

Treasury Management Strategies And Bank Performance: A Retrospective Study Of First Bank Of Nigeria

Uguta, Lawrence Ebiwari (M.Sc)¹, Dr. Awu, Ebiasuode², Dr. Darius, Blessing³, Dr. Amanawa, David Ebiegberi⁴

*1Senior Internal Auditor at the Nigerian Rail Way Corporation,
Enugu State, Nigeria.*

ugutalawrence@gmail.com

2University of Port Harcourt.

ebiawu@gmail.com

3Ignatius Ajuru University of Education, Rivers State, Nigeria.

dariusblessing@gmail.com

4Faculty Member/Researcher at the Centre for Continuing Education,

Ignatius Ajuru University of Education, Rivers State, Nigeria.

david.amanawa@iaue.edu.ng

Abstract: *The study investigates the effect of investment in treasury management and its strategies on bank performance in Nigeria (1996 to 2017). The study's main objective is to examine the impact of Treasury management strategies on bank performance, using the First Bank of Nigeria as a case study. The variables of the study are Treasury management strategies (Treasury bill, asset liability management, and cash management strategies) as its independent variable and bank performance (return on asset, return on equity, and return on shareholders' fund) as its dependent variable. Econometric techniques, including Augmented Dickey-Fuller and PP for unit root tests, Johansson co-integration technique for a long run relationship, Granger causality test, and Ordinary Least Square (OLS) regression analysis were used to test the nine hypotheses. The study revealed that although investment in the Treasury bill has a positive effect on Return on Asset (ROA), Return on Equity (ROE), and Return on Shareholders' Fund (ROSF), its serving conditions are adverse to the banks' performance. This position is even aggravated by the unfavorable policies made by regulatory authorities. The study also reveals that asset liability management does not significantly affect Return on Equity (ROE) and Return on Shareholders' Fund (ROSF). The study thus concludes that cash management strategies do not have a significant effect on return on assets (ROA), return on equity (ROE), and return on shareholders' funds (ROSF) and do not increase performance. Among the recommendations is that regulatory bodies should formulate policies to enhance interest rates for investment and strong management bodies to regulate the banks' assets and cash to boost productivity and performance.*

Keywords: Treasury Management, Bank Performance, First Bank, Nigeria, Management Strategies

INTRODUCTION

The banking industry is one of the most significant components of the financial system in most countries (San & Heng, 2013). Banks play a critical role in fostering economic growth by mobilizing funds and utilizing them to finance the most productive economic sectors (Alkhazaleh & Almsafir, 2014). Therefore, commercial banks play a crucial role in the financial industry, especially in emerging nations with weak and underdeveloped capital markets. Banking institutions are an essential source of funding for businesses in countries where the capital markets are still emerging (Ntow & Laryea, 2012). Accordingly, a bank's profitability, impact on customers, shareholders, and capacity to survive and grow are the primary metrics used to determine if it performs successfully (Nkegbe & Yazidu, 2015). Bank profitability matters because the health of the economy as a whole is highly correlated with the health of an industry (Lipunga, 2014). Unquestionably, a bank's profitability and financial soundness are related; thus, any bank's administration and leadership must prioritize making consistent profits since doing so will ensure the bank's ongoing survival. Therefore, reaching a bank's profitability target is essential (Adeusi, Kolapo, & Aluko, 2014). Due to the close correlation between the banking industry's state and the economy's overall health, the sector's profitability is also crucial (Alkhazaleh & Almsafir, 2014). As a result, an efficient and booming banking industry is better equipped to withstand adverse economic shocks (Ally, 2014).

In every economy, the profitability and success of a firm are critical factors. First, the company's revenues translate into money for its owners and have a multiplier effect on people's lives, households, and the whole economy. Second, the government can fund social welfare programs and infrastructure projects with the money it receives from business taxes. Thirdly, prosperous businesses can draw in more investors and raise significant sums of money for ambitious initiatives with high rates of return. Finally, profitable firms can employ more people, creating employment that will ultimately reduce poverty.

A firm's performance is the measurement of what has been attained by the firm, which is an indicator of the good conditions for a while. The objectives of measuring performance are to obtain beneficial information about the flow of funds, the uses of firm finances, and their efficiency and effectiveness. Besides, managers can make the best decisions based on firm performance

information (Almajali, 2012). Among the numerous variables influencing a company's financial performance, research has discovered the following: company size, leverage, liquidity, company age, and management competence index (Almajali, 2012).

It is possible to categorize banking as a trade and a profession. The banking industry deals with purchasing and selling services as a commerce. However, because of the unique body of knowledge that sets banking apart from other human endeavors, it may be considered a profession. Today, treasury professionals in the banking system demand a better system for bank administration beyond Microsoft Excel and Access. The ability to globally research signers, add or update, automatically generate confirmation letters, and consolidate supporting documentation is at the top of the list. Not only does it promote efficiency and increase control, but it also aids in regulatory compliance. Naturally, treasurers will usually restrict their dealings to top-quality financial institutions. Therefore, these institutions will have professional codes of conduct and can be expected to avoid conflicts of interest. Banks are commonly involved only as distributors' dealers and issuing and paying agents.

Moreover, every significant financial institution needs to be able to manage operations globally. The requirement to automate the production distribution of treasury services is likewise accurate. For treasury operations to be executed efficiently, planning, execution, and control must be facilitated by computers, communication, and artificial intelligence. There is for instance the need for comprehensive system of limit on all unmatched foreign exchange positions and for diversification of currency portfolio so as to ensure that potential losses from foreseeable exchange rate are kept to a minimum.

The Nigerian banking industry started in 1892 when the African Banking Corporation was incorporated from there other banks evolved. For any government to achieve the national objective of stable prices and sound economic growth, the banking system should be one that is well developed with the depth and breadth which would make financial intermediation efficient, effective and productive. April 1960 saw the beginning of Treasury operations in Nigeria, with the Central Bank of Nigeria serving as the marketplace. With the initial issue of Treasury Bills, it launched the market. The combination of earnings and liquidity were especially relevant for treasury managers the world over. This is because the ultimate objective of a commercial bank is to make profit for its shareholders. The ever changing financial landscape calls for continuous development of strategies to deal with emerging trends in the global and national industry. Operators must rethink and retool their strategies for operating in the ever evolving dynamics of the financial services market as traditional forms of engagement are giving way to technology driven platforms. Thus, even though, in the existing literature, empirical studies on treasury management and its effect on bank performance are abounding, there is still a wide gap or vacuum that is left to be filled, which this study seeks to contribute to.

STATEMENT OF THE PROBLEM

Treasury processes have become significantly more complicated due to the global financial crisis. There are many hazards and uncertainties in the terrain. Simultaneously, value chain financing and big data offer fresh and potent opportunities to transform how businesses "do" treasury. Those in charge of the treasury face challenges due to its dynamic nature. Treasury is distinct from other financial operations in that it strongly emphasizes cash, risk, and markets. Particular treasury-related talents are specialized due to the intricacy of the tools, processes, and interactions with the business—both strategically and operationally.

The treasury function's primary responsibility is to counsel management and the board on financial matters and business choices critical to the company's overall strategy. Implementing that plan is made possible by having the necessary treasury abilities for securing finance, keeping funding, and managing risks. Providing advice on the suitable options, trade-offs, and compromises to make while making financial decisions is the focus of treasury. Three strategic and interrelated questions are fundamental to treasury decision-making:

1. What should we invest in?
2. How do we fund these investments?
3. How do we manage the risk of our choices?

Several strategies are used in situations where associated liabilities, on the one hand, fund holdings of profitable assets, and obligations may be taken before commitment on the other. The significant factors affecting profitability are recognized, including cost control, gap management, liquidity, etc. This emphasizes the need for optimal decisions consistent with the over-all objectives of profit maximization within the constraints of liquidity, solvency, and regulatory requirements. It has been observed that the debt crisis and the severe payment challenges faced by emerging debtor countries over the past ten years have resulted in a shift in the economic landscape. Reclassifying bank assets will require a reduction in foreign funding to emerging nations. Risks and maturity mismatches were elevated, and nation risk was one of them. This is especially important in a country like Nigeria, where significant economic deregulation and a persistently high level of debt have occurred. In light of this, the study aims to objectively ascertain treasury management's impact on bank performance, with a particular emphasis on First Bank of Nigeria PLC.

STUDY OBJECTIVES

The primary goal of this research is to investigate treasury management practices and their impact on bank performance, with a particular focus on First Bank of Nigeria PLC. We shall specifically pursue the following objectives:

1. To examine the effect of investment in Treasury Bills on Returns on Assets of First Bank of Nigeria PLC.
2. To examine the effect of investment in Treasury Bills on Returns on Equity of First Bank of Nigeria PLC.
3. To examine the effect of investment in Treasury Bills on Returns on Shareholders' Fund of First Bank of Nigeria PLC.
4. To ascertain the effect of Asset Liability Management (ALM) as a tool of treasury management on the Return on Asset of First Bank of Nigeria PLC.
5. To ascertain the effect of Asset Liability Management (ALM) as a tool of treasury management on the Return on Equity of First Bank of Nigeria PLC.
6. To ascertain the effect of Asset Liability Management (ALM) as a tool of treasury management on the Return on Shareholders' Fund of First Bank of Nigeria PLC.
7. To investigate the effect of First Bank of Nigeria PLC's Cash Management Strategy on Returns on Asset.
8. To investigate the effect of First Bank of Nigeria PLC's Cash Management Strategy on Returns on Equity.
9. To investigate the effect of First Bank of Nigeria PLC's Cash Management Strategy on Returns on Shareholders' Fund.

RESEARCH QUESTIONS

The following research questions are pertinent for this study:

1. What is the effect of investment in Treasury Bills on the Return on Assets of First Bank of Nigeria PLC?
2. What is the effect of investment in Treasury Bills on the Return on Equity of First Bank of Nigeria PLC?
3. What is the effect of investment in Treasury Bills on the Return on Shareholders' Fund of First Bank of Nigeria PLC?
4. Does Asset Liability Management (ALM) as a Treasury Management tool has any effect on the Returns on Asset of First Bank of Nigeria PLC?
5. Does Asset Liability Management (ALM) as a Treasury Management tool has any effect on the Returns on Equity of First Bank of Nigeria PLC?
6. Does Asset Liability Management (ALM) as a Treasury Management tool has any effect on the Returns on Shareholders' Fund of First Bank of Nigeria PLC?
7. To what extent is the First Bank of Nigeria PLC's Cash Management Strategy and Returns on Asset statistically significant?
8. To what extent is the First Bank of Nigeria PLC's Cash Management Strategy and Returns on Equity statistically significant?
9. To what extent is the First Bank of Nigeria PLC's Cash Management Strategy and Returns on Shareholders' Fund statistically significant?

RESEARCH HYPOTHESES

To address the study issues and accomplish the stated goals, the following research hypotheses have been investigated:

H₀₁: Returns on Assets of First Bank of Nigeria PLC is not significantly affected by investment in treasury bills.

H₀₂: Returns on Equity of First Bank of Nigeria PLC is not significantly affected by investment in treasury bills.

H₀₃: Returns on Shareholders' Fund of First Bank of Nigeria PLC is not significantly affected by investment in treasury bills.

H₀₄: Asset Liability Management (ALM) does not have any statistically significant effect on Returns on Asset of First Bank of Nigeria PLC.

H₀₅: Asset Liability Management (ALM) does not have any statistically significant effect on Returns on Equity of First Bank of Nigeria PLC.

H₀₆: Asset Liability Management (ALM) does not have any statistically significant effect on Returns on Shareholders' Fund of First Bank of Nigeria PLC.

H₀₇: Cash Management strategies of First Bank PLC do not have any significant effect on Returns on Asset.

H₀₈: Cash Management strategies of First Bank PLC do not have any significant effect on Returns on Equity.

H₀₉: Cash Management strategies of First Bank PLC do not have any significant effect on Returns on Shareholders' Fund.

