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CASH/CASH EQUIVALENTS AND NET INTEREST INCOME OF LISTED DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT
The study investigated the effect of cash/cash equivalents and net interest income of listed deposit money banks in Nigeria. The study was ex post Facto research design and the pollution was fourteen deposit money banks in Nigeria listed on the Nigeria exchange group. The Sample size was seven deposit money banks using the purposive sampling techniques. The study used secondary data from published annual account of the seven money deposit banks in the Nigeria exchange group website. The panel method analysis was adopted. The panel was analysed with econometric techniques that involved descriptive and inferential statistics using ordinary least square regression technique. Findings shows that there is significant effect of cash/cash equivalents and net interest income of listed deposit money banks studied. The study concluded that cash/cash equivalent has positive effect on net interest income of list deposit money banks in Nigeria and was recommended that banks should make available cash/cash equivalent as its bedrock for bank sustainability in terms of profitability growth, and that manager of deposit money banks should increase allocation of resource towards financial assets especially those held for trading in order to improve on their financial performance.

Keywords: Cash/Cash Equivalent, Net Interest Income, Financial Assets, Profitability

Introduction
Due to the above challenge in employing financial assets, different researchers have produced divergent results in their financial assets empirical analysis globally and locally. The reasons for the divergence might be as a result of sample size, selected firms and statistical analyses adopted. It could also be as a result of variables used as the dependent and independent variables. For instance Guo et al (2023) study indicated financial assets have a dual influence on enterprise upgrading. Short-term financial assets provide the necessary funds for production activities, thus promoting enterprise upgrading. Long-term financial assets crowd out the funds needed for production activities and thus inhibit enterprise upgrading, resulting in an inverted U-shaped relationship between financial assets and enterprise upgrading. Okechukwu and Ugwu (2022) study disclosed from panel regression analysis result that there is a positive but insignificant effect of cash, stocks and loans on return on assets of pharmaceutical firms in Nigeria. Maccarthy and Adamu (2022) study showed that there is positive and significant relationship between cash equivalents and return on investment of deposit money bank. It also indicated that there is positive and significant cash equivalents and return on equity of deposit money bank and those financial assets have significant relationship with performance of deposit money banks in Nigeria. Major et al. (2022) finding showed that, there was a negative and significant relationship between inventories and return on assets, there is a positive and insignificant relationship between trade receivable and return on assets, there is a positive and significant relationship between cash and cash equivalent and return on assets of listed industrial goods firms in Nigeria for the period investigated in Nigeria. Olaoye (2022) study cash and cash equivalent has positive relationship and does not significantly influence earnings per share of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria. Cash and cash equivalent has negative relationship and significantly influence return on assets of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria. Abata (2021) finding

revealed that asset quality had a statistical relationship with financial performance among consumer goods manufacturing firms in Nigeria. Thankgod (2021) findings indicated that there is positive and significant relationship between cash equivalents and return on investment of deposit money banks. It also indicated that there is positive and significant cash equivalents and return on equity of deposit money banks and the study suggested that banks should make available cash and cash equipment as it's bedrock for bank sustainability. Agbogun and Taiwo (2020) findings of the study revealed that, total asset turnover ratio, non-current asset turnover ratio and inventory turnover ratio have positive but statistically insignificant relationship with the financial performance of manufacturing firms in Nigeria. Chukwu and Obah (2019) finding show that share prices are not significantly associated with insurance receivables, or with other financial assets. Osirim & Chukwu (2017) finding indicated a significant positive association between the financial assets held for trading and the performance of quoted banks in Nigeria. This suggests that optimum management of financial assets such as cash and cash equivalents could improve the financial performance of deposit money banks in Nigeria.

Hypothesis

H_{01}: There is no significant effect of cash/cash equivalents on net interest income of listed deposit money banks in Nigeria.

Cash/Cash Equivalents

Cash and cash equivalents refer to a line item on the Statement of Financial Position which depicts the value of firm assets that are cash or can be converted into cash immediately. Cash equivalents include bank accounts and marketable securities, which are debt securities with maturities of less than 90 days. Cash refers to any form of money in national currency, which includes all bills, coins, and currency notes. A demand deposit is a type of account from which funds may be withdrawn at any time without having to notify the institution. A firm's value of cash and demand for cash depends on changes in the firm's external and internal environments (Shipe, 2015). Cash and cash equivalent volatility provides information on the riskiness of a firm via the variability in a firm's cash flows. Firms are increasingly adjusting their cash positions to improve firm value.

