

NDIC OPERATIONS AND BANK PERFORMANCE: THE NIGERIA EXPERIENCE

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ABSTRACT:

Reducing increasing distress and failure of banks culminated to the establishment of NDIC and Deposit Insurance Scheme. This work investigated the nature and the extent of the impact of Nigeria Deposit Insurance Corporation activities on performance of banks in Nigeria from 1990 to 2018. Secondary data were sourced from NDIC, CBN and Statistical Bulletin of various years covering the period 1990 to 2018. Ordinary Least Square regression method was adopted to estimate the model parameters and test the hypotheses. The results revealed that total depositors insured has a significant relationship with banks' returns on assets. There is inverse and negative relationship between liquidation dividends paid to the banks' shareholders by the NDIC and the banks' returns on assets. Total banks deposits with the NDIC has not yielded positive effect on their performance. There is a positive and significant relationship between the premium paid on insured deposits and banks' return on asset. The paper suggested that NDIC should continue their surveillance on the activities of banks to increase depositors' protections. Banks should ensure that their deposit liabilities are adequately insured without cutting corners by under-valuing their liabilities. There is the need for strict supervision and timely transmission of premiums by banks to Nigeria Deposit Insurance Corporation.

Keywords: Deposit Insurance, Bank, Performance, Nigeria, Experience

1.0 Introduction

The relevance of the financial sector as a driver of the economy stems from the fact that performance of both banks and non-bank financial intermediaries involves regulatory framework geared towards increasing financial productivity, and stimulating economic growth. No financial institution beclouded with crisis can effectively yield efficient deliverables. The struggle to reduce bank distress and eminent failure in the banking industry culminated to Nigeria Deposit Insurance scheme establishment, supervised by Nigeria Deposit Insurance Corporation (NDIC) to compliment Central Bank of Nigeria (CBN)' in insuring a sound financial system intermediation role. Deposit insurance scheme (DIS) is a system established by the Government, managed by NDIC with the main policy objectives of providing protection to financially unsophisticated depositor and stability in both the economy and the banking system. Desirous of financial safety net, NDIC must have the backings of legal regulations with effective supervision devoid of distortions, and eventual hazards, mode of implementation need be understood by the public. The ailing financial sector which heightened from 2008 caused tremendous increase in unproductivity of investments. The resultant effect was additional powers by the both CBN and NDIC in checking financial institutions' excesses and government injection of huge capital, increased subsidy or interest rate cuts (Mbarek & Dorra, 2011). Banks non-performance was worsened by depositors' ignorance of information concerning banking operations. It thus became pertinent to understand the reason for customers' banks run before the 2004 banks consolidation (Ogunleye, 2010).

In 2003, out of the 34 failed banks, the sum of N5.3b was paid as liquidation dividend of which N3.3b was insured deposit representing 65% of the N5.3b paid. Out of the 34 failed banks, aggregated dividend of 32 failed banks for 2004 amounted to N9.9b. considering the fact that most general creditors received their liquidation dividend, it showed that NDIC has lived up to its obligations. Banks supervision by NDIC has remained focused on insuring the safety of depositors' money through; focused training, on-site and off-site supervision techniques, bank analysis system (BAS) and the coordination of activities at inter-bank level of which the essence is to discover and negotiate for possible vertical integration with identified horizontal competitors (Saliomon, 2004 cited in Ezeagba, 2014). Ensuring that customers recover at least certain amount their money or percentage should bank's collapse is the essence of the creation of NDIC by CBN. One would imagine what would become the faith of banks' customers if NDIC was not created. Banks regulatory activities lie in the hands of CBN and NDIC. Though banks' supervision is more under the control of CBN, both are federal government's tools to oversee and regulate banks activities. Parliamentary Act was implored by the federal government to set up both bodies to ensure regulation and monitoring of financial sector activities.

On the other hand, NDIC is also saddled with the enormous responsibility of insuring financial institutions' accurate payment and controlling of deposits aimed at accommodating losses arising from banks failure. It is the core supervisory function of NDIC to protect depositors when banks fail. The explanation is that as customers deposit their money with the banks, banks in turn, insure the received deposits by depositing a certain sum with the NDIC for reasons of support, efficacy, and stability as well as encourage a reliable and effective payment system. Invariably, banking practice plagued by possible occurrence of unsafe, doggy and unsound activities are constantly checked. Basically, NDIC undertakes risk-based, consolidation and transactions based supervisions in her duties to the banks. However, private

auditors are engaged in financial transactions routine audit of the banks by evaluating banks performances.

The corporate governance introduction was one of the reforms introduced by CBN to sustain banks stability as to effectively remain in business. Corporate governance was an attempt to modify ownership structure/control rights of individuals or co-owners of a bank. Under corporate governance, risk management department was created and no one individual is allowed to be the chairman and the managing director. The reform further stated that no person should be bank's managing director for more than ten years (Onuoha, 2015). The underlying reason for corporate governance is to re-organize ownership structure of banks, allow director's performance to be overseen by the board and identify early, problems that may lead distress and eventual failure and proffer solutions.

Bank distress is considered as a prelude to bank failure. It is worsened by a run on the bank. Bank run occurs when there is a rush by customers to withdraw their deposits on suspicion of eminent failure arising from inability of a bank make available cash demands for customers' daily demand (Adekanmbi, 2017). Considering banks distress and recapitalization of banks in 2004/2005 by CBN, it was recorded provide their customers' daily cash requests which created fears and apprehensions to customers and investors. As a result, investors began to doubt the possibility of greater return on their investment assets. And being confronted with issue of receiving maximum amount of N50, 000 from NDIC for investing in collapsed bank irrespective of amount of deposit by a customer, increases the search for investment that can increase return on assets (Adekanmbi, 2017). Beside the consolidation-based, risk-based and transaction-based supervision tools, NDIC is also disposed to utilizing other core principles such as off-site analysis, prudential returns, on-site examination and surveillance to effectively supervise activities of banks against failure.