SIGNIFICANCE OF THE STUDY

There are two main implications for this study. They have a theoretical and practical aspect to them. In practical terms, academics, economists, financial analysts, political analysts, policy implementers, and policymakers will use this work as a reference. Put differently, it would function as a tool to assist both private entities (banks and other financial institutions) and the government (via the Central Bank of Nigeria) in assessing the effect of treasury management methods on the performance of banks.

Theoretically, the study will contribute towards closing the existing gap in the literature on treasury management and add to the existing knowledge on the connection between treasury management strategies and Bank's performance. In addition, this research work will immensely benefit academicians, researchers, students, scholars, universities, etc., as it will serve as a reference source for further research in this area.

SCOPE OF THE STUDY

The scope of the research is limited to the impact of treasury management strategies on banks' performance. The study employed return on assets, return on equity, and return on shareholders' funds to represent performance as dependent variables, while level of investments in treasury bills, assets/liability and cash management strategies as control variables. It was limited to the treasury management operations of First Bank of Nigeria PLC.

CONCEPTUAL REVIEW

The Concept of Treasury Management

Treasury management is important to a Bank just as fuel is to a car, it is needed to enable efficient management of the finances of a Bank, lack of it leads to liquidity mismatch. The administration of an organization's assets to control the firm's liquidity and minimize its operational, financial, and reputational risk is what Sanders (2014) defined as treasury management, often known as treasury operations. The actions of a company's fundraising, concentration, investments, and disbursements are all included in treasury management. Trading in bonds, currencies, financial derivatives, and the related financial risk management may be included in larger organizations. Treasury management is the efficient management of financial risk and liquidity of the business; it is often called risk management, which is simply managing risks facing banks (Hillier, 2003).

According to Hamid, (2011), "the treasury is the unit/department that is charged with the responsibility and management of public funds, creating and safeguarding effective internal control, creating the conditions for prompt and efficient provisions of services and proper maintenance and preservation of necessary records of all financial transactions". For non-banking entities, the terms "treasury management" and "cash management" are sometimes used interchangeably, even though treasury management encompasses more than just funding and investment activities. Most banks have entire departments dedicated to treasury management and assisting their clients.

Through the financial services they offer, banks play a crucial role in economic development; their intermediation role can be viewed as a catalyst for economic growth; the banking industry's long-term performance is an indicator of financial stability in any country; the degree to which a bank opens up its operations to the public for constructive purposes quickens the rate of economic growth and ensures long-term sustainability (Kolapo, Ayeni & Oke, 2012).

The corporate climate of the twenty-first century is more complex and varied than ever. Most firms must deal with uncertainty and hesitation in every aspect of their operations. All banks are undoubtedly faced with significant risks in today's volatile and explosive environment, including credit, liquidity, operational, market, foreign exchange, and interest rate risk, which could jeopardize the bank's ability to survive and perform well as a business. The Nigerian banking system has been stretched by the decreasing quality of its risk-related assets due to the large drop in equities market indices, global oil prices, and the naira's abrupt devaluation against foreign currencies (BGL Banking Report, 2010). The low quality of banks' loan assets hampered their ability to offer more credit to the domestic sector, thereby impacting economic performance. This led to the creation of the Asset Management Corporation of Nigeria (AMCON) by the Federal Government of Nigeria in July 2010 via the use of an Act of the National Assembly. The purpose of AMCON was to offer a long-term solution to the persistent issues of non-performing loans that plagued Nigerian banks (Kolapo, Oyewale & Deji, 2012).

In the last few years, The Nigerian banking industry has had a historic downward trend in both profitability and capitalization. Only three out of 24 banks reported profits, and eight were stated to be in a 'grave' condition due to capital insufficiency and risk asset depletion; the capital market fell by almost 70%, and most banks were forced to recapitalize to fulfill regulatory requirements (CBN, 2010). The public's trust in banks was damaged by this drama in the industry, and depositor funds fell by 41% overall at that time. The reality is that there has been a careless disregard for the fundamentals of risk management throughout economic booms and recessions; bank managements have underestimated the volatility of bank profitability, maybe as a result of financial liberalization and globalization. The sector's stability was also adversely affected by the central bank. The auditing process was excellent, however given the characteristics of the Nigerian economy, the sacredness and policy implementation style were flawed. The three main focuses of bank aims are asset and customer base expansion, profitability, and asset accumulation. According to Aremu, Suberu, and Oke (2010), the most serious issue with bank management is the misprioritization of short-term aims above long-term ones. Profitability is determined by the quality of short-term reprievable assets and liabilities, whereas net worth expansion, or equity capital, is determined by total asset and liability. In Nigeria, it has been noticed that most bank managers have prioritized profitability (which is often a short-term goal) over risk management and asset quality management, which have a greater influence on a financial institution's long-term viability. There are two types of hazards that firms must deal with: financial and non-financial. For any firm to be operated securely, both of these kinds of risks are essential. Sadaqat, Akhtar, and Ali (2011) examine credit risk with a financial nature and operational risk with a non-financial nature in the context of Nigerian commercial banks, as Nigeria's financial market is one of the most volatile in the world, filled with anonymity and escapade performances.

The concept of cash management

Cash management is a vast topic of finance that includes the collecting, handling, and use of cash. It entails evaluating market liquidity, cash flow, and investments. In banking, cash management and treasury management are marketing terms for specific cash flow services provided mostly to bigger commercial customers. The art and science of managing a company's short-term resources to maintain ongoing operations, raise capital, and optimize liquidity is known as cash management. In order to effectively use available funds and identify risk, a company must: (a) effectively make use of its present assets and liabilities at every stage of the company's operational cycle; (b) plan, monitor, and manage its collections, disbursements, and account balances in a systematic manner; and (c) gather and manage information. Lack of cash may lead the company to bankruptcy. Therefore, efficient cash management does not mean just only preventing bankruptcy but it helps to improve the profitability and reduces the risk of company. In particular, cash management is critical for startups and expanding businesses. Even with a large customer base, excellent product, and stellar industry reputation, a small business may still struggle with cash flow, which hinders innovation and growth. Moreover, low cash flow can make it difficult to hire and retain qualified staff; most businesses also need a sizable amount of funding for other expenses such as employee salaries. For these reasons, good cash management is a crucial component of a business's financial planning. Treasury management is a key idea that is associated with cash management. Treasury management is a collection of strategies that focus on a business's liquidity by modifying the variables and procedures that translate straight into cash with the aim of boosting profitability and enhancing working capital management.

Cash Management now is more sophisticated than previous years. Now our objective is to reduce the level of cash a minimum as possible and invested the unused funds to some earning assets. It is also recognized as an important profit centre. Now, our technology is much more advanced and we are getting more information regarding collection, disbursement, accounting, forecasting, budgeting etc. Most of the firms maintain good relations with their suppliers for disbursing funds in timely basis with low operating costs. According to (Davidson, Wale & Matthew, 1999), Any instantly negotiable means of trade is currency. It must be unrestricted for all commercial uses. The primary needs for cash are to be widely accepted and readily available for immediate use in debt repayment and purchase. A frequent test for monetary items is acceptance by a bank for deposit. Planning, managing, and accounting for cash balances and transactions are all part of this process. It involves allocating available funds to purchases that either directly or indirectly increase production. Cash is also available funds in the bank or for the firm. It's not property, it's not inventory, and it's not accounts receivable (what you owe). These may eventually be exchanged for cash, but paying suppliers, paying the rent, and making payroll all require cash on hand or in the bank. Increased profits do not always translate into additional money (Davidson et al, 1999).

The most crucial current asset for a business's operations is cash. Cash is the final output anticipated from selling the company's manufactured goods or services. It is also the fundamental input required to keep the business operating continuously. Enough cash should be kept on hand by the company, no more, no less. Lack of cash will cause the company's production activities to be disrupted, while having too much cash will sit around doing nothing to increase the company's profitability. Consequently, keeping a healthy cash position is one of the financial manager's primary responsibilities (Pandey, 2007). Cash is the amount of money that a business may freely and instantly discharge. Coins, bank account balances, and checks that the company owns are all included in the phrase "cash." Marketable securities and bank time deposits are examples of near-cash assets that are occasionally bundled with cash. The ease with which near-cash assets may be changed into cash is their fundamental quality. Typically, a company that has extra money invests it in marketable securities. The company makes some money from this type of investment (Hampton, 2001).

Cash management concepts

According to Waltson and Head (2007), cash management is the idea that focuses on increasing the quantity of cash on hand, maximizing the interest that may be generated on excess funds that aren't immediately needed, and minimizing losses from fund transmission delays. Cash management, as defined by Zimmerer & Jacob (2008), is the act of projecting, obtaining, allocating, investing, and planning the cash that a business need to run efficiently. They went on to say that as cash is the most significant but least productive asset a small firm has, managing it is an essential responsibility. For a firm to avoid being declared bankrupt, it must have sufficient cash on hand to cover its commitments. Lenders, workers, and creditors all want their money back on schedule, and cash is the mandatory form of payment.

Nonetheless, some businesses have an excessive quantity of cash on hand in case any unforeseen events occur. Owners are neglecting the income-earning potential of this dormant wealth, which limits a company's development and decreases its profitability. Even for a little period of time, investing funds may increase a company's profitability. With effective cash management, the owner may stretch the profit-generating potential of every dollar the company possesses, avoid holding onto excessively huge cash balances, and sufficiently fulfill the financial demands of the firm (Zimmerer et al, 2008).

In particular, cash management is critical for startups and expanding companies. In their book, Jeffrey P. Davidson et al. (1992) pointed out that cash flow issues might arise for small businesses even if they have a large clientele, provide an excellent product, and have an excellent reputation in their sector.

Businesses experiencing cash flow issues have no safety net against unforeseen costs. They can also have problems obtaining the capital needed for growth or innovation. Finally, it's challenging to find and keep talented staff when there is little financial flow. According to Westerfield & Johnson (2016), it's critical to understand the differences between actual cash management and the

broader concept of liquidity management. Confusion arises from the discrepancy because there are two separate ways that the word "cash" is actually employed in practice. First, it refers to actual cash on hand in its literal sense. Nonetheless, marketable securities are sometimes referred to as cash equivalents or near cash, and financial managers commonly use the term to characterize a firm's cash holdings in addition to its marketable securities. They said, "We have a clear distinction between cash management and liquidity management."

OVERVIEW OF THE STUDY OF CASH MANAGEMENT BETWEEN 1980 - 1999

Authors made significant contributions to the idea of cash management in the late 1980s. Three phases are involved in cash management, according to Ross et al. (1988):

- Choosing the right goal cash balance.
- Gathering and allocating funds effectively.
- Putting "excess cash" into securities that may be sold.

Evaluating the advantages and costs of liquidity must be done in order to determine the proper cash goal balance. The convenience that cash on hand offers the company is an advantage. A company ought to keep more cash on hand until its net present value is zero. Holding additional cash should result in a decrease in its incremental liquid value. Following the determination of the ideal level of liquidity, the company has to set up processes to ensure that cash is collected and disbursed as effectively as feasible. Usually, this lessens the proverb "collect early and pay late."

Businesses need to use their optimal cash flow to buy short-term marketable securities. The "money market" is where these securities may be purchased and traded. Money market instruments are very marketable and have very minimal default risk.

KEY INDICATORS IN CASH MANAGEMENT

Even when assets much exceed obligations, a company may legally become bankrupt if there is insufficient cash flow. In order to mitigate the risk of a company experiencing technical insolvency, it is advised that the following criteria be used when assessing a cash management system's efficacy. These include:

- Cash conversion cycle
- Liquidity flow index
- Operation cash flows
- Increase or decrease in cash

Cash conversion cycle

This is the time interval between actual cash payment/expenditure for the purchase of productive/operational resources and the ultimate collection of cash from the sales of products/services. The cash conversion cycle provides a valid alternative for measuring company liquidity. The likelihood of technical insolvency for the organization increases with the length of time it takes to recover the money that was paid out, and vice versa.

