appears in qualitative form, for example, bankrupt or non bankrupt. Therefore the first step is to establish group classifications. After the groups are established, data are collected for the objects in the groups. MDA in its most simple form attempts to derive a linear combination of these characteristics which "best" discriminates between the groups. If a particular corporation, has characteristics(financial ratios) which can be quantified for all the companies in the analysis, the MDA determines a set of discriminant coefficients. When these coefficients are applied to the actual ratios, a basis for classification into one of the mutually exclusive grouping exists. The discriminant function of the form Z= V1X1 + V2X2 +...+VnXn transforms the individual variable values to a single discriminant score , or Z value, which is then used to classify the object where V1,V2,...Vn = discriminant coefficients X1,X2....Xn = independent variables. The Z-Score model is a linear analysis in that five measures are objectively weighted and summed up to arrive at an overall score that then becomes the basis for classification of firms into one of the a priori groupings(distressed and non distressed).

After initial groups are defined and firms selected, balance sheet and income statement data are collected. A list of 22 potentially helpful ratios was compiled for evaluation and the 5 of them were finally chosen for doing the best overall job together in the prediction.The following procedures are utilized: (1)observation of the statistical significance of various alternative functions,including determination of the relative contributions of each independent variable.(2)evaluation of intercorrelations among the relevant variables(3)observation of the predictive accuracy of the various profiles and (4) subjective judgement The ratios are classified into five standard categories, including liquidity, profitability,leverage,solvency,activity.

The final discriminant function is as follows:

$Z= 1.02X1 + 0.14X2 + 0.033X3 + 0.006X4 + 0.0999X5$

where

X1 = working capital/total Assets
X2 = retained earnings/total Assets
X3 = earnings before interests and taxes/total Assets
X4 = market value of equity/book value of total liabilities

X5 = sales/total Assets
Z = overall index
The overall z-score discriminates between firms that are likely to go bankrupt one year's time from healthy firms by using a cutoff score for the overall index:
Z < 1.81 High probability of bankruptcy for the firm
1.81 < Z < 2.99 Gray area - uncertain
2.99 < Z Low probability of bankruptcy for the firm
In a stricter version of the model, 2.69 rather than 2.99 is used as cutoff score. However, this increases the chance of falsely assigning a lower bankruptcy probability to a particular firm. This is a choice between having relatively more false negatives (2.69 - type II errors) or relatively more false positives (2.99 - type I errors).Statistically, the z-score model has shown to correctly predict bankruptcy in 95% of the cases one year prior to bankruptcy. This information can be used to guide managers in their investment decisions to make them potentially safer. Moreover, the model can be used to assess the credibility of (potential) customers and the financial health of the company's crucial supplier

3.1 Result and Discussion.

Based on the analysis carried out, all the eleven selected banks for the study actually have their Z values fell within bankruptcy region when compared with Atman's standard. The model successfully predict failure of all the bank that were adjudged to be distressed and list the next round of trouble to be watched out for by the regulatory bodies, from the selected non failed banks. All the selected bank Z scores were far below Atman's standard. The financial condition of PHB, Oceanic, Union Bank, UBA and ECOBANK is a source of concern as their financial ratio continuously deteriorated and got worsen year by year. It is however apparent that financial ratio is an index for assessing the health condition of banks as posits by Atman. However , it was noted that the ratio of working capital to total assets, gross income to total assets, EBIT to total assets, retained earning to total assets and equity to book debt decrease continuously for some selected banks which is a sign of distress. Also the stock market performance of the selected banks were also evaluated. However, since all the banks that were evaluated had their Z score fall within bankruptcy region. The researchers decided to carry out independent evaluation of managerial quality since it is a critical factor that determine organization survival. A subjective approach of determining managerial quality was first used by reviewing the profile of both the management and board on the basis of academic qualification, experience, exposure, connection. It was however felt that the above approach used to determine managerial quality is subjective, the researcher therefore adopted the quantitative approach used by Gunsel and Reddy etal in 2007 and 2011 respectively. All the selected banks managerial quality were evaluated using ratio of loan to total deposit, interest expenses to total deposit and operating expenses to total deposit. It was observed and obvious that banks with sound managerial quality were among those that have been adjudged to be on sound health and had better Z score compared to the rest of the system.

