JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING
Volume 6, Number 2, December 2025, pp. 1 – 28.
ISSN 2814 - 1113
https://journals.unizik.edu.ng/index.php/jocia/index

STATUTORY INCOME STREAM AND PERFORMANCE OF LISTED COMMERCIAL BANKS IN NIGERIA

Nonye Joy Ezenwafor[1] Emmanuel I. Okoye[2] Augustine N. Odum[3]
[1,2&3]*Department of Accountancy, Nnamdi Azikiwe University, Awka, Anambra State, Nigeria.*
Emails: nj.ezenwafor@unizik.edu.ng[1]; eik.okoye@unizik.edu.ng[2]; an.odum@unizik.edu.ng[3]
Correspondence: nj.ezenwafor@unizik.edu.ng

ABSTRACT

The study assessed the effect of statutory income stream on performance of commercial banks listed on the Nigerian Exchange Group. Specifically, the study evaluated the effect of interest income on Return on Assets (ROA) and further ascertained how non-interest income affects the Return on Assets of commercial banks in Nigeria. Relying on the ex-post facto research design, a total of 7 licensed commercial banks with international operational scope was sampled over a period of 12 years ranging from 2013-2024. Descriptive and correlational analyses were preliminarily conducted to summarise the data obtained and analyse the research questions. Hypotheses formulated were tested using panel estimated generalised least square regression analysis. The findings revealed that interest income has a significant effect on the Return on Asset of listed commercial banks in Nigeria such that, Investment securities income had a negative but significant effect on ROA (β = -0.0143; p = 0.0000); loan and advances to banks maintained a positive and statistically significant effect on ROA (β = 0.0009; p = 0.0001); while loan and advances to customers showed a positive and statistically significant effect on ROA (β = 0.0084; p = 0.0000) of listed commercial banks in Nigeria. It was further discovered that that non-interest income has a significant effect on ROA such that credit related fees had a negative but significant effect on ROA (β = -0.0040; p = 0.0003); letters of credit commission had a negative but significant effect on ROA (β = -0.0022; p = 0.0000); electronic banking income had a positive but statistically insignificant effect on ROA (β = 0.0002; p = 0.8905); while account maintenance income had a positive and significant effect on ROA (β = 0.0010; p = 0.0010) of commercial banks listed in Nigeria. In conclusion, bank profitability is influenced by a complex mix of revenue sources, each interacting uniquely with asset returns. The study therefore recommended that the Management of commercial banks should strategically increase lending activities to customers and interbank loans, while reassessing the portfolio of investment securities to minimize their adverse impact on Return on Assets.

Key words: *Account maintenance income, Electronic banking income, Interest Income, Loan & advances Income, Non-Interest Income, Statutory Income Stream*

INTRODUCTION

The performance of commercial banks is a critical indicator of financial stability and economic growth in any country. In Nigeria, the performance of these banks, especially those listed on the Nigerian Exchange Group, has become a focal point for policymakers, investors, and researchers. Over the years, these performances were being influenced by various income

streams with statutory income streams playing a significant role. Statutory income encompasses various revenue streams that banks are legally mandated to generate revenue from and as well give report to, this includes Interest income, No-interest income, income from Government security and dividend income.

Interest income, a primary component of statutory income streams, is derived from the banks' core business activities lending. It represents the revenue generated from loans and advances extended to individuals, businesses, and governments. Recent studies have highlighted the correlation between interest income and bank performance, showing that fluctuations in interest rates and loan volumes can significantly impact the profitability of banks (Eke, Iwuanyanwu & Nwosu 2019; Odeleye & Bamigbola, 2021). On the other hand, Non-interest income, another critical element of statutory income streams, encompasses revenue generated from sources other than interest on loans. This includes fees, commissions, trading income, and other service charges (Ogunleye, Abayomi & Adejumo, 2017). The contribution of non-interest income to the overall performance of commercial banks has been the subject of extensive research, with findings suggesting that a higher proportion of non-interest income can enhance the stability and profitability of banks, particularly in times of economic uncertainty (Adewuyi & Taiwo, 2019). Despite the critical role that statutory income streams play in determining bank performance, several challenges persist in optimizing these income streams for improved financial outcomes. The Nigerian banking sector has faced significant challenges in maintaining stable interest income due to fluctuations in interest rates, high levels of non-performing loans (NPLs), and changes in and volatility of monetary policies in Nigeria. However, recent research underscores the need for commercial banks to maintain a balanced income structure, leveraging both traditional (Interest income sources) and non-traditional (Non-interest income sources) sources of income to navigate the complexities of the modern financial landscape (Ibrahim & Saraki, 2022; Aluko & Olaoye, 2023).