Operational cash flows

The quantity of cash generated by a company's activities over a specified period of time is known as cash flows from operations. There are several ways to figure out how much operational cash flow there is. The most common approaches construct the cash flow statement (also known as the statement of sources and application of money) using the income statement and the balance sheet (Kasilo, 1997)

Positive cash flows show how much money was made by the company's activities throughout the course of the fiscal year. Negative cash flows show the amount of extra money that was needed to keep the business running during that time. A company that has negative operating cash flow is typically unable to finance its operations. In actuality, it is consuming financial flows as opposed to producing them. It may go bankrupt and becomes more vulnerable to technical insolvency issues. A categorized list of the previous year's cash flows and a set of projected cash flows, along with a supporting analysis of the differences between the actual and projected cash flows from the previous year, are reported in cash flow accounting. Therefore, it places a strong emphasis on the most essential business events, such as cash flows into and out of the company and the separation of past (cash) realities from predictions for the future. It also avoids allocating accounting time periods based on consumption forecasts (Vause & Woodward, 2014).

The outcome is a collection of statements that satisfy the demands of various users who are concerned with stewardship, liquidity, performance evaluation, and investment. They are straightforward, comprehensible, and objective. The outcome is a collection of statements that satisfy the demands of various users who are concerned with stewardship, liquidity, performance evaluation, and investment. They are straightforward, comprehensible, and objective. Specifically, cash flow accounting satisfies one of the primary goals of accounting, which is to give creditors and investors with information that helps them anticipate, compare, and assess possible cash flows in terms of quantity, timing, and associated uncertainty. Cash flow accounting specifically satisfies this goal.

Because the data are appropriately dated, cash flows offer data that may be discounted at a rate that the user chooses. The data also allow for general price level adjustments to a base period, even if level adjustments are necessary for comparisons throughout time. Finally, unlike information reported in profit and loss account and balance sheet style, the usage of a cash flow statement incorporates trading operations and investments, dividends and financing strategies.

Nevertheless, detractors of the cash flow system contend that cash flow reports are susceptible to distortion, such as when payments to creditors are delayed and non-cash changes in assets and liabilities, such as holding gains and losses, are disregarded, and no estimate of the degree to which these flows were produced by asset consumption is given. Operating cash flows have also been found to be poor predictors of failure. (Arnold & wearing 2008)

Increase or decrease in cash

A company's cash flow statement indicates whether its cash levels have increased or decreased throughout the statement's reference period. Carefully, a decline may indicate how subpar the company's operations have been all year, and vice versa. A company may experience profits yet remain technically bankrupt as earnings are not the same as cash (Vause & Woodward, 2014).

A company may continue to operate at a loss for a number of years if cash flows are produced. When a double entry account system is properly maintained, the difference between the opening and closing cash balances is what determines whether there is a drop or rise in cash.

Liquidity flow index (LFI)

The link between the amount of cash needed to satisfy a commitment over the same time and the amount of cash that will be available for satisfying obligations is shown by the LFI. It is the ratio of operational cash impact to needed cash outflows during a certain time as stated in the cash budget. Sustaining liquidity might make a company more valuable. Since variations in operational levels might be more costly than changes in liquidity or working capital, a company with fluctuating demand can generate value by keeping liquidity to enable it to operate flexibly. Therefore, while liquidity lessens the business's vulnerability to economic volatility, it can increase firm value by lowering the systematic components of risk. Furthermore, because it may serve as a financial intermediary for its suppliers and consumers, a company's liquidity may increase in value. This might allow a company to create value due to flaws in the financial markets. Furthermore, a liquid company may be able to finance worthwhile initiatives that would be expensive or challenging to finance in the financial markets when knowledge is unequal. (Agarwal & Soenen, 1999).

Keeping liquidity in place may also give businesses working in international environments the chance to take advantage of opportunities for arbitrage between institutional setups and fragmented national capital markets. In addition, these businesses must manage liquidity in the face of political and exchange risk. Due to the widespread segmentation of national financial markets, businesses operating in international environments can also benefit greatly from the capacity to enhance firm value via internalizing rates resulting from market inefficiencies through liquidity management.

Nations may be characterized as geographic areas with varying buying power indices for their citizens in order to highlight the distinctions between domestic and global contexts. The national investor group is characterized by variations in purchasing power parity, leading to the utilization of distinct price indices and a deflation of the financial returns associated with the same investment. In reality, measures like taxes, currency rates, and border restrictions that limit access to regional capital markets can further drive a wedge between countries.

CASH MANAGEMENT MODELS

Cash management serves four main purposes, as stated by Davidson et al. (1992): determining minimal cash balances, borrowing effectively, investing extra cash profitably, and accelerating cash flow. The required minimum bank balance, the pace of daily cash collections and disbursements, and the basic safety cushion are all taken into account when determining the minimum cash balance. The lowest feasible minimum cash balance should be kept as extra cash earns nothing and loses purchasing power during periods of price increases.

The fundamental liquidity cushion required, taking into account the daily cash collections and disbursements rate, should be the minimum cash balance. The ratio of the average cash balance to the total operating expenses for the year can be used to compare the estimated average cash balance (size of demand deposit) to industry standards.

Determining minimal cash balances, borrowing wisely, investing surplus cash profitably, and accelerating cash flow are the four main tasks of cash management. In the opinion of Davidson (1992), the determination of the minimum cash balance is done by considering the daily cash collects and disbursements rate, the minimum bank balance needs, and the basic safety cushion that is needed. Since cash is worthless when there is no income and loses buying power due to inflation, cash balances should be kept as low as possible.

The fundamental liquidity cushion required, taking into account the daily cash collections and disbursements rate, should be the minimum cash balance. The ratio of the average cash balance to the total operating expenses for the year can be used to compare the estimated average cash balance (size of demand deposit) to industry standards. The ideal cash balance will fluctuate with peaks and troughs in the business's operations if it is a seasonal one. These businesses will determine a more accurate ratio between the monthly average cash balance and total expenses.

Financial theorists have created mathematical models, according to Gallagher & Andrew (2003), to assist businesses in determining the ideal "target" cash balance—between the minimum and maximum limits—that strikes a balance between liquidity and profitability issues. One of these models, the Miller-Orr model, will be discussed in the parts that follow.

The Miller - Orr cash Management Mode

A cash management model created in 1966 by Metron Miller and Daniel Orr solves for the ideal goal cash balance, around which the cash balance varies until it hits a maximum or lower limit. Investment securities are purchased if the upper limit is reached, lowering the cash balance back down to the desired level. Investment securities are sold to raise the cash balance to the objective if the lower limit is achieved (Gallagher & Andrew, 2003).

The formula for the target cash balance Z is:

$$Z = 3 \sqrt{3 \times TC \times V + L^4 \times r}$$

Where: TC = Transaction Cost of buying or selling short-term investment securities

V = Variance of net daily cash flows

r = Daily rate of return on short – term investment securities

L = Lower limit to be maintained in the cash account

Figure 1: The Miller-Orr Model

The target cash balance is one-third of the way between the lower limit(L) and upper limit (H).The Miller-Orr formula for the upper limit is as follows: $H = 3Z - 2L$.In the Miller-Orr model the lower limit(L) is set by management according to the minimum cash balance.

The company determines the lower limit by using its intended minimum "safety stock" of cash on hand. The following should also be ascertained by the firm:

- An interest rate for marketable securities.
- A fixed transaction cost for buying and selling marketable securities
- The standard deviation of its daily cash flows.

The upper control limits and return path calculated by the Miller –Orr Model as follows;

Distance between the upper limits and lower limits is 3Z

(Upper limit – Lower limit) = $(3/4 C \text{ Transaction Cost } C \text{ Cash Flow Variance/Interest Rate})^{1/3}$

$$Z = (3/4 C \text{ cs}^2/i)^{1/3}$$

The upper limit and lower limit will be further apart if the transaction cost is higher or if cash flows exhibit larger swings. The limitations will get closer as the interest rate rises. Z and the interest rate have an inverse relationship. The return point is located between the upper and lower limits, with the top control limit being three times higher than the lower control limits. Therefore,

$$\text{Upper Limit} = \text{Lower Limit} + 3Z$$

$$\text{Return Point} = \text{Lower Limit} + Z$$

However, though these are commonly available models their practical efficacy is still questionable due to the number of assumptions involved in each model.

OVERVIEW OF OF CASH MANAGEMENT STUDIES BETWEEN 2000 – 2009

Even if some conversations and development had progressed by the late 1990s, contributions from that era continued to rise. This section discusses the contributions made between 2000-2009.

Cash Management Facets

According to Pandey's (2008) book, cash management involves controlling the company's cash balances at any one moment by investing excess cash or financing shortfalls. It also involves managing cash flows into and out of the business.

He continued by saying that the company needed to create suitable cash management methods in order to address the uncertainty around cash flow projection and the lack of synchronization between cash collections and payments. The company has to develop plans for the following four aspects of cash management:

Cash planning: Cash inflows and outflows should be planned to project cash surplus or deficit for each period of the planning period. Cash budget should be prepared for this purpose.

Managing the cash flows: Cash flow needs to be adequately controlled. As far as feasible, the cash withdrawals should be slowed down, but the cash inflows should be increased. This relates to the administration of receipts and payments.

Optimum cash level: The right amount of cash balances should be determined by the company. The ideal amount of cash balances should be determined by balancing the risk of cash deficit with the expense of surplus cash. It recognizes that a firm must have cash on hand to cover a variety of unforeseen expenses. In particular, an immediate need for cash.

Investing surplus cash: To make money, the excess cash balances should be invested wisely. The split of such cash balance among other short-term investment options, such as marketable securities, bank deposits, and inter-corporate loans, should be decided by the company.

The company's goods, organizational structure, level of competition, culture, and accessible alternatives will all influence the best cash management system. The work is intricate, and choices made might have a significant impact on key business divisions. For instance, if the credit term is shortened to increase collections, sales may be impacted.

According to Zimmerer (2008), in order to regulate accounts receivable, company owners must set up strict, unambiguous regulations regarding credit and collection as well as check clients before extending credit. Improving cash flow also involves immediately sending bills and taking care of past-due accounts. The objective is to obtain funds from accounts receivable expeditiously.

A manager's objective in accounts payable management is to extend payables as long as feasible without negatively impacting the company's credit standing. Other strategies include obtaining the best credit terms through negotiation, checking bills before paying them, and taking advantage of cash discounts.

Lastly, they added inventory, which usually gives small business owners cash flow problems. Unnecessary cash tie-ups and a zero rate of return are the results of excess inventory. Owners need to keep an eye out for stale goods.

On the other hand, Pandey (2008) praised the importance of cash management, pointing out that it is challenging to forecast cash flows, especially the inflows precisely, and that there is never a perfect synchronization between the inflow and outflow of cash. There will be times when cash outflows are greater than cash inflows due to the accumulation of tax, dividend, and seasonal inventory payments. In other cases, there will be a greater cash inflow than outflow due to potential big cash sales and early repayment of debts by substantial amounts.

It has also been mentioned that cash management is important as, although making up the smallest percentage of all current assets, management spends a lot of time managing it. Many advancements in financial management strategies have been made recently. These days, managing the company's cash flow to maintain a low cash balance and spend any excess funds in lucrative ventures is undoubtedly one of its main goals.

As previously mentioned, Pandey (2008) demonstrated the connection between cash management and cash budget. It is important to highlight that the financial management must make sure there is no appreciable difference between predicted and actual cash flows once the cash budget has been created and the required net cash flow has been determined. To do this, adequate control over cash collection and disbursement will need to be implemented in order to increase the efficiency of cash management. In managing cash flows, the two main goals should be to maximize the speed at which cash is collected and to minimize the speed at which cash is disbursed.

The ideal quantity for liquid asset management policies is the subject of liquidity management. This chapter mainly focuses on the topic of optimizing procedures for collecting and disbursing cash, which is much more directly tied to cash management.