The EPS and DPS for Union bank, Oceanic bank, PHB bank, ECOBANK and UBA are sources of concern for all the stakeholders. Both the EPS and DPS for these banks are poor and discouraging, the investors were not rewarded for their investment and have never smile home with return for the past five years. However, the stock market performance for GTBank, Zenith bank, Access bank, First bank, FCMB, and STANBIC IBTC from 2006 to 2010 were very encouraging, the banks dividend policy were consistence over the years. First bank , Zenith bank , GTBank , Access bank are exceptionally good when compared with some of the selected bank. Investors smile home with good return over the period. Another major concern is that the stock value of the selected bank depleted to almost zero level except for few of them who were less involved in stock market manipulations.

3.2 LIMITATION OF THIS STUDY.

The study have limitations that are likely to affect the generalization of the results. Firstly, the result reported is likely to be valid only for the period of time studied. Secondly the reliability of bank annual report used for this analysis raised some level of doubtfulness due to unethical conduct of the bank management. Also the characteristics of bank change from time to time. Therefore, care should be taken when attempting to generalize the results of this study to any other time periods.

In addition , future studies should examine any management differences, geographical factors and whether size has a significant effect on bank financial condition. Inspite of the limitations of the study, it is believed that the study made a number of contributions, firstly, it analyses in a timely manner the selected bank performance from 2006 to 2010 using CAMEL variables. Also, the work use readily available bank data to predict which bank to be avoided by depositors, lenders, investors and which bank should be included in the trouble list to be monitored by the regulatory bodies.

SECTION FOUR

4.1 Summary And Conclusion

In this paper, CAMEL rating is used whose goal is the early detection of banks financial condition. It is apparent that banks failure is as a result of poor camel rating as well as excessive risk taking, and the end result are credit crunch, unemployment, loss of confidence, poor GDP, recession and depression at worst. We also evaluated banks performance on the basis of stock market information and a few financial ratios chosen to express the various risk components .Multiple discriminant analysis method were used, this method rely on predetermined camel variables. Banks were classified following the outcome of Z score having used extract from annual audited account of the selected banks in order to visualize the status of each bank relative to the rest of the system. However, the need to investigate and beam a searchlight on why banks fail does not gather high momentum again and this is an indication that the causes of bank distress are well known. Moreso, significant legislative, technological, and financial innovations may make it necessary to supplement the regulatory models with a new generation of risk-focused monitoring systems. In fact, banks that failed between 1995 and 2003 and 2007 had quite different characteristics from banks that failed in the 1980s. More so , it would be necessary to come up with other preventive measures that take into consideration characteristic of Nigerian banks. Forward-looking early-warning models at the FDIC include the Growth Monitoring System and the Liquidity and Asset-Growth Screen, respectively. Risk-focused screens include the Real Estate Stress Test and the Economic Value Model. More importantly, major attention is focusing on other aspects of risk, such as liquidity risk. By evolving effective surveillance models, it is believed the gap between regulatory and academic banking research will be removed and throw more light on the likely characteristic of the institution that tend toward failure. However, the adoption of a variety of models in bank supervision requires judgment by supervisors to determine which models are the most relevant in a given set of circumstances. We are of the view that An Improved off-site examination, on site examination and monitoring would enable the supervisors to detect and contain problem banks while transparency is believed to be hallmark of success for operators and other stakeholders

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APPENDIX

3.1 Data Presentation And Analysis

An appraisal of the profile of both the board and management of some selected were carried out to determine quality of board/ management. The overall rating is based on 100%

Among critical variable considered for the appraisal are;

Academic qualification

Exposure

Banking experience

Personality

connection

Subjective Critical variable for managerial appraisal/rating

Bank	qualification	exposure	Banking experience	personality	connection	total	Rank
Stanbic	15%	15%	15%	15%	20%	80%	2
Access	15%	13%	13%	15%	15%	71%	9
GTB	15%	15%	18%	15%	16%	79%	3
FCMB	15%	155%	15%	15%	15%	75%	7
First Bank	15%	16%	16%	15%	15%	77%	5
Eco Bank	15%	16%	16%	16%	15%	78%	4
Zenith	15%	15%	16%	15%	15%	76%	6
Union	15%	15%	16%	16%	12%	74%	8
UBA	16%	16%	17%	17%	17%	83%	1