For the purpose of this study, the independent variable, statutory income stream, was proxied with Interest income and Non-interest income which were both further decomposed such that interest income was proxied with Investment Security, Loan & Advance to Banks and Loan & Advance to Customers) while the non-interest income was measured with Credit related fees, Letters of credit commission & fees, E-Business income and Account Maintenance income. The dependent variable, performance, was measured with the Return on Assets of the sampled commercial banks.

JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING
Volume 6, Number 2, December 2025, pp. 1 – 28.
ISSN 2814 - 1113
https://journals.unizik.edu.ng/index.php/jocia/index

Objectives

Broadly, the study evaluates the effect of statutory income stream on performance of commercial banks in Nigeria. Specifically, it:

1. evaluate the effect of interest income on Return on Assets of commercial banks.
2. ascertain how non-interest income affect the Return on Assets of commercial banks.

Hypotheses

H_{01}: interest income has no significant effect on Return on Assets of commercial banks.

Ho_6: The effect of Non-interest income on the Return on Assets of commercial banks is not statistically significant.

LITERATURE REVIEW

Interest Income and financial Performance

The importance of interest income lies in its direct connection to the bank's primary business model, which involves borrowing funds from depositors at relatively low interest rates and lending these funds to borrowers at higher rates. The difference between the interest earned on loans and the interest paid on deposits constitutes the bank's net interest margin (NIM), a critical metric for assessing financial performance. The NIM is often used to gauge how effectively a bank is managing its interest rate risk and the profitability of its lending activities. A higher NIM indicates that the bank is able to lend at rates significantly above its cost of funds, thereby generating more income. In Nigeria, where the financial system is still developing and the demand for credit is high, interest income remains a vital source of revenue for commercial banks. Recent research underscores the centrality of interest income to bank performance, with studies highlighting its strong correlation with key profitability metrics such as Return on Assets (ROA) and Return on Equity (ROE) (Olokoyo, 2017).

The composition of interest income is closely linked to the structure of a bank's loan portfolio. Banks typically extend credit across various sectors, including consumer lending, commercial lending, and government loans. The interest rates applied to these loans are influenced by several factors, including the creditworthiness of the borrower, the duration of the loan, and prevailing economic conditions. In Nigeria, the interest rate environment is often shaped by the monetary policies of the Central Bank of Nigeria (CBN), which adjusts rates to control inflation, stabilize the currency, and manage economic growth. Changes in the monetary policy rate (MPR) can have significant implications for the interest income of commercial

banks. For instance, an increase in the MPR typically leads to higher lending rates, which can boost interest income. However, it may also reduce the demand for loans, particularly among cost-sensitive borrowers, thereby impacting the volume of loans extended (Ibe, 2015). Moreover, the regulatory environment plays a significant role in shaping the interest income of commercial banks. Regulatory policies, such as capital adequacy requirements and loan-to-deposit ratios, can influence the amount of lending a bank can undertake, thereby affecting its interest income. In Nigeria, the CBN has implemented various regulations aimed at ensuring the stability of the banking sector, some of which directly impact the ability of banks to generate interest income. For example, the cash reserve ratio (CRR) determines the proportion of customer deposits that banks must hold as reserves, thereby limiting the funds available for lending. While these regulations are designed to mitigate systemic risk, they can also constrain the interest income that banks can generate (Ugoani, 2016).