THE CONCEPT OF BANK PERFORMANCE

To guarantee that banks are efficient agents of financial intermediation, directing funds toward investments that promote faster economic growth, a competitive banking system is necessary. When evaluating a bank's performance, several conventional analyses may be done on the basis of the information in its financial statements, such as profitability and risk analysis, and the efficiency of asset management (Gardner and Mills, 1994; Athanasoglou, 2006). Even if their reasons for doing so vary, all evaluators are interested in assessing performance (Gardner & Mills, 1994). They do this by using accounting and other data to determine an institution's financial situation at a given moment in time. According to Knight & Roth (2003), profitability is a metric that evaluates a bank's financial success over a specific time frame, often a year, as a consequence of the choices made on how to utilize all of its resources. However, a bank's financial health must be taken into account in addition to its profitability when assessing its performance. Because taking risks is a prerequisite for future success, there is a tight relationship between managing risks and profitability (Kelly Whythe,

2012). Every bank has to weigh the risks it is ready to accept against the profitability level it wants to reach. Therefore, profitability measure, taken alone without a proper assessment to a bank's risk, can be misleading.

To judge a particular bank's earnings and financial security, analysts use several measures. Such measures are most useful when trends are examined over a period of time and compared with data from similar banks. When evaluating a bank's performance against other similar-sized and profiled institutions, a significant departure from the average on any one metric may indicate potential issues or benefits. Nonetheless, it's crucial to ascertain the causes of the departure before making any judgments. Furthermore, return on equity (ROE) and return on assets (ROA), which are commonly used to quantify bank profitability, are frequently stated as functions of both internal and external factors. Athanoglou (2006) defines internal determinants as variables including bank size, provisioning policy, capital adequacy, level of liquidity, and expenditure management that are primarily impacted by management actions and policy objectives of a bank. Conversely, the macroeconomic and industry-specific external determinants are factors that represent the legal and economic context in which the financial institutions function. Moreover, the detrimental effects of several different sources of uncertainty on profitability are typically used to characterize banking risks (Knight & Roth, 2003). Liquidity risk, interest rate risk, and solvency risk are some of the most significant banking hazards. In addition to maintaining enough capital to meet the investment expectations of capital providers and ensure the stability of the banking system, banks must also generate enough revenue from their non-lending activities, such as value-added services and trading, and from the intermediation function, which primarily consists of interest margin, to offset any negative effects on profitability from the risks mentioned above. Lastly, a number of ratios are available to gauge efficiency, which is a crucial aspect of profitability. The ratios assess how well business assets are being used to create revenue by comparing physical output to specific physical inputs (Knight & Roth, 2003).

THEORETICAL REVIEW

The liquid assets theory, the commercial bills theory, the profitability theory, the expected revenue theory, the liability management theory, and several more theories are among the many ideas about bank liquidity. But this paper dwells on the buffer theory of capital adequacy, diversification theory, expense theory, port-folio regulation theory, deposit insurance theory, intermediation theory, capital structure theory, concentration theory, structure-conduct-performance and relative efficiencies theories that are common and embraced by banks in Nigeria, keeping all other theories constant.

Buffer Theory of Capital Adequacy

As a result, banks could choose to maintain a "buffer" of surplus capital to lessen the likelihood that they would fail to meet the minimum capital requirements, particularly if their capital adequacy ratio is very erratic. In Nigeria, capital requirements are the primary tool used for banking supervision. While it occasionally assigns this duty to outside auditors, the Central Bank of Nigeria actively conducts on-site examinations and seldom gets involved in the operations of banks. In contrast, the Central Bank of Nigeria would not allow a violation of the capital requirements since it is seen as a serious violation of banking laws. Banks that have chronically low capitalization are shut down. This reality is indicated by the revocation of several banking licenses at the recent expiration of bank capitalization in Nigeria. If public deposits are not completely mobilized, banks will need more capital. Capital may be utilized for long-term planning and is more trustworthy. Banks' ability to raise sufficient deposits prevents the capital base from eroding.

According to Salem & Kim's (2016) buffer hypothesis, a bank that is getting close to the regulatory minimum capital ratio may be motivated to increase capital and lower risk in order to save money on regulatory fines that would result from a capital requirements violation. On the other hand, banks with little capitalization may also be inclined to boost their risk-taking in the hopes that greater predicted profits will enable them to raise capital. This is one way that risks associated with insufficient capital impact banking operations. In the event that a bank files for bankruptcy, the Nigeria Deposit Insurance Corporation (NDIC), the bank, and its clients all assume the risk. Currently, in the case of a bank failure, the NDIC will compensate a client a maximum of N200,000. Customers are therefore always worried about the capital status of banks. To allow their customers to profit from the program, banks are required to insure and pay 15/16 of their customers' deposit liabilities multiplied by 1% to the NDIC. Although the extent varies, the NDIC's above-mentioned procedure in Nigeria is relevant to other nations.

We can examine the claims in hypothesis 3 in this study by using capital, our dependent variable, which is represented by the Shareholders Fund (SHF) and explained by our buffer theory of capital adequacy. Bank liquidity and capital adequacy are greater when shareholders fund a larger amount of the bank. In Nigeria, the mandatory deposit insurance program puts regulatory pressure on banks. According to Vojta (2008)'s research, a bank may continue operating during tough times as long as it has enough capital set aside to protect against excessive loss until regular earnings levels are returned. Bank capital regulators' benchmarks and bankers' benchmarks can occasionally diverge.

Because bankers' definitions of capital sufficiency differed from regulators', there have been issues raised regarding regulators' ability to effect improvements in bank capital. By operating with a smaller capital basis, aggressive banks may attempt to expand the bounds of imprudent management policy—often in defiance of regulatory requirements. However, in order to prevent bank failure and the ensuing large costs to society, the regulatory authorities often maintain their position by opposing the reduction of capital.

Diversification Theory

More scale in banking suggests the possibility of better product/service diversity. Innovative product and service diversification reduces risk and, as a result, lowers costs associated with risk management and alerting external parties to the bank's level of risk (Diamond, 1984). Diamond went on to say that:

“if larger banks respond to a reduced marginal cost of risk by taking on and managing more risk, they may appear to have constant or even decreasing returns to scale because the extra risk is costly. Given a bank's scale and in its inherent asset quality an increase in financial capital reduces the probability of insolvency and provides an incentive for allocating additional resources to manage risk in order to protect the larger equity stake. Since financial capital constitutes the bank's own bet on its management of risk, it conveys a credible signal to depositors of the resources allocated to preserving capital and insuring the safety of their deposits”.

Therefore, larger capitalization levels communicate better safety to depositors and lower the likelihood of a liquidity crisis given observable scale and underlying asset quality, deduced from metrics like the amount of nonperforming loans. Like other commercial entities, banks are obligated to adhere to the three fundamental choices of financing, investment, and dividend policy. If bank promoters are confident that investments in the banking business will yield satisfactory returns, they must consider financing the bank. If banks are to act as financial intermediaries, transferring funds from units in deficit to those in surplus, they must accumulate an adequate amount of assets in line with their intended level of operation and profitability. This suggests that the return on capital (ROC) and return on asset (ROA) are impacted by interest on bank loans and advances, which make up the majority of bank earnings. A suitable combination of depositor money, bank core capital, and other liabilities should be used to finance bank assets. In industries where there is a high company concentration, diversification is very crucial.

The forced reduction in leverage lowers the bank's projected profits if capital is relatively expensive, according to research by Koehn & Santomero (1999), Kim & Santomero (2008), and Rochet (2012). The owners of the bank may decide to take on more risk and a larger return as a result. For example, shareholders' funds/loans and advances (safety index), or capital adequacy ratio, is likely to be greater if there is a perception of a higher return on asset. In certain instances, the bank's increased risk outweighs its increased capital, increasing the likelihood of a default. One way to address the potential unfavorable consequences of capital requirements is to implement risk-based capital standards. Regrettably, data suggests that the capital requirements in place do not fairly represent the level of risk taken by banks.

For instance, Avery & Berger (1991) discover that just around 5% of banks' loan performance can be explained by the Basel Accord risk-weighting framework. Risk-based capital rules may have destabilizing implications if the risk-weightings are flawed since banks bound by the capital requirements may enhance their capital ratio by lowering risk relative to the official norms, but business risk may actually rise. Myers & Majluf (1984) contended that banks would never keep more capital than what was required by the market or regulators if there were no regular modifications made to the capital ratio. In actuality, though, changing the capital ratio might be expensive. When there are information asymmetries, equity concerns might provide the market inaccurate information about the bank's economic worth. Furthermore, if the bank is seriously undercapitalized, owners could be hesitant to add further capital because creditors would receive the majority of the gains. Banks that fall below the regulatory capital requirements won't be able to respond quickly without these capital modifications. After then, they can face recurrent fines from the authorities or, worse yet, shut down.

Expense Theory

The Williamson (1963) expenditure theory, which is also known as the theory of managerial discretion and was highlighted by Nyong (2001), states that managers are free to choose policies that maximize their personal utility as opposed to maximizing profits for shareholders. Among these forms of utility are the satisfaction that managers experience from particular categories of spending. The amount of slack managers receive in the form of expense accounts, opulent offices and buildings, corporate automobiles, and other workplace perks is somewhat indicative of their rank, power, and prestige. The ratio of operational expenditures to total assets, or operating efficiency, is to quantify this facet of bank activity. Operating expenditures, also known as expenses management, are a function of resource utilization and can impact the dependent variable either positively or negatively, depending on how well resources are used.

Port-folio Regulation Theory

The notion of portfolio regulation may also be used to evaluate the success of financial institutions. According to the notion, banks must be regulated in order to preserve the safety and soundness of the financial system and enable them to fulfill their obligations easily. Because of this, the regulatory bodies had no choice but to require individual banks to maintain higher levels of solvency and liquidity; the higher this percentage, the better the individual banks' liquidity and solvency. Peltzman (1990) states that the relevant regulatory agency will try to force a change in the bank's balance sheet if it determines that the asset portfolio is too risky or that the capital is insufficient.

Deposit Insurance Theory

Additionally, the deposit insurance theory sheds light on how deposit money institutions operate (Flannery, 1989; Cham, Greenbaum & Thakor, 1992). According to this approach, banks are thought of as a portfolio of uncertain claims. There is an estimated value

transfer of wealth from the government deposit Insurance Corporation to bank owners as insured institutions raise their failure risk to an infinite degree. The soundness of banks is a concern for regulators, especially in light of their solvency and likelihood of failure. Therefore, in order to lower the anticipated losses suffered by the Deposit Insurance Corporation, bank risk exposure needs to be regulated. Customer-requested deposits are not as trustworthy and consistent as the minimum amount of capital required by banks. Planning for the long term is not possible with it.

additional deposits, however, do not eliminate the requirement for extra capital; rather, they allow banks to offer additional loans. When bank loans and advances are disbursed to clients without following the proper procedures, it may eventually impact a bank's capital and liquidity situation. Flannery (1999) asserts that because of the regulatory capital requirements, bigger banks are less likely to take on more risk. According to Kelly (1990), big banks could be less inclined to take chances in order to take advantage of the deposit insurance subsidy. This theory's key tenet is that because big banks tend to be risk-averse, they are less likely to collapse than smaller ones. This suggests that big banks have security even if their rate of return on capital may not be very high.

The three major banks in Nigeria—First Bank of Nigeria (FBN), United Bank of Africa (UBA), and Union Bank of Nigeria (UBN)—have large gaps in their loan-to-deposit interest structures, according to an examination of their Annual Financial Reports for the years 1985–1989 and 1999–2005. For example, between 1999 and 2005, UBN mobilized deposits totaling N1,04,767 million, paid interest on savings totaling N41, 685 million, and issued loans to clients totaling N280,935 million. It also collected interest on loans totaling N70,543 million. From 1999 to 2005, UBA mobilized deposits of N920,187 million, paid interest on savings of N29,886 million, collected interest on loans of N58,607 million, and issued loans to consumers totaling N275,002 million. Between 1984 and 1988, UBA paid N1,191,536 million in interest on deposits and earned N1,203,591 million in interest from client loans. From 1999 to 2005, FBN mobilized deposits totaling N1,200,068 million, paid interest on savings totaling N26,403 million, and made loans to consumers totaling N459,977 million. It also earned interest on loans totaling N78,437 million. During 1984–1988, FBN paid N1,139,352 million in interest on deposits and earned N1,203,865 million in interest from client loans. The interest structure difference between loans and deposits is a direct representation of the deflated economy, which is necessary to promote industrialization. The level of mismanagement by the custodian of money in the Nigerian financial system is further demonstrated by the interest rate differential between loans and deposits. Because the structure shows a low return rate on savings, depositors find it difficult to save, and only a small percentage of investors can pay the high interest rates on loans and advances.