Source: Author's Computation, Bank Annual Report

MANAGERIAL QUALITY

Loan to Total Deposit

Bank	2006	2007	2008	2009	2010	Average	Rank
Stanbic	87.73%	109.91%	100.12%	65.12%	87.53%	90.08%	1
Access	48.80%	52.50%	69.53%	88.04%	91.52%	70.08%	2
GTB	39.22%	39.10%	92.88%	81.26%	79.02%	66.30%	3
FCMB	27.13%	44.46%	74.16%	86.88%	96.61%	65.85%	4
First Bank	45.36%	37.67%	66.17%	82.19%	76.45%	61.57%	5
Eco Bank	62.23%	52.13%	46.64%	75.35%	67.94%	60.86%	6
Zenith	50.83%	38.43%	35.62%	60.22%	51.79%	47.38%	7
Union	45.98%	35.79%	37.71%	43.07%	29.83%	38.48%	8
UBA	14.15%	35.67%	32.24%	47.20%	50.87%	36.03%	9

Source: Author's Computation, Bank Annual Report

Ratio interest expenses to Total Deposit

Bank	2006	2007	2008	2009	2010	Average	Rank
First Bank	1.98%	2.28%	3.37%	4.51%	3.45%	3.12%	1
UBA	3.28%	2.96%	3.16%	4.77%	3.90%	3.61%	2
Union	2.85%	3.02%	2.84%	5.80%	5.49%	4.00%	3
Access	2.23%	2.41%	4.5%	7.02%	4.44%	4.05%	4
Zenith	2.66%	3.30%	4.30%	7.45%	2.68%	4.08%	5
FCMB	2.96%	2.74%	3.67%	4.21%	6.48%	4.21%	6
GTB	3.96%	2.74%	3.67%	4.21%	6.48%	4.21%	7
Eco Bank	3.45%	2.57%	4.96%	7.81%	4.46%	4.65%	8
Stanbic IBTC	3.84%	8.28%	18.86%	9.31%	4.27%	8.91%	9

Source: Author's Computation 2012, Bank Annual Report

Operating expenses to total deposit

Bank	2006	2007	2008	2009	2010	Average	Rank
FCMB	4.11%	4.06%	2.02%	4.05%	5.35%	3.92%	1
Access	4.99%	3.99%	1.95%	4.05%	5.34%	4.06%	2
GTB	4.00%	3.70%	3.86%	4.77%	5.21%	4.31%	3
Stanbic	2.30%	2.59%	5.63%	7.50%	8.00%	5.20%	4
UBA	5.11%	4.03%	3.82%	7.69%	5.76%	5.28%	5
First Bank	6.27%	5.43%	5.34%	3.95%	5.49%	5.30%	6
Zenith	5.14%	5.13%	5.06%	6.57%	4.98%	5.38%	7
Eco Bank	6.93%	4.97%	6.01%	8.61%	6.72%	6.65%	8
Union	5.32%	5.21%	3.92%	15.38%	7.60%	7.49%	9

Source: Author's Computation 2012, Bank Annual Report

3.1A computed Z scores for Oceanic Bank Pl c

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.06	0.2	(0.08)	(0.22)	0.2
X_2 Retained earning to total assets	0.03	0.02	(0.2)	(0.05)	0.008
X_3 Ebit to total asset	0.03	0.02	(0.3)	(0.13)	0.001
X_4 Equity to total book value	0.37	0.016	(0.05)	(0.3)	(0.3)
X_5 Gross earning to total assets	0.09	0.07	0.15	0.2	0.067
Zeta values	0.76	1.05	0.65	0.53	0.952

Authors' computation 2012

3.1A stock performance summary of Oceanic Bank plc

Year	2006	2007	2008	2009	2010
1 EPS	102.63k	147k	(35k)	(194k)	37k
2 DPS	42k	10k	nil	nil	nil
3 Ratio of interest earned to interest paid	2.3:1	2.7:1	2.5:1	1.6:1	1.8:1