Investment Securities Income

Investment securities income refers to the earnings generated by a bank from its holdings in financial instruments such as bonds, stocks, and other securities (Zinn, 2022). Banks typically invest in these securities to generate a return on their surplus funds while maintaining liquidity and managing risk (Michael, 2024). The income from investment securities is primarily derived from the interest, dividends, or capital gains earned from holding these securities. These investments are a crucial part of a bank's overall strategy, helping to diversify its revenue sources beyond traditional lending activities (Wagner, 2024). For most banks, investment securities are classified into three categories: trading securities, available-for-sale securities, and held-to-maturity securities. The income generated from these securities can vary significantly depending on the type of investment. For example, income from government bonds or high-rated corporate bonds typically comes in the form of fixed interest payments, which can be a stable and predictable source of income for banks.

In contrast, income from equity securities may be less predictable, as it depends on the payment of dividends and the performance of the underlying company's stock price. Investment securities income is important to banks as it provides an additional revenue stream that complements interest income from loans and advances (Wagner, 2024). The role of investment securities in a bank's portfolio is multifaceted. They not only generate income but also serve as a mechanism for managing liquidity. For instance, banks often invest in short-term securities or government bonds to ensure they have enough liquid assets to meet their obligations and regulatory requirements. These securities can be easily converted into cash,

providing banks with the flexibility to respond to fluctuations in the demand for loans or sudden withdrawals by customers.

Loan and Advances to Customers

Loans and advances to customers are a critical component of a bank's lending operations, representing the funds that banks extend to individuals, businesses, and other entities (Gupta & Bansal, 2024). The income generated from these loans comes primarily from the interest charged on the outstanding balances, which forms a significant portion of the bank's overall interest income (Lamothe, Delgado, Solano & Fernández, 2024). This category encompasses a wide variety of loan types, including personal loans, mortgages, business loans, credit card debt, and more. Each type of loan typically carries its own terms, interest rates, and repayment schedules, but all contribute to a bank's ability to generate revenue through lending.

For a bank, loans and advances to customers are a primary avenue for earning interest income (Kagan, 2024). The interest on loans is typically calculated as a percentage of the principal amount, and the rate can be fixed or variable depending on the terms of the loan agreement. In addition to the interest, banks may charge fees associated with the loan, such as origination fees, processing fees, or late payment penalties. These fees, although not classified as interest income, can further enhance the bank's overall revenue from lending activities. The amount of interest income a bank earns from loans and advances is influenced by various factors, including the size of the loan portfolio, the interest rates charged, the repayment terms, and the creditworthiness of the borrowers. Banks evaluate borrowers' credit risk before issuing loans, and the interest rate is often set based on the perceived risk associated with each borrower (Sangwan, Nayak, Harshita & Sangwan, 2021). Higher-risk borrowers typically pay higher interest rates to compensate the bank for the potential of default or delayed payments. This dynamic allows banks to manage their lending portfolios and optimize income while balancing the risk of loan defaults.

On the other hand, interbank lending market is an essential part of the banking system, providing liquidity to individual banks and ensuring the smooth functioning of the financial system (Davis, Korenok, Lightle & Prescott, 2020). When one bank has excess reserves, it may lend these funds to another bank that needs liquidity, typically at an agreed-upon interest rate. The rate at which banks lend to each other is often influenced by the prevailing central bank interest rates and the general economic conditions. Banks use these loans to manage their daily operations, fulfill reserve requirements, and maintain the required level of liquidity

(Wolski & van de Leur, 2016). For instance, a bank may lend surplus funds to another bank for a short duration, such as overnight, in order to earn a return on those funds, while the borrowing bank can access the liquidity it needs to operate smoothly. The income derived from loans and advances to banks is typically considered relatively low-risk compared to loans to customers because these transactions are typically between financially sound institutions. However, this does not mean that there are no risks involved. Banks must carefully assess the creditworthiness of their counterparties, as lending to a financially unstable bank could result in losses. To mitigate these risks, interbank loans are often secured by collateral, such as government securities, which can be liquidated in case the borrowing bank defaults on the loan. The interest rate charged on these loans is typically determined by market conditions and the level of risk involved.