The tide of history has attributed bank distress and eventual collapse in Nigeria prior to the creation of NDIC and banks recapitalization of 2004 to activities employees/managers with no financial knowledge, with emphasis on top-most managerial positions in banks. This was coupled with absence of efficient regulations guiding banking operation in Nigeria. Banks within this pre-restructuring era, witnessed a number of small banks with unethical practices. By July, 2004, banks in Nigeria increased to eighty nine (89) and at the commencement of the banks reform program, eleven had already been declared failed as a result of irregularities working against banks performance (Oleka & Mgbodile, 2012).

Prior to the commencement of NDIC activities in 1989, it was observed that increasing number of banks have overstretched existing human resource capacity of banks with unskilled manpower, resulting to problems such as; poor credit appraisal system, financial crimes, accumulation of poor assets quality, issues of non-performing loans and bad debts to the extent that only ten of the eighty nine were thriving (CBN and NDIC annual reports, 2002 – 2006 cited in Nasiru, Musa & Kaoje, 2012). More to these are unabated cases of insider loans, high interest rates

In a bid to reduce decay in the financial system, restore peoples' confidence in the banking system, build a reliable banking system and guarantee higher returns to investors, CBN and NDIC was given the statutory duty to supervise banks activities in Nigeria. However, despite NDIC enforcement supervisions, banks have continued to experience distress which made most banks to merge for stability and consolidation. For instance, to avert eminent failure, in

2005, Prudent Bank, Bond Bank, Reliant Bank, and Corporative Bank merged together to form Sky bank. In 2019, Sky bank was later changed to Polaris bank. In 2008, First Inland Bank changed to First City Monument Bank (FCMB) in a bid to avoid total bank failure.

Earlier, Intercontinental Bank merged with Access Bank while Access Bank later merged with Diamond Bank to avoid collapse due to prolonged distresses thereby raising doubt on the ability of NDIC to supervise and monitor banking industry activities effectively. Following these recounted events, deposits were withdrawn to other considered investments opportunities by investors and banks with strong capital base, all in a bid to secure their money. Evidently, some of the banks that met the N25b recapitalization in 2005 have failed in 2009, 2018 and 2019. They were either bought over by bigger banks or merged with other banks (Olaruwaju, 2016). This raised the question of how well has NDIC supervisory enforcements impacted on the banking industry performance. However, it also raised the controversy of to whether or not NDIC operations have influenced bank's performance positively or negatively. There is also the argument about the nature and the extent of the impact of NDIC operations on bank's performance. In an attempt to provide answers to this question, it became imperative to investigate the nature and the extent of the impact of NDIC activities on bank's performance from 1990 to 2018.

Objective of this paper is to investigate the effect deposit insurance operations on performance of banks in Nigeria. Specific objectives of the study are to; (a) investigate the nature of the relationship between total number of depositors insured and return on assets, (b) determine the relationship between liquidation dividend and return on assets, (c) examine the relationship between total bank deposits and return on assets and (d) ascertain the relationship between total Bank Insured Premium and return on assets.

1.2 Study Hypotheses

The following hypotheses were generated for the study;

H₀₁: There is no significant relationship between total numbers of depositors insured and return on assets.

H₀₂: Significant relationship does not exist between liquidation dividend and return on assets.

H₀₃: There is no significant relationship between total bank deposits and return on assets.

H₀₄: Significant relationship does not exist between total bank insured premiums and return on assets.

This paper limits its scope to the following;

- 1) **Geographical Scope:** this study focused on NDIC regulatory activities of Banks operating within the territory of Nigeria from 1990 to 2018.
- 2) **Content Scope:** the content scope involves dependent and independent variables; Dependent Variable is the variable that is being measured or tested. In this study, our dependent variable is the "Return on Assets" which is the effectiveness of an organization or firm in the utilization of her assets to generate revenues measured as net income divided by total assets. Independent variables are the variable (any factor, trait or condition that can exist in differing amount or type) that is being controlled. This study utilizes the insured number of depositors, liquidation dividend, total bank deposits and total bank insured premium as independent variables. They are also called explanatory variables.

This paper is organized in five sections. The first section contained the study background, problem statement, study objectives, questions hypotheses, significance, scope, and

limitation, definition of terms and organization of the study. The second two looked at the literature and discussed works of other scholars that relates to the subject matter. Third section dealt with adopted methodology for the study. Data presentation, analysis and interpretations of results were provided in section four. The study was concluded with summary of findings, recommendations concluded the paper in the fifth section.

2.0 Literature Review

2.1 Deposit Insurance Scheme

Deposit Insurance is a scheme established by law, designed to limit the losses of depositors in the event of banks. According to Ibrahim, (2010), “as a financial guarantee to depositors, particularly the small ones in the event of a bank failure”, deposit insurance scheme has the benefits of protecting depositors against full or partial loss of their savings, reduce bank “runs” and contributes to financial stability. It can limit government fiscal and political exposure. It creates a formal mechanism for addressing bank failure. To a finance expert, deposit is the act of placing a stated amount (cash or cash equivalent) with some entity or commonly with a bank. It forms a credit to the depositor such as organization or individual. Deposits could be fixed, short term or long term (Hazan, Samareen & Atiya, 2017). In fixed deposit, money is deposited for a period fixed based on agreement that interest will be paid and received. The longer the period, the higher the interest. When a deposit is fixed, it becomes a promissory note that the bank issues the depositor (Turhani & Hoda, 2014). To insurance expert, insurance scheme is the act, system or business of providing financial protection for property, life, health, marine, fire and others against specified contingencies, such as death, loss, or damage, and involving payment of regular premiums in return for a protection guaranteed by the policy (Tuishime, Memba & Mbera, (2013). Given the above definition, insurance scheme could be seen as a programe of financial depositing, pursued by individuals or organizations that provide insurable interest on a purchaser with the intention of being indemnified should losses occur or expiration of the contract. To this end, both the banker and the customer are insured and have a stake in the scheme as losses are minimized to some extent should the bank collapse. Under the Deposit Insurance Scheme, no property or any tangible asset is replaced rather it only involves indemnification of financial losses.