Intermediation Theory

The approach used by bank management to transfer money from surplus spending units to deficit units is known as "intermediation theory." A bank with a high capital foundation has a decreased likelihood of defaulting, which lowers its funding cost. Additionally, it offers the bank greater flexibility to seize lucrative loan possibilities. Modern intermediation theory, which adds a fresh perspective to bank behavior as demonstrated by Boyd & Prescott (1996), Williamson (1996), and Allen (2009), may also be used to examine bank performance. Therefore, using excellent ideas and tactics to raise money from the general public is crucial to bank administration. Since size and failure likelihood are predicted to be inversely correlated under the theory, larger projects have a higher possibility for realizing projected returns on capital. When deposits are mobilized and used profitably by bank management, return on capital might rise, everything else being equal. The amount of slack managers receive in the form of expense accounts, opulent offices and buildings, corporate automobiles, and other workplace perks is somewhat indicative of their rank, power, and prestige. Large banks do better than smaller ones because of their steady return on capital, which has improved production economies of scale, adoption of cutting-edge technologies, and diversification.

Capital Structure Theory

Owualah (1998) asserts that the discussion of capital structure has moved from if it exists at all to figuring out what is best for a certain firm and comprehending the underlying factors. First, the static trade-off theory asserts that a company borrows up to the point where the present value of the interest tax shield is only slightly offset by the value of the loss incurred from agency costs associated with issuing riskier debt and the potential costs of liquidation or reorganization. This is because interest payments are tax deductible.

Second, according to the Pecking Order Theory, businesses choose internal funding above external funding. Nonetheless, businesses who make the least lucrative investments in a given sector will eventually borrow more since they will have less money produced internally for new ventures. The theory also suggests that when a business looks for more outside funding, it will move up the securities pecking order, starting with safe and moving toward riskier debt, convertibles, and other quasi-equity instruments, and ending with equity as a last resort—though it would accept equity if needed to fund actual investments with positive Net Present Values. This explains why banks that had a low capital basis prior to the recapitalization in 2005 had trouble getting deposits from their clients. Thirdly, internal finances are the main emphasis of organizational theory since it holds that external financing, regardless of source, tells the market that internal resources are insufficient. According to the hypothesis, a company's wealth decreases when it issues debt to substitute equity. This hypothesis explains why the majority of prosperous businesses usually take on the least amount of debt since strong earnings lead to higher retention rates, a decreased need for outside funding, and ultimately a lower debt ratio.

The fourth theory, the bargaining based theory, holds that a firm's capital structure influences possible future negotiations between the firm and its investors, and the expectation of such negotiations, in turn, influences financial decisions (Hart & Moore, 1989, 1999; Booth & Scharfstein, 1991; cited in Adaramola, Sulaiman & Fapetu, 2005).

A 1999 study by Booth et al. looked at capital structure in emerging nations. Three basic theoretical models of capital structure are documented in the study: the Agency Theoretical Framework (ATF), the Pecking-Order Hypothesis (POH), and the Static Trade-off Model (STO). They noted that both firm-specific and institutional variables influence the decision between debt and equity in each model. According to the STO model, capital structure should aim to represent tax rates, asset classes, company risk, profitability, and bankruptcy laws. An ideal capital structure that balances agency expenses against other financing costs is determined by possible conflicts of interest between internal and outside investors, according to the ATF. Imperfections in capital are significant to the POH. The capacity of the company to make fresh investments is correlated with its internally produced cash via transaction costs and asymmetric knowledge. Since knowledge asymmetries have less of an influence on debt than equity, companies that must rely on outside funding would rather use it. They continued by emphasizing how challenging it has been to separate these theories empirically. As a result, the majority of recent empirical studies have concentrated on utilizing cross-sectional testing and a range of factors that may be supported by any or all three of the three models to explain capital structure.

Concentration Theory

The degree to which big businesses influence the economy is referred to as concentration (Sathye, 2002). The significant size decrease of the non-dominant firm(s) or significant size expansion of the dominant firm(s) may be the cause of the growth and magnitude of concentration levels. Similar to this, a decrease in concentration levels may be related to a significant shrinkage of the dominant company or firms, or a significant expansion of the non-dominant firm or firms (Athanasoglou, 2005). Bank concentration theories and pro-deconcentration theories exist in the literature and Nigerian banks capitalization/consolidation exercise takes its roots from these theories. Protagonists of banking sector concentration posited that economies of scale stimulate bank mergers and acquisitions (increasing concentration), so that increased concentration goes hand-in-hand with efficiency improvements, Demirguc-Kunt and Levine (2001). Boyd & Runkle (1993) identified an inverse association between size and asset return volatility after looking at 122 US bank holding firms. In the US scenario, the process of consolidation was consensual, but in the Nigerian example, it was forced. According to theoretical reasons presented in Allen & Gale (2000) and Beck, Demirguc-Kunt & Levine (2004), a concentrated banking industry with a large number of small banks is less likely to have financial crises than one with a limited number of major banks. The rationale is that more banks compete with one another when there is less market concentration in the banking industry. Concentrated banking systems help to reduce bank fragility and improve bank profit performance. Increased earnings act as a buffer against unfavorable shocks and raise the bank's franchise value, which lessens the motivation for bankers to take on unwarranted risk. Furthermore, in a concentrated banking sector, the risks of contagion are mitigated since a limited number of major banks are simpler to oversee than a large number of small banks (Beck, Demirguc-Kunt & Levine, 2003).

The proponents of this "concentration-stabilization" theory contended that because larger institutions are better at diversifying, banking systems with a small number of major banks will often be less brittle than those with a large number of small banks (Allen and Gale, 2003). In contrast to the circumstances before to 2005 bank capitalization, the current configuration of the Nigerian banking sector, which consists mostly of deposit money banks, amply illustrates their power. As a result, we may conclude that sufficient capital and market share are related. Capital is essential to a bank's ability to compete successfully. According to pro-deconcentration ideas like Chong's (1991) findings, bank portfolio risk tends to rise with bank consolidation. Demirguc-Kunt & Levine (2000), Beck, Demirguc-Kunt & Levine (2004), are among those who support deconcentration of the banking sector. They contend that concentration will increase the market power and political influence of financial conglomerates, hinder competition and access to financial services, reduce efficiency, and destabilize the financial system as banks grow too large to be regulated. While insufficient competition and contestability in the banking industry can lead to inefficiencies, enough competitiveness can also produce an unstable financial environment. Larger, more politically linked banks may become more indebted and riskier in concentrated banking systems because they may count on legislators to support them in the event that unfavorable shocks impair their profitability or solvency. Similar to this, powerful political institutions such as big banks may influence laws and policies that affect bank operations in ways that benefit them rather than the economy as a whole.

Structure-Conduct-Performance and Relative Efficiency Theory

A firm's profitability and market power rise when its relative size grows. The Market-Power (MP) theory is as follows. The Structure-Conduct-Performance (SCP) hypothesis is another name for the concept (Athanasoglou, 2005). The Structure-Conduct-Performance Hypothesis (SCP) and the Relative Efficiency (RE) Hypotheses were the main topics of the early empirical research. According to SCP, a shift in the banking industry's market structure has an impact on how banks operate and behave. Banks have more market power in concentrated markets because they may ignore lowering costs and be inefficient without facing expulsion from the market. According to SCP, banks will profit more from more concentrated markets due to lower deposit rates and higher lending rates. According to RE, certain businesses make supernormal profits because they are more productive than others.

Increased production may very well correspond with increased efficiency. The Relative Efficiency Hypothesis forecasts a positive link between profits concentration and SCP. According to the Market-Power Hypothesis, companies in a highly competitive market

with a sizable market share and distinctive products may use market power pricing to generate supernormal profits. According to the Efficient Structure Hypothesis, relatively efficient businesses may compete fiercely, get a larger market share, and make large profits because of their cheap production costs. The same may apply to Nigeria's banking sector, where First Bank Plc, UBA, UBN, and Afrique Bank have long had a dominant position. In order to test the market-power and efficient-structure hypotheses in China's banking industry, Heffernan and Xiaoqing (2005) included measures of concentration, market share, X-efficiency, scale efficiency, and an ownership dummy directly into the estimating equation for the years 1985 to 2002. According to the study's conclusions, future policy need to support the growth of joint stocks, which have been demonstrated to be more efficient, in order to help them gain market share and boost competition.

EMPIRICAL REVIEW

The Return on Assets (ROA), Return on Equity (ROE), and in some situations, the Net Interest Margin (NIM) are the metrics of bank profitability that are typically taken into account in the literature on the factors that influence bank profitability. Typically, internal and external variables are used to describe the factors that affect bank profitability. The internal factors, which include liquidity risk, credit risk, bank size, financial leverage, and expenditure management, are those that particularly influence policy objectives and influence management decisions made by the bank.

The competitiveness and degree of concentration, unemployment rate, inflation rate, and real per capita income are examples of industry-related and macroeconomic impacts that are considered external variables. Because of the fluctuations in the value of the national currency relative to the US dollar and other major currencies, exchange rates in Nigeria might have a macroeconomic impact on bank profitability.

Research on the factors influencing bank performance or profitability may be generally divided into two groups: studies using data specific to a single country and studies using data from a panel of nations. The following studies examine a panel data set of countries: Molyneux and Thornton (1992), Demircug-Kunt and Huizinga (1999, 2001), Abreu and Mendes (2002), Goddard (2004), Beck (2005), Athanasoglou (2005), Micco et al. (2007), Pasiouras and Kosmidou (2007), Flamini (2009). Studies by Mamatzakis and Remoundos (2003), Berger (1987), Berger (1995), Neely and Wheelock (1997), Naceur (2003), Naceur and Goaid (2001), and Athanasoglou (2008) concentrate their investigations on individual nations. Even though the model's specification and the types of explanatory variables used in the empirical analysis of these studies yield different results, there are still valid reasons to highlight the importance of industry-specific factors, macroeconomic or environmental influence, and bank-specific factors.

High equity banks outperform assets when it comes to profitability, according to empirical data by Bourke (1989), Demircug-Kunt and Huizinga (1999), Abreu and Mendes (2002), Goddard (2004), Naceur and Goaid (2001), and Pasiouras and Kosmidou (2007). According to these research, banks' funding costs tend to decrease as their capital ratios rise since potential insolvency expenses decrease. Moreover, overhead expenses have a significant role in determining profitability; a bank's profitability decreases when overhead costs increase relative to its assets (Athanasoglou et al., 2008). In their study on the factors influencing bank profitability, Molyneux & Thornton (1992) used a sample of eighteen European nations between 1986 and 1989. They discover a strong positive correlation between government ownership, bank concentration, and interest rate levels in each nation when it comes to return on equity. According to Abreu & Mendes' (2002) analysis, highly capitalized banks are less likely to experience bankruptcy, which "translates" into higher profitability. They also look into the factors that affect banks' interest margins and profitability for a few European nations. The macroeconomic variables included in the analysis indicate that the inflation rate is a major but important component in explaining bank profitability, whereas the unemployment rate exhibits a negative but significant association.

Goddard et al. (2004) investigated the six-country performance of European banks. They discover that the correlation between size and profitability—as determined by return on equity—is not very strong. The only banks with a noticeably favorable correlation between profitability and off-balance-sheet operations are those in the United Kingdom. Despite the perception of greater bank rivalry during this time, cumulative anomalous profit over the years 1992–1998 has remained significantly persistent.