Cash and cash equivalents constitute the amount of cash available to the bank for daily operations. It comprises of cash in hand and demand deposits. Cyril and Ogbonna (2019) disclosed that cash and cash equivalents are short term liquid investments that are readily convertible to known amounts of cash and that are subject to an insignificant risk of changes in value. Usman et al. (2022) affirmed that cash and cash equivalents comprise deposits held at call with banks and other short-term highly liquid investments with original maturities of three months or less. For the purposes of the cash flow statement, cash and cash equivalents include cash and non-restricted balances with central banks. The cash and balances with central banks include cash and restricted and non - restricted deposits with the central bank (Charles & Fortune, 2019; Hyeon&Young, 2020). The carrying amount of balances with other banks is a reasonable approximation of fair value which is the amount receivable on demand.

Agbogun and Taiwo (2020) advanced that cash and cash equivalents are the line item on the statement of financial position that reports the value of a company's assets that are cash or can be converted into cash immediately. Cash equivalents include bank accounts and marketable securities, which are debt securities with maturities of less than 90 days. Similarly, Onipeet al. (2022) stated that cash and cash equivalents are a group of assets owned by a company. The amount and quality of cash and bank balances can improve the income of a bank and thus increase the bank's financial performance. For simplicity, the total value of cash on hand includes items with a similar nature to cash. The aggregate of cash and cash equivalents financial assets are always shown on the top line of the statement of financial position.

This is because cash and cash equivalents are current assets, meaning they are the most liquid of short-term assets. Cash is essential in starting a business as well as in liquidating the same for its breakup value. The research study published by Dermawan and Indrajathi (2017) expressed that cash and cash equivalents is made up of cash on hand and demand supplies while cash equivalents are short term highly liquid investment that are readily convertible to known amount of cash although subject to insignificant risks of changes in value.

Financial assets involve planning and control of components of current assets like accounts receivables (trade and other debtors), cash, prepayments, cash equivalents / short term investments; and current liabilities: accounts payables (trade and other creditors), accruals, bills payables and short term financing (Abata, 2021; Awa et al., 2020; Gamayuni, 2015; Chukwu et al., 2017; Okwo et al., 2018; Anuar & Tinggi2021; Said &Tumin, 2016).

Net Interest Income

Net interest income refers to the difference between the interest income generated by financial institutions, such as banks and credit unions, from their interest-earning assets (such as loans and securities) and the interest expenses paid on their interest-bearing liabilities (such as deposits and borrowings). It is a key component of a financial institution's profitability and is a measure of the institution's ability to generate revenue from its core lending and investment activities (Karjalainen, 2022).

Net interest income is a critical metric for financial institutions as it reflects the core profitability of their lending and investment operations. It is a key driver of a bank's overall profitability and is closely monitored by investors, analysts, and regulators. A higher net interest income indicates that the institution is effectively earning more from its assets than it is paying on its liabilities, which is generally seen as a positive indicator of financial health and performance (Ullah & Ahmad, 2019).

Financial institutions typically generate interest income from a variety of sources, including:

Loans: This is one of the primary sources of interest income for banks. When banks extend loans to individuals, businesses, or other entities, they charge interest on the principal amount lent. The interest earned on these loans contributes to the bank's interest income (Uyar 2019; Heiens et al., 2017; Uyar 2019; Vivian 2018; Yator 2018).

Securities: Financial institutions invest in various interest-earning securities such as government bonds, corporate bonds, mortgage-backed securities, and other fixed-income instruments. The interest payments received from these securities contribute to the institution's interest income.

Other Interest-Earning Assets: In addition to loans and securities, financial institutions may have other interest-earning assets such as interbank funds, which also contribute to their interest income (Okwo et al., 2018; Anuar & Tinggi 2021).

On the other side of the equation, financial institutions incur interest expenses on their interest-bearing liabilities, including:

Deposits: Banks pay interest on customer deposits, such as savings accounts, certificates of deposit (CDs), and other deposit products. The interest paid on these deposits represents a significant portion of a bank's interest expenses (Jan-Horas & Denny, 2019).

Borrowings: Financial institutions often raise funds by issuing debt instruments or borrowing from other financial institutions. They pay interest on these borrowings, which adds to their interest expenses (Usman et al., 2022; Wisdom et al., 2021).

Other Interest-Bearing Liabilities: This category may include items such as repurchase agreements (repos) and other short-term borrowings that accrue interest expenses for the institution.

The net interest income is calculated by subtracting the total interest expenses from the total interest income over a specific period, typically quarterly or annually. The resulting figure represents the net amount earned from the institution's core lending and investment activities after accounting for the cost of funding those activities (Julius & James, 2021; Agus et al., 2018).

In summary, net interest income is a crucial measure of a financial institution's performance and profitability. It provides insight into how effectively an institution is able to generate revenue from its core operations relative to its funding costs.