2.2 Meaning of Insurance

The legal and general context of understanding the term “insurance” is important. In understanding the term “insurance”, from the general point of view, loss financially spread as a social deice on greater number of persons could be considered as “Insurance” (Ujunwa & Modebe, 2011). Insurance involve covering against events that are likely to happen. Insurance could be considered as risk sharing amongst individuals to reduce potential consequences that financially affect people. Insurance is a contract that in which risks are transferred from persons or business to an insurance company or entities against losses. This protection guarantees reimbursement from an insurance company. Both financial organizations or institutions and companies involved in in insurance businesses have different risks. Every financial risk is geared towards making profits. What is expected is higher risks should command more returns. But imperatively is the issue that financial risk requires insurance as a form of risk management, primarily for hedging uncertain losses. The financial burden of unfortunate incident is paid by the insurance company. It keeps commerce moving, grants peace of mind and family stability (Fashangba, 2018).

For effective insurance, risks of clients are pooled for affordable payment of the insured. In exercise of its statutory powers and regulatory functions, the National Insurance Commission (NAICOM) on 20th May, 2019, reviewed the minimum paid-up shares capital to accommodate companies activities involved in life insurance, reinsurance, business and general insurance policies (Etale, 2019). Profit motive is also one of the objectives of companies engaged in insurance ventures that invest their premium monies in various investments, such as bonds and real estates, they could experience a decline in their investments when interests go up and face insufficient returns risk during terms of low rates of interest (Sambo, 2016). Given all these definitions, insurance can be defined as a purchase of promise to indemnify for misfortune.

2.3 Bank Run:

A run is a situation where several banks customers attempt to demand for their cash withdrawal at the same time (Emenuga 2019). In such a situation, due to much liquidity tied to investments by banks, it may be virtually difficult to meet up with customers' daily demand for cash. The implication is that where customers are refused to cash their money from banks, fears and panic are created thereby signally distress. At this point, bank is said to be in distress. Persistence of this situation and the inability to resolve it may eventually lead to eventual failure or collapse.

2.4 What is Financial Crisis?

In a financial or banking crisis, assets are priced low, showing a decline in value. Consumers and business entities face difficulty to offset their bills while banks and other financial institutions struggle with shortage of liquidity. Financial crises precede failures. This degenerates to outright assets sale due to fear while savings accounts are closed since interests are no more realized. As posited by Kaminsky & Reinhart (1999), not financial institution fulfills the obligation of statutorily keeping to her obligations. The ultimate effect is the crippling of the entire financial system. Sovereign default, crisis of currency, financial bubble speculation and crash in stock market, speculative bubble can be informed to mean financial crises. Financial crisis may is usually limited within a nation's geographical area while multiple cause can trigger crisis in the financial sector. Generally, over valuation of assets or institution can exacerbate financial crisis (Daianu & Lungu, 2008). Given the various definitions, financial crises from the banking perspective is a situation of inability to manage debit and credit activities of a bank arising from poor management.

2.4.1 History of Financial Crisis

Emergence of crises in the financial sector has been traced to the United of America, United Kingdom (UK) and snowballed to collapse of stock markets round with the wealthiest countries bailing out her financial systems through reform packages. The unabated financial crisis rolled to Tokyo, Moscow and other nations (Amire & Amire, 2016). Emanation of the ripple effect of other economies led to the global economy. The implication is that even countries farther away from the crisis sources are affected as they struggle for fast falling trade and capital volatility. Konzelmann (2014) cited in Egboro (2016) summarized that the collapse of American subprime real estate bubble in 2007, followed by failure in 2008, of Lehman Holdings incorporated, an American investment bank, created panic that threatened large financial institutions. Account of financial crisis in Italy, France, Argentina, Spain and other parts of the globe was further given by Ingves (2003). In fact, financial crisis in Asian that affected mainly the East Asian countries of Indonesia, South Korea and Thailand raises a lot of concern.

2.4.2 Causes of Nigeria Banking Crisis

Giving a chronicle of bank failures in Nigeria, Iwedi (2018) pointed out that twenty banks failed between 1936 and 1968. By 2000, failed banks increased to fifty-two from 1968 to 2000 (Ohwofasa & Mayaku, 2012) cited in Iwedi (2018). In 1994, more banks numbering about five had their operational licenses revoked. Banking sector consolidation has continued with the merger of Intercontinental Bank and Access Bank and further merger of Access Bank and Diamond Bank in 2019. However, banks' crises period in Nigeria is said to become more pronounced since 1989 (Kaminsky & Reinhart (1999), Glick & Hutchison (1999) as well as Hardy & Pazarbasioglu (1998), noted that the dating of crisis in the financial with precision is not possible. The dating of banking distress is somewhat arbitrary and could be got by combining the dating scheme of different studies, reports and information from financial institutions (Felix & Osusu, 2008). In agreement, Cheta (2001) reported that by 1989, the sector had one of the worst cases of crisis. During this period, systemic distress re-surfaced in the Nigeria Banking industry between 1989 and 1998". Their works relied on existing studies of banking crisis and on the financial press to execute their identification and dating of banking crisis, which established banking crisis and non-banking crisis period for respective countries. Adekanmbi (2017) discovered that several factors are responsible for banking sector distress in Nigeria. These factors are not limited to; fraud and forgeries, political crisis, microeconomic instability, weak corporate governance, inadequate reserve requirement, deregulation of banks, political interference and regulatory failure.