In their analysis of the 1980–1995 performance of Tunisian deposit banks, Naceur & Goaid (2001) find that, while bank size is not a major factor, changes in productivity, market capitalization, and portfolio composition of the bank are. Similarly, Chirwa (2003) analyzed eight banks in Malawi (1970–1984) using co-integration techniques and discovered a significantly favorable long-run association between concentration and performance; the same was seen for demand deposits.

The size and profitability of a bank are found to positively and significantly correlate by Pasiouras & Kosmidou (2007). There is evidence from other writers, such Berger et al. (1987), that a bank's size can only marginally cut costs and that very big banks frequently have scale inefficiencies. According to Micco (2007), there is never a statistically significant relationship between the relative bank size and the return on assets for banks; rather, the coefficient is always positive. The amount of credit or liquidity risk that a bank is prepared to take on is a key factor in determining its profitability.

According to Abreu & Mendes (2002), who looked at banks in Portugal, Spain, France, and Germany, a bank's profitability is positively impacted by its loans-to-assets ratio, which serves as a stand-in for risk. Among others, Bourke (1989) and Molyneux & Thornton (1992) discover a negative and noteworthy correlation between profitability and risk. This finding may be explained by the fact that financial institutions with exposure to high-risk loans also tend to accumulate more delinquent loans. The impacted banks' returns are lowered by these loan losses.

Additionally, Beck et al. (2005) took into account the bank's age when evaluating the impact of privatization on the performance of Nigerian banks between 1990 and 2001, since more established institutions may have an advantage over relative newcomers in terms of performance. According to their findings for the Nigerian market, newer banks outperformed older ones in terms of pursuing fresh profit potential. According to Athanoglou (2008), external factors that affect bank profitability include the interest rate set by the central bank, inflation, GDP growth, taxes, and variables that reflect the nature of the market (such as market concentration). The results indicate that industry structure does not affect profitability of Greek banks between 1985 and 2001, but macroeconomic determinants and bank specific variables were significant. Research has consistently demonstrated a positive correlation between GDP growth, bank profitability, inflation, and central bank interest rates (e.g., Bourke, 1989; Molyneux & Thornton, 1992; Demircuc-Kunt & Huizinga, 1999). However, there is some evidence that a nation's institutional and legal features matter. Demircuc-Kunt and Huizinga's (1999) study reveals that taxes lower bank profitability. According to a different research by Albertazzi and Gambacorta (2006), banks can transfer a significant portion of their tax liability to depositors, borrowers, or buyers of fee-generating services, meaning that taxes have little effect on the profitability of banks. Overall, the taxation of the financial industry has gotten little attention, despite the fact that fiscal difficulties are likely to have a big impact on a bank's conduct.

The structure-conduct performance (market-power) hypothesis posits that monopoly profits are produced by greater market power and may be used to quantify the impact of market structure or industry-related impacts on bank profitability. The bank concentration ratio is compatible with the classic structure-conduct-performance paradigm and has a positive and statistically significant link with a bank's profitability, as demonstrated by the findings of Bourke (1989) and Molyneux and Thornton (1992). On the other hand, bank concentration and earnings have a negative but statistically negligible association, according to the findings of Demircuc-Kunt & Huizinga (1999) and Staikouras & Wood (2004). Likewise, the structure-conduct performance theory is refuted by the estimations made by Mamatzakis & Remoundos (2003), and Berger (1995).

In their 2009 research of the factors influencing commercial bank profitability in Sub-Saharan Africa, Flamini et al. investigated the effects of bank-specific variables such risk, market power, and regulatory expenses on bank performance. Furthermore, the influence of macroeconomic variables on bank performance has been the subject of research. In ten SSA nations, Al-Haschimi (2007) investigates the factors that influence bank net interest rate margins via panel regressions and accounting decompositions. He concludes that the majority of the difference in net interest margins throughout the area may be explained by credit risk and operating inefficiencies, which indicate market power. The study finds that macroeconomic risk has a minor impact on net interest margins. Using the Ho & Saunders (1981) model, Saunders & Schumacher (2000) examine the factors influencing interest margins in six US and EU member states between 1988 and 1995. They discover that regulations and macroeconomic instability significantly affect bank interest rate margins. High capital to asset ratios, which indicate bank soundness, and low interest rate margins, which indicate a reduction in consumer costs for financial services, indicate an essential trade-off that their empirical data supports. The literature on pro-cyclicality in exposures to market, credit, and operational risk is surveyed by Saunders and Allen (2004). These cyclical impacts are mostly caused by systematic risk arising from shared macroeconomic factors or by interdependencies across enterprises as global financial markets and institutions converge. They could eventually make business cycle swings worse by having a negative impact on bank lending capability.

In their analysis of the South Eastern European banking sector's profitability behavior between 1998 and 2002, Athanoglou (2006) noted that in order to increase bank profitability in those nations, new guidelines for risk management and operational effectiveness are needed. These guidelines, the paper's evidence suggests, have a significant impact on profits. One important finding is that, although the picture regarding macroeconomic factors is varied, market concentration has a beneficial influence.

The study's theoretical approach, which examines competition and profitability in the banking industry, is based on market power models developed under the recent empirical industrial economics literature. According to the Structure Conduct Performance (SCP) paradigm, assuming there is no collusive activity across industry players, bank profitability should decrease as market concentration rises. On the other hand, if bank profits rise in tandem with industry concentration, it suggests that industry firms are banding together to profit from oligopoly dynamics. The Efficient-Structure (EFS) Hypothesis is a different version of the market power hypothesis that suggests that as efficient enterprises grow in size and market share, they may end up with a larger market concentration. In this instance, market concentration within an industry results from certain businesses' higher levels of efficiency rather than being a random event. In Bourke (1989) and Molyneux (1993), tests of SCP and EFS were conducted for the Belgian, French, Italian, Dutch, and Spanish banking markets. For the US and European banking markets, respectively, the effects of the EFS hypothesis on market structure have been studied by Berger (1995), Goldberg, and Rai (1996). Because of the restrictions placed on the profitability of banks in the area by the proxy for concentration, Flamini (2009) finds no direct correlation between market concentration and bank

profitability for sub-Saharan African banking markets. Due to inadequate information resulting from inconsistent data, this study did not employ the three-firm concentration ratio or the conventional Hirschman-Herfindahl Index (HHI). However, the ratio of each bank's total outstanding loans to the nation's net domestic credit served as a measure of market concentration in the study's assessment of the existence of market power. Bicker & Bos (2008) present the empirical derivation for the efficient-structure (EFS) and structure-conduct-performance (SCP) assumptions.

The performance of a bank can be examined in five major areas which collectively determine the viability of a banking institution. These areas are competition, concentration, efficiency, productivity, and profitability (Bicker & Bos, 2008). The reason we focus on this specific measure of performance is that banks are profit maximizing entities and they apply a diverse set of techniques to achieve this goal. According to economic theories, profit maximization in a perfectly competitive market is equivalent to cost minimization (Bicker & Bos, 2008). Furthermore, Clementina and Isu (2016) consistently reported that improved capital position enhances the bank performance. Economic literature, theoretical as well as empirical, has connected the performance of banks to competition, concentration, efficiency, productivity and profitability (Jaap & Bikker (2010). The economic theory indicates an inverted relationship between bank profitability and efficiency cost.

Any nation's economic activity is heavily reliant on the availability and movement of bank financing resources. A country's economy is generally considered to function more effectively when its banking system is working well because banks have a significant impact on the direction and pattern of economic growth through their lending and deposit mobilization efforts. The attainment of lending and deposit mobilization goals is contingent upon the level of trust placed in the system and, crucially, the banks' liquidity. Bank liquidity is crucial for both survival and profitable operations, as was previously said. The simplicity and capacity with which assets may be turned into cash is known as liquidity. Assets that are easily convertible into cash in order to satisfy financial commitments are known as liquid assets. Cash, reserves, government loans and securities, etc. are a few examples of them. A bank needs sufficient liquid assets to cover its immediate liabilities, such as depositor withdrawals, in order to continue operating (URL, 2014). As a safety net in the event of sporadic requests or fresh market prospects, they rely on these liquid assets.

Liquidity can be thought of as either a stock or a cash flow notion, according to Ngwu (2006). As a cash flow concept, it takes into account the economic unit's capacity to borrow money and produce cash from activities, as well as the ability to convert liquid assets. As a stock concept, it takes into account ownership of assets that may be quickly transformed or converted into cash. All economic entities require liquidity, and banks are no different. The majority of the country's money supply is made up of demand deposits, which make up a considerable share of bank liabilities. As a result, each bank must keep a sizeable portion of its assets in cash or assets that may be swiftly turned into cash. Since demand deposits make up a sizable amount of a bank's liabilities, they always work to keep their liquid position from being depleted. According to Olagunju et al. (2011), liquidity is a phrase used in finance that refers to the quantity of capital that is accessible for investment. According to Samiksha (2013), it's the capacity to cover both foreseeable and unforeseen financial requirements. Without a question, a bank must use liquidity management strategies to ensure that there is sufficient liquidity to meet the diverse needs of its clients in order to thrive and, in turn, preserve the public's faith and confidence in banking operations. A bank runs the risk of endangering its survival by losing a variety of clients and the public's trust in its ability to do business if it does not keep a sufficient level of liquid assets in its banking management. Thus, bank liquidity is the capability of banks to maintain declared bank cash balances, cash in vaults, invest in government securities and assets that are easily convertible into cash without losing value, and immediately fulfill daily commitments. Customers' demand deposits, loan requests, seizing fresh market possibilities, and having the capacity to get funding from other sources rapidly are all considered obligations in this context. The degree of fluctuation in deposits, the need for cash, the anticipated level of liquid assets, and cash receipts all affect how much liquidity each bank requires. These would be taken into account to calculate the amount of liquidity a bank requires over a specific time frame.

Abubakar (2015) looked at the nature of liquidity management, financial ratio analysis, and standard measurements of bank liquidity such as cash reserve requirements and liquidity ratios. It was discovered that the bank's profitability is positively impacted by the amount of liquidity and how it is managed. It should be highlighted, though, that the author's study only looked at one bank, making it a poor standard by which to measure generalizations. Using a survey approach, Andrew & Osuji (2013) investigated the effectiveness of liquidity management and banking performance in Nigeria. The results show a strong correlation between banking success and effective liquidity management. The idea that effective liquidity management improves a bank's soundness was also made clear. One noteworthy aspect of this situation is that the writers neglected to investigate the nature of the linkages and the efficacy of the liquidity management strategies. Alshatti (2015) looked into how Jordanian Commercial Banks' profitability was affected by liquidity management from 2005 to 2012. A selection of thirteen institutions was made to represent all Jordanian banks. Return on equity (ROE) and return on assets (ROA) served as proxies for profitability, while investment ratio, quick ratio, capital ratio, net credit facilities/total assets, and liquid assets ratio served as indications of liquidity.

Ajibike & Aremu (2015) in their study, using a generalized method of moments (GMM) estimation technique found positive relationship between liquidity and bank performance. Olagunju, Adeyanju and Olabode (2011) examined liquidity management and Commercial Banks' Profitability in Nigeria using survey method. Their findings showed the existence of relationship between

liquidity and profitability. In other words, liquidity has a very strong influence on the profitability of banks. Olarewaju and Adeyemi (2015) in their study, found a trace of unidirectional causality relationship running from liquidity to profitability of some of the selected banks.

The gap this study observed and intends to fill in all other studies mentioned in the literature is that, all the studies show the significance of bank specific factors, but did not indicate how the place of treasury management impacts these bank specific factors. And also, none of the studies mentioned in the literature had their time series up to 2017. This study intends to do just that.

RESEARCH DESIGN

This study deployed ex-post facto research design, as it was meant to investigate and analyze the relationship between two variables namely: treasury management and bank performance using historical data. This research is designed specifically to measure the effect of treasury management strategies on bank performance in Nigeria.