Cash and Cash Equivalent and Profitability

The relationship between cash and cash equivalent and performance is critical to firms. It is generally understood that efficiently monitored cash and cash equivalent levels leads to good financial results. Effective liquidity management creates good public confidence in the financial system of a country and consequently on the liquidity state of firms. Due to this assumption, prior studies have been conducted, some found positive and significant while others found negative or insignificant. Positive or significant result includes; Usman et al. (2022) findings of the study revealed that cash reserve ratio (CRR) is significantly related to the financial performance of listed Deposit Money Banks in Nigeria. Collins and Kabiru (2022) result showed a positive and a weak direct relationship between cash ratio (0.0134) and return on assets of quoted consumer goods companies in Nigeria. Adekanmi et al. (2022) results of the findings, it was revealed that the cash conversion cycle has positive and significant effect on financial performance of listed food and beverage firms in Nigeria. Sile et al. (2019) findings indicated that cash and cash equivalent has significant relationship with financial performance. Thankgod (2021) findings showed that there is positive and significant relationship between cash equivalents and return on investment of deposit money bank. It also indicated that there is positive and significant cash equivalents and return on equity of deposit money bank and those financial assets have significant relationship with performance of deposit money banks in Nigeria.

Negative or insignificant result include; Sathyamoorthi et al. (2020) study showed that cash and cash equivalents to total assets ratio had statistically insignificant relationship with return on assets and return on equity. Idolor and Adelegan (2023) Cash reserve ratio has insignificant relationship with returns on equity of DMBs in Nigeria. Olaoye (2022) study cash and cash equivalent has positive relationship and does not significantly influence earnings per share of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria. Cash and cash equivalent has negative relationship and significantly influence return on assets of listed industrial goods manufacturing firms for the period 2011 to 2020 in Nigeria

The Cash Conversion Cycle (CCC) Theory

The cash conversion cycle theory was developed by Verlyn and Eugene in the 1980s and is a working capital management theory that enables firms to optimize their financial management operations (Inyiama et al., 2021). The cash conversion cycle theory is a theoretical and financial approach that explains the duration taken by an organization to convert its financial assets such monetary gold, currency deposits, securities other than shares, borrowings, loans, shares, and other equity, other accounts receivable/payable, financial derivatives into liquid cash (Okoro& Charles 2019; Maccarthy&Adamu 2022; Mwaniki & Omagwa, 2017; Nugraha et al., 2020; Salifu& Gospel, 2020).The theory is concerned with the annual days and frequency taken by an institution to turn its liquid assets and cash equivalents into liquid cash necessary in meeting operational costs and other obligations.

The theory further measures how much time it takes an organization to collect its accounts receivable and pay up its obligations without incurring any penalties, such as in the form of delayed vendor payments (Newstyle & Opuene 2022; Major et al., 2022; Okechukwu & Ugwu, 2022). The deposit money banks with shorter cash conversion cycle exhibited through high cash ratios were considered efficient and experienced optimal financial performance.

In contrast, the deposit money banks with more extended cash conversion cycle were deemed inefficient and characterized by being financially unstable. Madubuko and Ogbonna (2020) reported that cash conversion cycle theory indicates the theoretical amount of time an organization takes to

send and receive cash tied up in financial asset. The theory focuses on explaining how money tied up in financial assets such as cash and cash equivalent, loan/advances to customers' can quickly be converted into liquid cash to enable the success of meeting an organization's operational costs.
The cash conversion cycle theory was relevant to this research since it helped evaluate the frequency of these deposit money banks spend their available investment in term of cash and convert money ostensibly held in other components of the financial assets such as inventory, receivables/payable, cash equivalents, loan/advance into liquid cash. The theory also helps in explaining and understanding the impact of financial assets and financial performance variables.
The cash conversion cycle theory expressed that organizations can convert their financial assets into liquid cash quickly is considered financially healthy compared to those that struggle to reclaim their assets into cash. As such, this theory recommended that organizations should aim at holding assets that are quickly convertible into cash to enable them meet their financial obligations with minimal costs.

Research Design
This study used ex-post facto research design. This design seeks to identify antecedents of a present situation. In ex-post facto research design, the variable is not controlled or manipulated by the researcher, because it has already occurred in the past. The data involved are extracted from the published annual reports of listed deposit money banks on the Nigerian Exchange Group.

Population for the Study
Onuaguluchi and Okwo (2022) advocated that research population is a well-defined collection of individuals or objects known to have similar characteristics. Olaleye and Ishola (2022) stated that research population is generally a large collection of individuals or objects that regarded as the main focus of a scientific query. The population of the study consisted of fourteen (14) deposit money banks listed on the floor of the Nigerian Exchange Group as at 31st December 2022.