2.4.3 Origin and Emergence of Nigeria Deposit Insurance Corporation

Deposit Insurance is said to have emerged from America following the establishment of deposit insurance scheme before civil war. However, in 1924 marked the emergence of the foremost national deposit which was started by Slovak republic and Czech republics. This was followed by USA in 1933, India, Sri Lanka and Philippines in 1961, 1963 and 1987 respectively. Subsequently, other parts of Europe and Africa such as Germany in 1976, Britain in 1979 and France in 1980 respectively.

In Africa, Kenya established its scheme in 1985. In Nigeria, following the introduction of Structural Adjustment Program (SAP) in 1986 as a result of the acceptance of SAP. Nigeria's acceptance of the SAP programme and the recommendations International Monetary Fund (IMF) gave rise to the establishment of Nigeria Deposit Insurance Corporation in 1988 by Decree No. 22 of 1988 which was repealed and replaced later with NDIC Act 2006 to establish Deposit Insurance Scheme (DIS). In furtherance, Deposit Insurance Scheme (DIS) to ensure the protection of banks deposit and increase customers confidence on banks' activities. The NDIC Act, currently fixed at N500, 000 and N200, 000 per depositor account for Microfinance banks. The corporation is one of the financial safety nets in Nigeria. Thereafter, NDIC commenced operations in 1989 (Nwakoby *et al.*, 2016).

2.4.4 Specific Functions of Deposit Insurance

Ogunleye, (2003) emphasized on specific functions of DIS as an agency supervised by NDIC to include; provision of deposit protection to financially unsophisticated depositors, contribution to Financial Stability by Promoting Confidence, stability in the banking system, add to orderly payments system, redistribute cost of failures. Other functions are; promoting competition in the sector by reducing competitive barriers in the deposit-taking industry, assist monetary authorities to formulate and implement policies, encouraging economic growth, giving of assistance to insured institutions and facilitating the transition from full

guarantee to limited coverage.

2.4.5 Functions of Nigeria Deposit Insurance Corporation

Following the provisions of the Act establishing the Corporation, buttressing the contributions of Sanusi (2010). Ganiyi (2014) added that the NDIC also performs specific functions; insurance deposit, bank supervision, bank customers' enlightenment, distress resolution, bank liquidation, insure the liabilities of licensed banks deposits, guarantee depositors payments the banking sector. Other functions include to; assist monetary authorities to formulate and regulate policies, adopt bank liquidation measures for banks that fail to respond to failure resolution, ensure failed institutions resolution, render assistance to insured institution depositors and pursue other measures necessary to achieve the corporation's functions.

2. 4.6 Challenges of NDIC

The effectiveness of the Corporation's efforts in failure solution had been impaired by some challenges. According to Ifeakandu (2015), since inception, the Corporation has faced numerous legal obstacle in the course of performing its statutory functions. In an attempt to address some of the challenges, the Corporation pushed for a repeal of the 1988 Act and the passage of the NDIC Act 2006. While the 2006 Act addressed most of the legal challenges, there were still some lingering ones which prompted further NDIC Act review bordering on; delays in granting approvals for the revocation of the licenses of terminally distressed banking institutions, depositor apathy, ignorance and too many unclaimed small balances, delay in depositors' reimbursement, ineffective mechanism for debt recovery due to refusal of recalcitrant debtors to repay their loans, delay in fast disposal of physical assets, inability of some banks to send complete and reliable returns, poor asset quality, problems of paying both the insurance guarantee and liquidation dividend are paid, risk management inadequacy and lack of public awareness. Ibrahim, (2010) added that as challenges facing NDIC operations to include; inadequacy of enforcement manpower, the Fiscal Responsibility Act which requires that 80% of the Corporation's operating should be remitted to the Federation Account constrains rapid build-up of derived invested funds, long drawn-out litigation by erstwhile shareholders/directors of closed banks and cumbersome judicial process, poor banking Supervision, the act of reporting erring financial institutions to CNB before taking appropriate sanction, Determination of Bank Distress.

2.4.7 Insured Institutions under the Deposit Insurance Scheme of Nigeria

Insured institutions are all CBN licensed financial institutions collecting deposits such as; "Universal Banks (deposit money banks), Micro-finance Banks - (MFBs); and Primary Mortgage Institutions (PMIs)". However, the NDIC Act No 16 of 2006 provides compulsory membership (Egboro, 2016).

2.4.8 Financial Institutions not Covered by the NDIC

Financial institutions that are not within the NDIC Act powers to oversee their activities include; development banks such as "Bank of Industry, Nigeria Agricultural, Cooperative and Rural Development Bank, Discount Houses, Finance Companies, Investment Firms, Unit Trusts/Mutual Funds, Urban Development Bank, Insurance Companies, Federal Mortgage Bank and Pension Fund Administrators (PFAs).

2.4.9 Types of Deposits Insured by Deposit Insurance

According the NDIC Act, all financial institutions registered under it shall be insured except the following; deposits of the insured institutions directors (insider deposits), claims for

individuals that has both deposit and loan account, NDIC board's specified collaterals for loans of insured institutions, naira-for naira and up-to-date interest of insured institution's closure.

2.4.10 Funding Sources of NDIC

The corporation generates its earnings to fund its administrative/overheads costs from income from investments. Iwedi, (2018) explained that sources of income to NDIC include government issued securities investment incomes. These funds are realized through; initial capitalization, assessed Premiums paid by participating institutions, income from the investments of the Corporation and monies borrowed from any source with the approval of the Board.

2.5 Theoretical Framework

This paper is underpinned by the Efficiency Hypothesis/theory which attributes differences in performance to differences in efficiency (Goldberg & Rai (1996). Following the Efficiency hypothesis, strong performance result from high efficiency. Goldberg & Rai (1996). To them, efficiency hypothesis prevails in an organization with competent manpower. Relating this to bank performance, to them, positive correlation exists between market share and profitability. Efficiency connoted competency in job functioning which results to greater yield or return.