Authors' computation 2012

3.1B computed Z scores FCMB plc

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.06	0.25	0.2	0.33	0.02
X_2 Retained earning to total assets	0.02	0.03	0.01	0.001	0.01
X_3 Ebit to total assets	0.03	0.04	0.01	0.4	0.01
X_4 Equity to total book debt	0.2	0.3	0.3	0.4	0.4
X_5 Gross earning to total assets	0.1	0.11	0.14	0.07	0.11
Zetar values	0.9	1.17	1.02	1	0.9
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1B stock performance summary of FCMB plc

Year	2006	2007	2008	2009	2010
1 EPS	61k	123k	21k	6k	45k
2 DPS	N/A	N/A	N/A	N/A	N/A
3 Ratio of interest earned to interest paid	2.8:1	3.2:1	3.1	2.2:1	1.8:1

Authors' computation 2012

3.1D computed Z scores for UBA

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.06	0.11	0.1	0.10	0.1
X_2 Retained earning to total assets	0.01	0.02	0.03	0.01	0.0015
X_3 Ebit to total asset	0.01	0.02	0.04	0.02	0.01
X_4 Equity to total book value	0.05	0.15	0.12	0.13	0.1
X_5 Gross earning to total assets	0.10	0.1	0.10	0.2	0.1
Zetar values	1.08	0.95	0.95	0.952	0.95
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1D stock performance summary to UBA

Year	2006	2007	2008	2009	2010
1 EPS	186k	241k	305k	60k	8k
2 DPS	100k	25k	75k	10k	N/A
3 Ratio of interest earned to interest paid	2.4:1	2:1	3:1	3:1	3:1

Authors' computation 2012

3.1E computed Z scores for bank PHB

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.13	0.05	(0.76)	(0.74)	(0.7)
X_2 Retained earning to total assets	0.0074	0.02	0.02	(0.91)	(0.19)
X_3 Ebit to total asset	0.24	0.24	0.24	(0.91)	(0.10)
X_4 Equity to total book value	0.008	0.0166	0.0166	(0.82)	(0.6)
X_5 Gross earning to total assets	0.76	0.85	0.85	0.45	0.53
Zeta values	0.22	0.15	0.22	(3.68)	(0.86)

Authors' computation 2012

3.1E stock performance summary of bank PHB

Year	2006	2007	2008	2009	2010
1 EPS	16k	19k	246k	(1.995k)	
2 DPS	65k	70k	45k	N/A	N/A
3 Ratio of interest earned to interest paid	4:1	4:1	3:1	1.4:1	1.4:1

Authors' computation 2012

3.1F computed Z scores for ECO Bank plc.

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.2	0.04	0.01	0.001	0.11
X_2 Retained earning to total assets	0.03	0.02	(0.0001)	(0.01)	(0.003)
X_3 Ebit to total asset	0.02	(0.02)	0.002	0.003	0.01
X_4 Equity to total book debt	0.30	0.2	0.1	0.1	0.2
X_5 Gross earning to total assets	0.1	0.11	0.13	0.2	0.13
Zeta values	1.07	0.9	0.8724	0.87	0.98

Authors' computation 2012

3.1F stock performance summary of ECO Bank plc

Year	2006	2007	2008	2009	2010
1 EPS	27k	34k	0.03k	0.64k	12k
2 DPS	NA	NA	NA	NA	NA
3 Ratio of interest earned to interest paid	4:1	3:1	0.5:1	0.5:1	3:1

3.1F computed Z scores for Union Bank plc

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.1	0.1	0.02	0.33	(0.2261)
X_2 Retained earning to total assets	0.02	0.03	(0.06)	(0.02)	0.1396
X_3 Ebit to total asset	0.03	0.036	(0.06)	(0.30)	(0.0146)
X_4 Equity to total book debt	0.22	0.30	0.1	(0.36)	(0.6200)
X_5 Gross earning to total assets	0.11	0.10	0.12	0.11	0.1348
Zeta values	0.92	0.93	0.82	0.33	0.36

Authors' computation 2012

3.1F stock performance summary of Union Bank

Year	2006	2007	2008	2009	2010
1 EPS	160k	126k	214k	(2118k)	874k
2 DPS	Nil	Nil	Nil	Nil	Nil
3 Ratio of interest earned to interest paid	NA	NA	3:1	3:1	2:1