SAMPLE OF THE STUDY

This study did a census by relying on aggregate data for the bank covering a period of 22 years (from 1996 to 2017) out of the fifty-six (56) years of banking operations in Nigeria, since independence. This is because; the character of the bank has continued to change from time to time. Secondly, the sample was chosen for convenience and represents about thirty-four (34) percent of the total period.

The aggregate data of the bank was obtained from the published annual reports of First Bank of Nigeria PLC, the Nigerian Deposit Insurance Corporation (NDIC), as well as the Central Bank of Nigeria (CBN) statistical bulletin. Also, the study employed return on assets, return on equity, and return on shareholders' funds to represent performance as dependent variables, while level of investments in treasury bills, assets/liability and cash management strategies as control variables.

DATA COLLECTION METHOD

This study got data from secondary sources. The secondary data were collected from the various publications of Nigeria Deposit Insurance Corporation, Central Bank of Nigeria, Transparency International, Nigerian Stock Exchange Fact Book as well as journal publications.

VARIABLE DEFINITION AND MODEL SPECIFICATION

The variables for this study are bank performance represented by Return on Assets (ROA), Return on Equity (ROE) and Return on Shareholder Funds (ROSF) as dependent variables; and Treasury Management Strategies represented by Treasury Bills, Asset Liability Management and Cash Management as independent or explanatory variable. Furthermore, size (represented by total deposits) is used as a control variable.

The model used for the study was the adaptation and modifications from the work of Baltagi (1995) which examines the impact of treasury management on bank performances in Nigeria. The model was adapted and modified.

The model is stated thus:

$$\text{Bank Performance (BP)} = f \{ \text{Treasury Management Strategies (TMS)} \}$$

Where:

1. TMS = Treasury Bills (TB) + Assets Liability Management (ALM) + Cash Management Strategies (CMS)
2. BP = Return on Assets (ROA) + Return on Equity (ROE) + Return on Share Holders' Fund (ROSF).

$$\text{BP (ROA, ROE, ROSF)} = f (\text{TB, ALM, CMS})$$

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \mu_{it}$$

Where: Y = Dependent or Response variable or Regress and;

X = Independent or covariate or control variables;

i = the unit (first bank);

t = time unit (1996-2017);

Where:

β_0 and μ are the constant and error term respectively while β_1 , β_2 and β_3 are the coefficient of treasury management on bank performance.

The equation form of the model is:

$$\text{BP (ROA, ROE, ROSF)}_{it} = \beta_0 + \beta_1 \text{TB}_{it} + \beta_2 \text{ALM}_{it} + \beta_3 \text{CMS}_{it} + \mu_{it}$$

Where:

β_0 and μ are the constant and error term respectively while β_1 , β_2 and β_3 are the coefficients of Treasury bills, Asset Liability Management and Cash Management Strategies respectively.

METHOD OF ANALYSES AND ESTIMATION TECHNIQUE

This data has been analyzed with econometric techniques involving Descriptive statistics, Augmented Dickey Fuller and Philip Peron tests for unit roots, Johansson technique for co-integration test for long run relationship and Granger Causality Test. The model will be estimated using annual data and the study will involve the use of multiple regression technique (Ordinary Least Square: OLS). Excel application and E-view package will be used in presentation of the result.

DATA PRESENTATION

Table 1: The Descriptive Statistics

	<i>TMS</i>	<i>ROA</i>	<i>ROE</i>	<i>ROSF</i>
Mean	408093.36	4.956364	21.19955	9.50227273
Standard Error	296579.34	0.146504	1.708642	1.11875916
Median	59161.266	5.11	22.35	8.62
Mode	38090.6	5.11	#N/A	#N/A
Standard Deviation	1391080.4	0.687165	8.014242	5.24744558
Sample Variance	1.935E+12	0.472196	64.22808	27.5356851
Kurtosis	19.559699	1.827318	0.478416	-0.8612088
Skewness	4.3622584	-1.25762	-0.14399	0.40616969
Range	6476642.3	2.87	35.76	17.42
Minimum	3031.7	3.05	3.73	1.94
Maximum	6479674	5.92	39.49	19.36
Sum	8978053.8	109.04	466.39	209.05
Count	22	22	22	22
Confidence Level(95.0%)	616770.51	0.304672	3.553316	2.32658702

The variables of the study shown on Table 1 above indicate that the Treasury Management Strategies (TMS) which is represented by Treasury bills (TB), Asset Liability Management (ALM) and Cash Management Strategies (CMS) together has mean of 40.8% with minimum value of 0.3% and maximum values of 64.8% respectively. However, the standard deviation is 13.9% indicating high variation in the Treasury Management Strategies (TMS). This indicates that Treasury Management Strategies which comprises of Treasury bill, Asset Liability Management and Cash Management Strategies in the Nigerian economy is relatively unpredictable and risky if not managed. This is not good for productivity in the country.

Also, the ratio of return on asset (ROA) to treasury management strategies (TMS) measures the extent to which total TB, ALM and CMS can be managed to bring about positive return on asset. A high or increasing ratio will indicate unproductive returns. From the result, it can be seen that the mean of ROA is 4.95%. This suggests that 5% of the changes in return on asset are accounted for by variations in Treasury bill, asset liability management and cash management; the extent to which the utilization of the Treasury Management Strategies can increase the productive return on asset is measured as the ratio of return on asset to Treasury bill, Asset Liability Management and Cash Management Strategies. The productivity of the return on asset declines as the ratio increases. This directly shows that return on asset is likely to be unfavourable and will therefore be undermined by the utilization of the Treasury Management Strategies. From the results on Table 1 above, ratio of return on equity (ROE) is 21.2%, with minimum value of 3.73 and maximum values of 39.49 respectively.

UNIT ROOT

Every data should be subjected to Unit root test, since carrying out regressions on non-stationary time series data would lead to spurious regression outcomes. The study therefore employed the widely used Augmented Dickey-Fuller (ADF) and Philip and Peron test to ascertain the stationarity of the data as required.

Table 2: The Unit Root Test

Variables	At Level				Decision
	Augmented Dicker Fuller Test		Philip and Peron Test		
	t-Statistic	Prob.	Adj. t-Stat	Prob.	
TMS	-9.143484	0.0001*	-9.896742	0.0000	Stationary at Level
ROA	-1.473645	0.5487	-1.119845	0.8215	Not Stationary at Level
ROE	-2.117653	0.4553	-1.047348	0.8612*	Not Stationary at Level
ROSF	-7.962451	0.0000*	-8.134227	0.0000*	Stationary at Level
ROA	-5.327291	0.0001*	-7.434226	0.0001*	Stationary at first difference
ROE	-9.287945	0.0000	-9.978662	0.0000	Stationary at first difference

The result of the unit root test shows that ROA and ROE are non-stationary at levels, while TMS and ROSF are stationary at level. However, all the variables (TMS, ROA, ROE and ROSF) attained stationary at 1st difference. This is shown with the probabilities of the test values that are below 0.05 levels of significance. Since the variables are stationary at least at first differences, we can now proceed with co-integration test for long run relationship among the variables of the study.

CO-INTEGRATION

After testing for the order of integration, we test for co-integration. This test is usually done to check if long run relationship exists among the variables in the model. This will be carried out using the Johansen technique for co-integration.

Table 3: Co-integration Test for Long-run Relationship between Treasury Management Strategies and Bank Performance

Unrestricted Co-integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical Value	Prob. **
None *	0.974645	207.4746	97.45721	0.0000
At most 1 *	0.823764	154.48398	76.27368	0.0042
At most 2 *	0.536745	62.85769	58.54768	0.0621
At most 3 *	0.498792	58.37645	52.68477	0.0534
At most 4 *	0.278766	14.86985	7.46575	0.0354

Unrestricted Co-integration Rank Test (Maximum Eigen value)

Hypothesized No. of CE(s)	Eigen value	Max-Eigen Statistic	0.05 Critical Value	Prob. **
None *	0.974645	65.95867	54.47839	0.0087
At most 1 *	0.823764	57.58942	46.36764	0.0534
At most 2 *	0.536745	29.85843	38.85948	0.7958
At most 3 *	0.498792	22.7634	27.38837	0.4546
At most 4 *	0.278766	14.86985	7.46575	0.0354

Max-Eigenvalue test indicates 2 co-integrating eqn(s) at the 0.05 level

*denotes rejection of the hypothesis at the 0.05 level

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

The result of the co-integration shows that, for trace statistic, six co-integration equations exist at 0.05 level while for the Max-Eigen statistic, two co-integration equation obtains at 0.05 level. Thus, the null hypothesis of no co-integrating equation is rejected using the Trace statistics and the Max-Eigen value tests. This suggests the existence of a long run relationship among the variables at 5%

level of significance. Thus, the study shows that there is presence of long run relationship between Treasury Management Strategies and Bank Performance in Nigeria.

GRANGER CAUSALITY TEST

This is used for examining causality between two variables. In this case our aim is to test for a causal relationship between Treasury Management Strategies and Bank Performance. The rule states that if the probability value is between 0 and 0.05 there is a causal relationship.

Pair-wise Granger Causality Tests

Table 4

Null Hypothesis:	Obs	F-Statistic	Prob.	Remark
ROA does not Granger Cause TMS	22	1.56325	0.3812	No causal relationship
TMS does not Granger Cause ROA		1.34221	0.3376	
ROE does not Granger Cause TMS	22	0.93674	0.6343	No causal relationship
TMS does not Granger Cause ROE		1.74647	0.4356	
ROSF does not Granger Cause TMS	22	4.39844	0.2968	No causal relationship
TMS does not Granger Cause ROSF		0.94389	0.6456	

The result of the granger causality has shown that none of the explanatory variables (ROA, ROE and ROSF) has causal relationship with TMS in Nigeria. This explains that Bank performance in Nigeria is not related to Treasury bill, Asset Liability Management and Cash Management. Rather other factors not related to the performance might have influenced the Bank performance.

The Ordinary Least Square Regressions

Here, we provide the benchmark test of the significance of the independent variables in explaining the effect of Treasury management strategies on Bank performance.

Table 5. Ordinary Least Square Regressions

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TMS	990936.767	2201937.49	0.450029	0.658062
ROA	208371.478	532191.1579	0.391535	0.699998
ROE	-23783.7146	46973.66077	-0.50632	0.618777
ROSF	-116961.944	64696.64286	-1.80785	0.08737
R-squared		0.1588432	Mean dependent var	408093.36
Adjusted R-squared		0.0186504	S.D. dependent var	1.391080
S.E. of regression		1378047.27	Akaike info criterion	3.173240
Sum squared residual		3.41823E+13	Schwarz criterion	3.434781
Log likelihood		-14.34063	F-static	1.133034
Durbin- Watson stat		2.983708	Prob (F-statistic)	0.362254

Computed by the Author with E-View Software

From the above regression coefficients, we can express the model as follows:

$$TMS = 9.909367, ROA = 2.083715, ROE = -0.237837, ROSF = -11.696194 + u$$

From the results of the OLS, it is obvious that the constant parameter (Bo) is positive at +9.909367. This means that if all the dependent variables are held constant, TMS as an independent variable will grow by 9.909367 units in annual-wide basis.

Return on Asset (ROA): For return on asset, the coefficient of (ROA) is +2.083715. This means that there is positive effect between return on asset and Treasury Management Strategies (TMS), a unit increase in Treasury Management Strategies (TMS) will cause return on asset (ROA) to increase by 2.083715 units. The probability value is 0.699998 which indicates that Treasury bill, asset liability management and cash management strategies have a very high and significant effect on return on asset.

Return on Equity (ROE): The coefficient of return on equity (ROE) is negative at -0.237837. This means that there is a negative effect between return on equity and Treasury Management Strategies (TMS). A unit increase in Treasury Management Strategies (TMS) will lead to a unit decrease in return on equity (ROE) by 0.237837. This result is in line with a priori expectation. The probability value is 0.618777, implying that Treasury bill, asset liability management and cash management strategies have a very insignificant effect on return on equity.