The profitability of banks is of interest to the management of bank's financial markets. This interest is driven by increasing banking sector consolidation with efficient manpower, technological innovations and regulations. To this end, empirical literature by Seelantha, (2010) reviewed how banks' manpower efficiency affects the overall banks performance measured in terms of profitability terms. He concluded that from the period "1977-2005", banks' profitability has depended on efficiency level of the banking units. Most striking is a study conducted by Oleka & Mgbodile, (2012) which concurred that prior to banks' recapitalization of 2003-2004, the financial industry was dominated by employees and top management without financial knowledge history.

For the purpose of this work, efficiency is the proper management and control of banking activities with emphasis on risk management which is the hallmark of NDIC activities achieved through the windows of insured, ^{banks} deposits insured total, total amount insured, total bank issued premium and liquidity dividend paid to customers.

2.5.1 Relationship between Deposit Insurance and Bank Performance

Relating deposit insurance operations to bank's performance can be seen from the perspective of the selected variables; total number of banks deposits insured, total amount insured, total bank issued premium and liquidation dividend paid to customers in percentages. These relationships are explained below;

- (i) The greater the total number of banks deposit insured the better the performance or value of the return on assets.
- (ii) Greater the total amount insured, the greater the value of the return on assets.
- (iii) The less value of liquidation dividend, the lower the performance of banks in terms of return on assets and
- (iv) Less the value of the total banks insured premium, the lower the value of return on assets.

2.5.2 Empirical Review

Several studies have proven that economic growth and development hinges on sound financial system (Adekanmbi, 2017): Mohammed, 2018: Nwakoby, Onwumere, Ibe &

Okanya, 2016). They established that countries with well-developed financial system, especially those with liquid stock exchanges, large private banks that invest credits to the private sector tend to increase faster. Cited in the work of Ogunleye (2003) were the works of Schumpeter, 1934 and Cameron et al, 1972 which further emphasized the roles banks play in economic development and pointed out that bank failures are detrimental to the economy.

Buttressing the foregoing is a study conducted on the “Synthesis of the Critical Factors Affecting Nigeria Banking System performance was studied by Okpara (2009). The work adopted a deterministic approach by way of weighing the opinions of stakeholders operating within the industry which assisted in identifying the most deterministic individual factors that might have adversely affected the banking industry performance. Analysis result revealed that factors like corruption, members of board and political interference militated against efficient performance of banks. It was also found that twenty-five billion naira recapitalization of CBN was a necessary but not a sufficient measure. The paper suggested that sufficient measure in regulating banks activities must be one that controls all the identified critical factors together.

Study on the “Theory and Practice on Emerging market in Tunisia and Bank Performance Determinants by Naifar, (2010) using cross sectional analysis, found that bank performance is mainly explained by expenses management, structure of ownership and bank loans. It further revealed that reducing state ownership and expanding openness to foreign capital would encourage product innovation and competitive advantage and then, lead to a superior performance. It was recommended that banks should adopt innovation process, raise customer allegiance to expand their share of the market and attract more clients.

In line with the foregoing, “Bank Distress in Nigeria and the NDIC intervention” was studied by Olukotun, *et al.* (2013) using Correlation coefficient and r-test to analyze among other variables, provision of assistance to small savers and industrialists, and the extent to which NIDC customers confidence is restored on the banking sector. The study found that increase in deposit guarantee has also increased deposit mobilization. The NDIC has transmitted from the flat rate premium assessment system to a differential premium assessment system. The study suggested for periodic review to cover to ascertain its conformity with the happenings in the economy.

Stressing on Adegbeju & Olokoyo, (2008)’s study on “Recapitalization and Banks’ Performance: A Case Study of Nigerian Banks,” using analytical techniques of descriptive statistics of t-Test and the test of equality of means to inquire the gains of recapitalization, revealed existing significant mean in major profitability ratio on earning asset. The work suggested for banks improvement on turnover of assets and diversification to improve on equity return.

In a Due-point Analysis, Antonio, (2003) investigated banks’ determinant of profitability in Spain from 1999 to 2009 using system-GMM estimator to a large sample. The study revealed that banks profitability within the period was as a result of hug loans on overall assets, large proportion of deposits of customers, good efficiency and increased bank’s return which was majorly a measurement factor. Mansur and Ahmad (2013) conducted a study on “Composition of Board, Executive duality Executive and Post-Consolidation performance of banks in Nigeria.” The underlying factor was to examine the effect of corporate governance on banking system crises. Employing multiple regressions (ANOVA) and independent sample t-test, discovered that adherence to corporate governance. The study suggested that reporting Council of Nigeria should be complemented by managerial policies that would

promote performance of banks.

Adopting an exploratory review, NDIC was studied by Ezeagba (2014) to review how its activities impact on insurance guarantee payments, liquidation dividend payment, supervisory and banks advisory capacities. The work revealed that much is to be done to satisfy depositors of failed banks. Suggestion made by the paper was for increase in the maximum coverage of insurance. Insurance guarantee and liquidation dividend paid in premises to avoid alienation of some affected depositors. Special intelligent informants paid by the corporation should be banks' senior staff.

2.5.3 Gap in Literature

Literature gaps consider unexplored or under-explored areas in reviewed studies such as population, sample size, data collection methods, new variables, up-to-date data, new analytical techniques, data refinement and others as the differences between past works and present study on related issue. It may be a question or questions that were not properly attended to. It entails explanation of facts that are new about a study (Adeyemi, 2011). It is vital that banks performance requires among other variables; return on assets in measuring performance while Liquidation Dividend, total amount insured, total premium and total number of deposits insured are necessary variables. Absence of these was the gaps covered by this study. This paper extended its investigated variables up to 2018 which were not covered by works reviewed in this study thereby reflecting uncovered gap filled by this study.