Authors' computation 2012

3.1G computed Z scores for Zenith Bank

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.13	0.10	0.17	0.16	0.16
X_2 Retained earning to total assets	0.02	0.02	0.03	0.01	0.02
X_3 Ebit to total asset	0.02	0.03	0.03	0.02	0.02
X_4 Equity to total book value	0.39	0.37	0.38	0.34	0.33
X_5 Gross earning to total assets	0.01	0.11	0.11	0.16	0.10
Zetar values	0.9648	0.967	1.05	1.05	1.05
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1G stock performance summary of Zenith Bank

Year	2006	2007	2008	2009	2010
1 EPS	191k	189k	345k	73k	106k
2 DPS	110k	100k	170k	48k	85k
3 Ratio of interest earned to interest paid	4:1	3:1	3:1	2:1	3:1

Authors' computation 2012

3.1H Computed Z sores for Stanbic IBTC

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.27	0.21	0.18	0.15	0.13
X_2 Retained earning to total assets	0.03	0.02	0.03	0.02	0.02
X_3 Ebit to total asset	0.04	0.03	0.03	0.02	0.03
X_4 Equity to total book value	0.6	0.5	0.4	0.4	0.3
X_5 Gross earning to total assets	0.2	0.1	0.2	0.2	0.13
Zeta values	1.15	1,15	1.05	1.05	1.05
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1H Stock performance summary of Stanbic IBTC

Year	2006	2007	2008	2009	2010
1 EPS	43k	37k	49k	33k	42k
2 DPS	20k	N/A	N/A	30k	39k
3 Ratio of interest earned to interest paid	3:1	3:1	2:1	3:1	4:1

Authors' computation 2012

3.1I Computed z scores for first bank plc.

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.1	0.1	0.3	0.2	0.2
X_2 Retained earning to total assets	0.3	0.2	0.03	0.02	0.01
X_3 Ebit to total asset	0.03	0.03	0.03	0.03	0.02
X_4 Equity to total book value	0.34	0.35	0.75	0.50	0.2
X_5 Gross earning to total assets	0.11	0.10	0.11	0.11	0.11
Zeta values	1.1	1.1	1.23	1.2	1.2
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1I Stock performance summary of First Bank

Year	2006	2007	2008	2009	2010
1 EPS	269k	156k	223k	141k	102k
2 DPS	100k	100k	120k	125k	60k
3 Ratio of interest earned to interest paid	5:1	4:1	4:1	3:1	3:1

Authors' computation 2012

3.1J computed to series for Access Bank

Year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.10	0.20	0.3	0.3	0.3
X_2 Retained earning to total assets	0.02	0.02	0.03	0.001	0.2
X_3 Ebit to total asset	0.024	0.02	0.04	0.00001	0.024
X_4 Equity to total book value	0.12	0.21	0.4	0.4	0.4
X_5 Gross earning to total assets	0.08	0.060	0.12	0.12	0.11
Zeta values	1.04	1.12	1.1525	1.152	1.152
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1J Stock performance summary of Access Bank

Year	2006	2007	2008	2009	2010
1 EPS	6.6k	87k	173k	141k	63k
2 DPS	N/A	17k	40k	70k	20k
3 Ratio of interest earned to interest paid	4:1	3:1	4:1	2:1	3:1

Authors' computation 2012

3.1K Computed to series for GT Bank Plc.

year	2006	2007	2008	2009	2010
X_1 Working capital to total assets	0.06	0.20	0.15	0.14	0.14
X_2 Retained earning to total assets	0.03	0.03	0.03	0.02	0.03
X_3 Ebit to total asset	0.03	0.04	0.04	0.03	0.04
X_4 Equity to total book value	0.21	0.44	0.3	0.24	0.24
X_5 Gross earning to total assets	0.06	0.11	0.10	0.14	0.12
Zeta values	0.973	1.12	1.1	1.1	1.1
Atman Standard	1.8	1.8	1.8	1.8	1.8

Authors' computation 2012

3.1K Stock performance summary of GTBank

Year	2006	2007	2008	2009	2010
1 EPS	162k	167k	185k	127k	163k
2 DPS	103k	75k	70k	100k	100k
3 Ratio of interest earned to interest paid	2.4:1	3:1	3:1	3:1	4:1

Authors' computation 2012