Table 1 Listed Deposit Money Banks in Nigeria

S/N	Name of Banks
1	Access Holdings Plc
2	EcoBank Transnational Incorporation
3	FBN Holdings Plc
4	FCMB Group Plc
5	Fidelity Bank Plc
6	Guaranty Holding Company
7	Jaiz Bank Plc
8	Stanbic IBTC Holdings Plc
9	Sterling Bank Plc
10	Union Bank Plc
11	United Bank for Africa
12	Unity Bank Plc
13	Wema Bank Plc
14	Zenith Bank Plc

Source: NGX, 2023

Sampling and sampling technique
Based on the foregoing criteria, a total sample size of seven (7) deposit money banks listed on the Nigeria Exchange Group as at 31st December, 2022 employing purposive sampling techniques. These include: , Fidelity Bank Plc, Zenith Bank, Access Bank, Unity Bank, Union Bank, First Bank Plc

and Stanbic Bank. The cross-sections included in the study was seven (7) deposit money banks; sample period ten (10) years, and total observation was (70) seventy years.

Sources and Method of Data Collection

The study used secondary data. The secondary data gathered by downloading published annual accounts of the seven (7) selected deposit money banks on the Nigerian Exchange Group website. In specific terms, the data were collected from the portion expounding on income statement, statement of financial income, financial position and note to the account. The secondary data provided a reliable source of information required by the researcher to investigate the phenomenon and sort efficient methods for solving problems arising from situations.

Measurement of Study Variables

This study investigated the effect of financial assets and profitability of deposit money banks' in Nigeria. The study used cash/cash equivalent (CCE), loan/advances to customers (LAC) as proxies of the independent variable financial assets; whereas: net interest income (NETINC) and earnings per share (EPS) were used as measures of the dependent variable profitability.

Table 3.1 Explanation of Study Variables

Variable Name/Acronyms	Measurement	Sources
Cash/Cash Equivalent **CCE**	Cash/cash equivalent was extracted directly from the statement of financial position and applied with log	Guo et al (2023), Okechukwu and Ugwu (2022),
Loan/Advances to Customers' **LAC**	Loan and advances to customers' was extracted directly from the statement of financial position and applied with log	Major et al. (2022), Maccarthy and Adamu (2022), Oghenekohwo et al. (2019), Chukwu and Obah (2019),
Net Interest Income **NETINC**	Net interest income was extracted directly from the statement of comprehensive income and applied with log	Okoro and Charles (2019), Inyiama et al. (2021)
Earnings Per Share **EPS**	Earnings per share was extracted directly from the statement of comprehensive income and applied with log	Orlu et al (2022), Oladunjoye et al (2021), Sumaryati and Tristiarini (2017)
Firm Size FS	Natural Log of Total assets	Desk Researcher (2023)

Method of data Analysis

The study used panel data that was subjected to preliminary test to ascertain the behavior of the data set. However, the panel data was analyzed with econometric techniques that involved descriptive statistics and inferential statistics using Ordinary Least Square (OLS) regression techniques. Nevertheless, other tests of significance which was used in the study were:

R^2 – coefficient of determination was used to test the explanatory power of the independent variable;

T-test was used to test for the significance of the coefficient of the variables;

F-Ratio was used to test for the significance of the overall models;

Durbin-Watson (DW) test was used to test whether auto-correlation exist or not in error term (u).

Results
Test of Hypotheses
Statement of Hypothesis

H_{01}: There is no significant effect of cash/cash equivalents on net interest income of listed deposit money banks in Nigeria.

Decision Rule: Accept Ho if P > 0.05. Otherwise reject

Decision: The result in table 1 discovered an insignificant level between cash/cash equivalents (CCE) and net interest income (NETINC). The Beta value (R) = 0.074 indicated that there is a weak positive effect of cash/cash equivalents (CCE) and net interest income (NETINC) with t-sta value 0.386 which implies that 1% increase in cash/cash equivalents will lead to 38.6% increase in net interest income. The probability value P= 0.701 > 0.05 revealed that the significant effect of cash/cash equivalents (CCE) on net interest income (NETINC) is statistically insignificant at 0.05 alpha level. Thus the null hypothesis one is accepted which implied that cash/cash equivalents has insignificant effect on net interest income of listed deposit money banks in Nigeria.

Conclusions
This study investigated the effect of cash/cash equivalent on net interest income among listed deposit money banks firms in Nigeria. Based on the data analysis, and discussion of findings, and summary of findings above, the study concluded that; Cash and cash equivalent has positive effect on net interest income of listed deposit money banks in Nigeria.

Recommendations
Based on the summary of findings and conclusions above, the following recommendations were made:

1. The study recommends that banks should make availability of cash and cash equipment as it is bedrock for bank sustainability in term of profitability growth.
3. This study recommends that managers of deposit money banks should increase their allocation of resources towards financial assets especially those held for trading in order to improve on their financial performance.
5. It is also recommended that in financial practice, much consideration should be placed on financial assets when formulating financial policies of the banks and standard operating procedures.

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