3.1 Study Methodology

Driven by the positivist research philosophy, and the deductive research approach, this paper adopted the mono-method quantitative research design using the ex-post facto strategy. This strategy is used to confirm fact as regards the nature of data which has previously occurred. This study used all the banks that scaled through the CBN consolidation exercise which ended on the 31st December, 2005. These banks are considered viable with financial wherewithal to carry on banking activities in Nigeria.

Therefore, our working population was drawn based on the listed banks on Nigeria Stock Exchange since they are Public Liability Companies with full compliance to corporate governance code. Also, being listed enabled the researcher to have access to the banks' annual reports. This is done to; apart from the fact that the required data for all the afore-stated banks are available, provide wider range of generalizing the findings as previous studies in this area covered fewer banks.

For this study, secondary data were made handy through telephone, e-mails, internet (online) and photocopying of available hardcopies of existing data. These were mainly time series data from NDIC, CBN and Statistical Bulletin National Bureau of Statistics (NBS) Annual abstracts of various years covering the period, 1990-2018. Annual Reports for various years.

3.2 Operational Measures of Variables

Dependent and independent variables were utilized. Independent variables are; total number of depositors insured, total amount insured, total bank insured premium and liquidation dividends while the dependent variable is return on assets (ROA).

3.3 Model Specification

This model is based on efficiency hypothesis which states that organization's performance can be is greater than return on assets as a result of differences in efficiency or competency of

manpower. This study utilized regression model with the functional regression equation is expressed as;

$$ROA = f(NDI, LD, TBD, TBIP, \dots) \quad (1)$$

The model of this study is integrated as thus;

$$DMBs \text{ Performance} = f(ROA, \dots) \quad (2)$$

ROA = Number of Depositors Insured, Liquidation Dividend, Total Bank Deposits, Total Bank Insured Premium during the period (1990 – 2018).

$$ROA_t = \beta_0 + \beta_1 NDI_t + \beta_2 LD_t + \beta_3 TBD_t + \beta_4 TBIP_t + e_t \dots \quad (3)$$

For the purpose of standardizing the variables, the model is transformed to a log-linear form by taking the logarithm of the independent variables thus:

$$ROA_t = \beta_0 + \beta_1 \ln NDI_t + \beta_2 \ln LD_t + \beta_3 \ln TBD_t + \beta_4 \ln TBIP_t + e_t$$

Where;

ROA	= Return on Assets
In	= Natural logarithm connotation
NDI	= Number of Depositors Insured
LD	= Liquidation Dividend
TBD	= Total Bank Deposits
TBIP	= Total Bank Insured Premium
e	= Error Term of the Regression Model
β_0	= Slope of Regression Intercept
$\beta_1, \beta_2, \beta_3, \beta_4$	= Coefficient of variables showing the direction of relationship

Set a priori expectations for the study is mathematically expressed thus

$$\beta_0 < 0, \beta_1 > 0; \beta_2 > 0; \beta_3 > 0; \beta_4 < 0.$$

3.4 Data Analysis Techniques

The study adopted Ordinary Least Square (OLS) Regression to estimate the model parameters and test the hypotheses. The justification for adopting the ECM analytical technique is based on the best linear unbiased estimate of OLS regression which is embedded in the ECM model (Gujarati & Peter, 2009; Nwakoby, *et al.*, 2016). Dhar & Bakshi (2013) and Antonio (2003) in other contexts adopted this technique in their study and obtained better results. The variables were scaled to overcome challenges of multi-collinearity and heteroskedasticity associated with OLS estimates. The variables were subjected to the ADF unit root test to ascertain their stationarity properties as well as determining their long run properties using the Johansen cointegration test. These two tests served as pre-estimation tests which preceded the Error Correction Model estimation.

4.0 Data Analysis

The data are subjected to econometric analysis which provides the basis for the findings and the conclusions made.

4.1 Augmented Dickey Fuller Unit Root Test

Table 1 Summary of Unit Root Test

Variables	ADF test statistics		Order of Integration	Decision
	At Level	At First Difference		
ROA	-1.559517	-5.301878	I(1)	Stationary at 1 st difference
LnNDI	-2.814294	-5.170189	I(1)	Stationary at 1 st difference
LnLD	-2.506511	-6.120003	I(1)	Stationary at 1 st difference
lnTBD	-1.223519	-4.662443	I(1)	Stationary at 1 st difference
lnTBIP	-0.751175	-4.027311	I(1)	Stationary at 1 st difference
5% critical value = -2.976263				

The Table above summarizes the test for unit root in each of the variables. The test shows that returns on assets (ROA), number of depositors insured (NDI), liquidity dividend (LD), total bank deposits (TBD) and total bank insured premiums (TBIP) are all stationary at first difference. This indicates that they are integrated of order one I(1). The first order integration of the variables necessitates the test for long run relationship amongst the variables using the Johansen cointegration test as shown below.

4.1.2 Johansen Cointegration Test

Table 2. Summary of the Long Run Test

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.734695	105.7498	69.81889	0.0000
At most 1 *	0.641280	69.92420	47.85613	0.0001
At most 2 *	0.510148	42.24342	29.79707	0.0011
At most 3 *	0.458344	22.97484	15.49471	0.0031
At most 4	0.211636	6.420490	7.841466	0.1113

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

The long run relationship existing amongst the variables is tested using the Trace test adopted from the Johansen cointegration test result. The test shows the existence of four (4) cointegrating equations at 5% level. This is an indication that there is a long run relationship amongst the variables. In other words, the variables converge towards the long run. Thus, the operations of the deposit insurance corporation in Nigeria have long run effect on banks' performance in Nigeria.