Return on Shareholders Fund (ROSF): For return of shareholders’ fund, the coefficient of (ROSF) is -11.696194. This means that, Treasury Management Strategies (TMS) have a negative effect on return on shareholders’ fund. A unit increase in Treasury Management Strategies (TMS) will cause return on shareholders’ fund (ROSF) to decrease by -11.696194 units. The probability value is 0.08737 which indicates that Treasury bill, asset liability management and cash management strategies have a significant effect on return on shareholders’ fund.

TEST OF HYPOTHESES

The statistical significance of the individual parameters was used to test the hypotheses of the study. These tests were conducted at 5% level of significance.

TEST OF HYPOTHESIS ONE TO THREE

Stage One

Restatement of hypothesis is in null and alternate form:

H₀₁: Returns on Assets of First Bank of Nigeria PLC is not significantly affected by investment in treasury bills.

H_{a1}: Returns on Assets of First Bank of Nigeria PLC is significantly affected by investment in Treasury bills.

H₀₂: Returns on Equity of First Bank of Nigeria PLC is not significantly affected by investment in Treasury bills.

H_{a2}: Returns on Equity of First Bank of Nigeria PLC is significantly affected by investment in Treasury bills.

H₀₃: Returns on Shareholders’ Fund of First Bank of Nigeria PLC is not significantly investment in Treasury bills.

H_{a3}: Returns on Shareholders’ Fund of First Bank of Nigeria PLC is significantly affected by investment in Treasury bills.

Stage Two

Analysis of regression results,

Table 5: OLS on effect of investment in Treasury bill on return on asset, return on equity and return on shareholders’ fund

Variable	Probability	Coefficient	Conclusion
constant	0.658062	9.909368	Statistically significant
ROA	0.699998	2.083715	Statistically significant and positive
ROE	0.618777	-0.23783	Statistically insignificant and negative
ROSF	0.08737	-1.169619	Statistically insignificant and negative

Source: computed from e- view 8.0

Stage Three: Decision

From table 5 above, the probability value is greater than 5% (0.699998>0.05) but with positive coefficient value of 2.083715, the study therefore rejects the null hypothesis and accepts the alternative hypothesis: this indicates that return on asset, return on equity and return on shareholders’ fund of First bank is significantly affected by the investment on Treasury bill.

TEST OF HYPOTHESIS FOUR TO SIX

Stage One

Restatement of hypothesis is in null and alternate form:

H₀₄: Asset Liability Management (ALM) does not have any statistically significant effect on Returns on Asset of First Bank of Nigeria PLC.

H_{a4}: Asset Liability Management (ALM) does have a statistically significant effect on Returns on Asset of First Bank of Nigeria PLC.

H₀₅: Asset Liability Management (ALM) does not have any statistically significant effect on Returns on Equity of First Bank of Nigeria PLC.

H_{a5}: Asset Liability Management (ALM) does have a statistically significant effect on Returns on Equity of First Bank of Nigeria PLC.

H₀₆: Asset Liability Management (ALM) does not have any statistically significant effect on Returns on Shareholders’ Fund of First Bank of Nigeria PLC.

H_{a6}: Asset Liability Management (ALM) does have a statistically significant effect on Returns on Shareholders’ Fund of First Bank of Nigeria PLC.

Stage Two

Analysis of regression results,

Table 6: OLS on effect of Asset Liability Management on return on asset, return on equity and return on shareholders’ fund.

Variable	Probability	Coefficient	Conclusion
constant	0.658062	9.909368	Statistically significant
ROA	0.699998	2.083715	Statistically significant and positive
ROE	0.618777	-0.23783	Statistically insignificant and negative
ROSF	0.08737	-1.169619	Statistically insignificant and negative

Source: computed from e- view 8.0

Stage Three: Decision

From table 6 above, since the probability value is greater than 5% ($0.618777 > 0.05$) with coefficient value of -0.23783 , the study therefore accepts the null hypothesis and rejects the alternative hypothesis: this indicates that Asset Liability Management does not have any statistically significant effect on the return on asset, return on equity and return on shareholders' fund of First Bank of Nigeria PLC.

TEST OF HYPOTHESIS SEVEN TO NINE**Stage One****Restatement of hypothesis is in null and alternate form:**

H₀₇: Cash Management strategies of First Bank PLC do not have any significant effect on Returns on Asset.

H_{a7}: Cash Management strategies of First Bank PLC do have a significant effect on Returns on Asset.

H₀₈: Cash Management strategies of First Bank PLC do not have any significant effect on Returns on Equity.

H_{a8}: Cash Management strategies of First Bank PLC do have a significant effect on Returns on Equity.

H₀₉: Cash Management strategies of First Bank PLC do not have any significant effect on Returns on Shareholders' Fund.

H_{a9}: Cash Management strategies of First Bank PLC do have a significant effect on Returns on Shareholders' Fund.

Stage Two**Analysis of regression results,**

Table 7: OLS on effect of Cash Management strategies on return on asset, return on equity and return on shareholders' fund

Variable	Probability	Coefficient	Conclusion
constant	0.658062	9.909368	Statistically significant
ROA	0.699998	2.083715	Statistically significant and positive
ROE	0.618777	-0.23783	Statistically insignificant and negative
ROSF	0.08737	-1.169619	Statistically insignificant and negative

Source: computed from e- view 8.0

Stage Three: Decision

From table 7 above, since the probability value is greater than 5% ($0.08737 > 0.05$) with coefficient value of -1.169619 , the study therefore accepts the null hypothesis and rejects the alternative hypothesis: this indicates that Cash Management strategies of First Bank of Nigeria PLC do not have any significant effect on return on asset, return on equity and return on shareholders' fund.

ANALYSES AND INTERPRETATION OF RESULTS (DISCUSSION OF FINDING)

Investment in Treasury Bill (TB): The result of the ordinary least square (OLS) indicates that investments in Treasury bill have significant positive effect on return on asset (ROA), return on equity (ROE) and return on shareholders' fund (ROSF). The results of our findings are consistent with the work of Felix and Claudine (2008) in terms of return on asset, equity and shareholders' fund. It was discovered that investments in Treasury bills have a positive effect on bank performance.

Asset Liability Management (ALM): The result indicates that Asset Liability Management does not have any significant effect on the return on asset, return on equity and return on shareholders' fund. The result of our findings are consistent with the work of Kithinji (2010), he explains that asset liability management has a positive relationship with return on asset and negative relationships with return on equity and shareholders' fund of banks. For example, a 1 per cent decrease in asset liability management resulted to 0.024 per cent (increase) in equity returns and 0.117 per cent (increase) in returns on shareholders' fund given a 10% level of significance.

Kargi (2011) confirms that asset liability management had an adverse effect on the return of equity and shareholders' fund of banks. The larger the size of the asset liability base, the lesser the potential of expected return on equity and shareholders' fund that may be realized. It also gives the bank less freedom to take advantage of profitable lending opportunities.

Cash Management Strategies (CMS): The result indicates that, cash management strategies do not have any significant effect on return on assets, return on equity (ROE) and shareholders' fund (ROSF). The results of our findings are contrary with the work of Kargi, (2011). In essence, the higher the mismanagement of cash from the investment, the lower the net profit and performance of banks thus leading to a decline in the amount of dividends to be distributed to shareholders and also the amount ploughed back into the business to enhance its future revenue earning capacity.

Finally, the Adjusted R-squared is 0.0186504. This indicates that 0.02% of the total variation of Bank Performance is explained by changes in the values of the independent variables while the remaining 99.98% is due to other stochastic variables outside the model. This shows that the regression has low explanatory power.

Summary of Finding

In line with the research objectives and hypotheses, the result of the study indicates that investment in Treasury bill has significant positive effect on return on asset (ROA) return on equity (ROE) and return on shareholders' fund (ROSF), while asset liability

management and cash management strategies have negative and insignificant effect on return on equity (ROE) and return on shareholders' fund (ROSF).

The Adjusted R-squared is 0.0186504. This indicates that 0.02% of the total variation of (ROA, ROE and ROSF) is explained by changes in the values of the independent variables Treasury management strategies (TMS) while the remaining 99.98% is due to other stochastic variables outside the model, which the reverse should be the case. This shows that the regression has low explanatory power.

Conclusion

The study thus concludes that Treasury management strategies have adverse effect on First Bank performance in Nigeria and has not helped to improve the bank's performance. The study has shown that asset liability management and cash management strategies have adverse effect on the return on equity and return of shareholders' fund of First Bank of Nigeria PLC respectively. This has reduced funds available for the bank's development and performance in Nigeria and has reduced the standard of Treasury management strategies in Nigeria.

Besides these lapses of unfavorable enabling environment (excessive operational expenses, shareholders fund/total assets that is risk of default), mismanagement of assets, there is the issue of bad governance on the part of bank management which has failed in all respect to provide positive leadership. In this study, we have specified an empirical framework to investigate treasury management strategies, banks' asset and liability management, cash management and banks' performance. Based on the results of the theoretical and empirical analysis, Treasury bill, bank deposit, bank asset, bank liquidity, operating expenses, loan interest-deposit interest rates gap, inflation rate, interest rate, exchange rate, market share and unfavorable environment affects the performance of bank management. Capital adequacy ratios, efficiency/Quality of management and Liquidity ratios are also very crucial factors affecting bank capitalization and performance.

Therefore, in order to improve performance, management of banks should focus on maintaining sizeable amounts of reserves which can be ploughed back into the business, with best management strategies to invest in Treasury bill properly, skillfully manage their asset liability base, improve strategies in managing cash, diversifying product and services, beefing up the capital in line with regulatory authorities and best practices. This cannot be possible without employing skillful, experience and efficient team of management that are visionary and focus.

Recommendations

On the basis of the theoretical and empirical findings of this study, and considering the fact that the days of armchair banking has been overtaken with the intense competition in the Nigerian banking industry, the following recommendations are suggested:

- A bank that receives fresh funding but lacks adequate management (input) may find its situation worsens. The amount managers get in the form of luxury and expense accounts reflects their preference for status, power, and prestige. The skill of management should be strengthened as incompetent management has the power to destroy even the greatest assets quickly. It is common knowledge that the CBN has a significant influence on the choice of bank executives at the directorate level. Good performance histories and a step-by-step advancement through the ranks should be strictly taken into account in the criteria for selecting this type of bank employees.
- The bank's overall assets and the fund for shareholders should be regularly assessed. The regulatory bodies must install the necessary equipment or tools to handle the industry's problems with bank liquidity and shore asset quality. The regulatory agencies and bank management should always focus on addressing the root causes of illiquidity rather than the systems. In this approach, the Nigerian financial sector may regain the trust that has been lost. It is crucial always to have checks on hand and to periodically review bank statements.
- When a strong financial infrastructure is in place, bank management should advocate with governments to provide an environment that will support banks in their endeavors, such as access roads, security, and a steady supply of electricity. This will assist in reducing the banks' operating expenditures (OE).
- Since macroeconomic factors have an impact on bank returns, macroeconomic policies that support stable exchange rates, low interest rates, low inflation, and output growth will increase investment and productivity. To encourage banks to invest in Treasury bills and effectively manage their asset base, the government should create favorable conditions and regulate short-term interest rates. In conclusion, the promotion of financial intermediation should prioritize measures targeted at lowering interest rates. Financial institutions benefit from fiscal and monetary policies that support sustainable growth and output stability.
- The study identified an inverse relationship between shareholders fund and cash management strategies. The greater the cash mismanagement, the lesser the bank income; as long as the strategies are not improved upon. In order to improve this relationship, bank management should strengthen their supervisory units in cash management strategies, that is, from capitalization to sharing of dividends so as to avoid poor performance in its financial statement.
- The regulatory authority must implement cash management controls that will be applied to all aspects of how cash management affects Nigerian commercial banks' financial performance. This will have a significant impact on the industry's ability to manage cash effectively and improve performance for commercial banks.

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