4.1.3 Error Correction Model Estimation

Table 3. Summary of ECM Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.056978	0.222845	-0.255683	0.8008
LNNDI	0.013041	0.003441	3.790988	0.0150
LNLD	-0.005652	0.011406	-0.495496	0.6257
LNTBD	-0.014448	0.018108	-0.797878	0.4343
LNTBIP	0.004732	0.001520	3.113158	0.0489
ECM(-1)	-0.084106	0.010072	-8.350477	0.0136
R-squared	0.834490	Mean dependent var		0.016115
Adjusted R-squared	0.781887	S.D. dependent var		0.027710
S.E. of regression	0.028823	Akaike info criterion		-4.056137
Sum squared resid	0.016615	Schwarz criterion		-3.765807

The regression result above shows the relationship between deposit insurance operation and bank performance index (ROA) from 1990 to 2018. The linear relationship is summarized below;

Number of Deposits Insured (NDI): This has a positive and significant relationship with the banks' returns on assets (ROA). In other words, a unit change in the insured deposits will result to 0.01304 units increase in the banks' returns on assets for the periods reviewed. This means that the higher the number of deposits insured by the Nigeria Deposit Insurance Corporation, the higher the banks' returns on assets which is a measure of their overall performance.

Liquidation Dividend (LD): The coefficient here is negative -0.0057. This is an indication of an inverse and negative relationship between liquidation dividends paid to the banks' shareholders by the NDIC and the banks' returns on assets (ROA). A unit change in the liquidation dividend decreases the banks performance by 0.0057 units. This shows that the NDIC's liquidation dividend has not yielded positive growth in licensed banks in Nigeria.

Total Bank Deposits (TBD): The total bank deposits also decreases banks performance by 0.0144 units. This is an indication of a negative and inverse relationship. It follows that banks deposits with the NDIC has not yielded positive effect on their performance. However, this is not in line with the a-priori expectation as bank deposits are supposed to have positive and significant effect on their ROA. The negation of this variable from the expected is due to the insufficient deposits with the NDIC as well as the inability of some DMBs to meet up with their deposit liabilities with the Corporation.

Total Bank Insured Premium (TBIP): The coefficient of total bank insured premium is positive and significant. A change in the amount of bank insured premium increases the banks' performance (ROA) by 0.0047 units. This is an indication of a positive and significant relationship between the premium paid on insured deposits and the banks' ROA.

Intercept: The intercept of the model shows that banks' performance decreases steadily by 0.057 units when the deposit insurance operation indices are held constant at zero. This upholds the importance of the deposit insurance corporation in Nigeria in ensuring the protection of depositors' funds.

Error Correction Coefficient (ECM-1): The coefficient of the error correction term is negative and significant as well hence it portrays the long run convergence of the model. The ECM coefficient implies that the model corrects its previous period's disequilibrium at an estimated speed of 8.4% annually.

4.1.4 Determination of Model Fitness

The adjusted R-squared is most appropriate for determining the fitness of the model. The adjusted R-squared value of 0.7819 indicates that about 78% of the variations in banks' performance are being accounted for by the deposit insurance operation indices (number of depositors insured, liquidity dividend, banks deposits and bank insured premium). This shows a considerable extent to which the Nigeria Deposit Insurance Corporation has helped to enhance the performance of banks in Nigeria. The remaining 12% unexplained or unaccounted for are taken care of by the stochastic error term of the model.

4.1.5 Test of Hypotheses (Individual T-Test)

Hypothesis One

H₀₁: There is no significant relationship between total numbers of depositors insured and banks' return on assets.

$$t\text{-statistic} = 3.791$$

$$t\text{-table} = t_{\frac{\alpha}{2}, n-k} = t_{\frac{0.05}{2}, 29-5} = t_{0.025, 24} = 2.064$$

Decision Rule: Since the t-statistic value of 3.791 is greater than the theoretical t-value obtained from the table (2.064), we reject the null hypothesis and conclude that there is a significant relationship between total numbers of depositors insured and banks' return on assets.

Hypothesis Two

H₀₂: A significant relationship does not exist between liquidation dividend and the banks' return on assets.

$$t\text{-statistic} = -0.495$$

$$t\text{-table} = t_{\frac{\alpha}{2}, n-k} = t_{\frac{0.05}{2}, 29-5} = t_{0.025, 24} = 2.064$$

Decision Rule: Since the t-statistic value of -0.495 is less than the theoretical t-value obtained from the table (2.064), we accept the null hypothesis stated above. Consequently, we conclude that there is no significant relationship between liquidity dividend and the banks' return on assets.

Hypothesis Three

H₀₃: There is no significant relationship between total bank deposits and return on investment.

$$t\text{-statistic} = -0.798$$

$$t\text{-table} = t_{\frac{\alpha}{2}, n-k} = t_{\frac{0.05}{2}, 29-5} = t_{0.025, 24} = 2.064$$

Decision Rule: The t-statistic value of -0.798 is less than the t-table value (2.064), therefore, we accept the null hypothesis and conclude that there is no significant relationship between total bank deposits and the banks' return on assets.

Hypothesis Four

H₀₄: A significant relationship does not exist between total bank insured premium and return on assets.

$$t\text{-statistic} = 3.113$$

$$t\text{-table} = t_{\frac{\alpha}{2}, n-k} = t_{\frac{0.05}{2}, 29-5} = t_{0.025, 24} = 2.064$$

Decision Rule: The t-statistic value of 3.113 is greater than the t-table value (2.064), therefore, we reject the null hypothesis and conclude that there is a significant relationship between total bank insured premium and the banks' return on assets.

4.1.6 Joint Test (F-test)

H₀: The deposit insurance operation variables – number of depositors insured, liquidity dividend, banks deposits and bank insured premium, have no significant joint effect on the return on assets of the selected banks.

$$F\text{-statistic} = 6.622$$

$$F\text{-table} = F_{0.05; 5, 24} = 2.620$$

Decision Rule: Since the F-statistic is greater than the F-table at 5% level, we reject the null hypothesis and conclude that the deposit insurance operation variables – number of depositors insured, liquidity dividend, banks deposits and bank insured premium, have significant joint effect on the return on assets of the selected banks.

4.1.7 Test for Autocorrelation

The Durbin Watson statistic 1.8102 indicates that there is no autocorrelation in the model. This is based on the rule of thumb where the DW value 1.810 tends towards 2 than to 0. This implies that the error terms observed in one year did not affect the subsequent years' observations.

4.2 Discussion of Findings

The study of the effect of deposit insurance operation and bank performance in Nigeria has brought to limelight the extent to which the Nigeria Deposit Insurance Corporation has helped banks in maintaining a strong return on assets. The model formulated used the number of depositors, liquidity dividend, total bank deposits and total bank insured premium as measures of deposit insurance operation indices while banks performance was measured by their returns on assets (ROA).

The unit root test was carried out on each of the variables and the result gave an I(1) order of integration for all the variables. This necessitated the test for long run relationship amongst the variables using the Johansen cointegration test; and the result showed that there is a long run relationship amongst the variables. Consequently, the error correction model (ECM) was thus estimated having satisfied the pre-conditions for fitting an ECM model. The short run analysis from the ECM model revealed that number of depositors' insured and total bank insured premium both have positive and significant relationships with the banks' returns on assets (ROA).

In other words, these two variables increase the banks' performance significantly in the short run. This shows clearly that the knowledge of the existence of the Nigeria Deposit Insurance Corporation (NDIC) has enabled the banks to break even and enhance their limit of liability on insured amounts. This is consistent with the study of Iyade (2006) which found that the

supervisory and regulatory framework of the Central Bank of Nigeria and the Nigerian Deposit Insurance Corporation has led to improvement in banks performance. The bank insured premium has also aided the banks to instill confidence in the banking industry thus attracting more customers and profits for the banks.

Conversely, liquidation dividend and total bank deposits have negative and insignificant effects on the banks' performance. This is contrary to the findings of Osadume & Ibenta (2019) studies which revealed that there is significant relationship between financial performance of selected Nigerian banks and Capital Adequacy, Asset Quality and Liquidity both in the short and long term.

Their negative signs portend non-payment of liquidation dividend by the NDIC and the very low amount of total bank deposits which was not sufficient in aiding the growth of the banks' Return on asset (ROA). This also agrees with the work of Adegbeju & Olokoyo (2008) on recapitalization and banks' performance which revealed that there is a significant difference between the mean of key profitability ratio such as the yield on earning asset, return on equity, return on asset and banks performance before 2001 recapitalization and after 2001 recapitalization.

The deposit insurance operations accounted for up to 78% of the changes in banks' return on asset which is a very good fit. Also, the deposit insurance operation variables jointly influence the performance of banks thereby buttressing the importance of deposit insurance activities in raising the standards and performance of banks in Nigeria.

The number of depositors insured has a positive and significant effect on the returns on assets of the selected banks. This implies that since performance is measured based on return on assets, increase in deposits increased banks assets return. Again, this means that the higher the number of deposits insured by the Nigeria Deposit Insurance Corporation, the higher the banks' returns on assets which is a measure of their overall performance. Therefore, banks that put in place effective strategies to attract deposits will continue to report better ROA in the future as customer deposits therefore seem to maximize shareholders wealth.

The test for significance showed that liquidation dividend does not significantly affect the banks' performance in the short run. It implies that since liquidation dividend is not issued from operation profit and not taxable, it decreases return on assets of banks. It also means that the NDIC's liquidation dividend has not yielded positive growth in licensed banks in Nigeria.

Total banks deposits decrease the banks' returns on assets but not significantly. This it is not in line with the a-priori expectation as bank deposits are supposed to have positive and significant effect on their ROA. The negation of this variable from the expected is due to the insufficient deposits with the NDIC as well as the inability of some DMBs to meet up with their deposit liabilities with the Corporation. This negates the a priori that the further away the total bank deposits from zero, the better performance of the banks return on assets.

The total bank insured premium increases the performance of the selected banks (measured by their ROA). It implies that the more customers the bank gets, the more premium it pays which in turn boosts her return on assets hence greater performance.

The decision to adopt a deposit insurance scheme in Nigeria was clearly the product of several

bank failures that unnecessarily exposed depositors to uncompensated loss in the aftermath of bank insolvencies.

4.3 Conclusion

The introduction of a deposit insurance system can be more successful when a country's banking system is healthy. However, in order to make the banking system to be healthier, there is need for effective and efficient deposit insurance systems that will guarantee the safety of depositors' funds and in the same vein ensure the continued profitability of banks to meet up with shareholders expectations. The analysis of deposit insurance operations using selected indices showed that the number of deposits insured and the premium paid by banks for the insurance of their deposits have had a positive and significant effect on the banks' performance (ROA). This portends a significant safe banking practice in Nigeria so far since banks have found a balance between deposit premium and profitability as well as their continued insurance of every depositor's funds in compliance with the NDIC Act 16 of 2006.

However, liquidation dividends and total bank deposits did not show any significant effect on the banks' profitability and their coefficients decreased banks' returns on assets. This shows that deposit liabilities on its own does not improve banks' profits but the safeguarding of the deposits gives security and confidence to banks which in turn attracts new investments and customers. The non-significance of liquidation dividends is a pointer to the fact that the deposit insurance operation in Nigeria has not fully protected shareholders in cases of partial or full liquidation of banks. The study concludes that the Nigeria Deposit Insurance Corporation has been very effective in ensuring increase in the number of depositors insured and has ensured prompt remission of premium by banks. This has in turn improved public confidence in the banking system and increased profitability of banks for the period studied.

4.4 Recommendations

The findings and conclusion drawn from the findings gave rise to the following recommendations; The Nigeria Deposit Insurance Corporation (NDIC) should channel their focus on providing adequate cover to shareholders in the unlikely event of failure of their financial institution. Banks should ensure that their deposit liabilities are adequately insured without cutting corners by under-valuing their liabilities. The NDIC should extend their coverage to non-bank financial institutions as this will ensure overall stability of the financial system.

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