Non-Interest Income and Financial Performance

Non-interest income has become an increasingly significant component of the revenue structure for commercial banks, particularly in the face of fluctuating interest rates and heightened competition within the banking industry. This category of income encompasses various revenue streams that are not directly related to the traditional lending activities of banks. Instead, non-interest income is derived from fees, commissions, trading income, and other service-related charges. As the banking landscape continues to evolve, especially in developing economies like Nigeria, non-interest income has gained prominence as banks seek to diversify their income sources and mitigate the risks associated with reliance on interest income.

The growing importance of non-interest income in commercial banks can be attributed to several factors, including changes in the regulatory environment, technological advancements, and shifts in customer preferences. In Nigeria, regulatory reforms aimed at strengthening the financial system have encouraged banks to explore alternative revenue streams. For example, the Central Bank of Nigeria (CBN) has implemented policies that have at times restricted the ability of banks to charge high interest rates, prompting banks to seek out other avenues for generating income (Nwude & Chukwuani, 2021). Moreover, technological advancements have enabled banks to offer a broader range of financial products and services, from mobile banking to digital payments, each of which presents opportunities to earn fees and commissions. The rise of fintech and digital banking platforms has further driven this shift, as banks increasingly compete with non-traditional financial service providers that operate largely on fee-based models (Adewuyi & Olowookere, 2020).

JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING
Volume 6, Number 2, December 2025, pp. 1 – 28.
ISSN 2814 - 1113
https://journals.unizik.edu.ng/index.php/jocia/index

Credit Related Fees

Credit-related fees are charges imposed by banks for services connected to the provision of credit products, such as loans, lines of credit, or credit cards (PNBIndia, 2024). These fees are designed to cover the administrative, operational, and risk management costs that banks incur in offering credit services to individuals or businesses (Central Bank of Nigeria, 2020). These fees are essential for the bank's profitability as they directly compensate for the operational efforts required to underwrite, disburse, and manage credit facilities. When a bank extends a loan or credit, it assumes a degree of risk (Saiz-Sepúlveda & Hernández-Tamurejo, 2025). Therefore, credit-related fees not only serve as a revenue stream but also act as a form of risk management, helping the bank mitigate the potential cost of defaults or delayed payments. These fees can vary in nature and amount, depending on the type of credit facility, the terms of the agreement, and the creditworthiness of the borrower. Common examples of credit-related fees include application fees, processing fees, late payment fees, prepayment penalties, and annual fees for maintaining a credit line. For instance, when a borrower applies for a mortgage, they may be required to pay an application fee that covers the cost of credit checks, property appraisals, and legal documentation.

Letters of Credit Commission

Letters of credit (LC) commissions are fees charged by banks for issuing a letter of credit, which is a guarantee of payment to a seller on behalf of the buyer in international trade transactions (Central Bank of Nigeria, 2020). A letter of credit is an essential financial instrument used primarily in cross-border trade to reduce the risk of non-payment (Kagan, 2024). It serves as a promise from the bank that the seller will receive payment, provided they meet the specific terms outlined in the LC agreement (Abila, Tamarapreye & Oputa, 2020). The fee charged for issuing a letter of credit typically reflects the risk, complexity, and value of the transaction. For banks, the commission for issuing a letter of credit represents a significant source of non-interest income. This commission is usually calculated as a percentage of the total value of the letter of credit and can vary based on several factors. These factors include the creditworthiness of the buyer, the duration of the credit, the risk level of the transaction, and the involvement of intermediaries. The letter of credit commission covers the administrative costs associated with evaluating the transaction, verifying the documentation, and ensuring compliance with the terms specified in the credit agreement.

Electronic Banking Income

Electronic banking income is the revenue generated by financial institutions through the use of digital channels, including online banking platforms, mobile apps, ATMs, and electronic payment systems (ICIR, 2022). As digital banking continues to grow, financial institutions have adapted by offering a range of electronic banking services that cater to customers' need for convenience, speed, and 24/7 access to banking services (Aduaka & Awolusi, 2020). The fees charged for these services form the foundation of electronic banking income, which has become increasingly important as customers shift toward digital and self-service options. One of the most common sources of electronic banking income is transaction fees. These fees are charged whenever a customer uses electronic channels to conduct banking transactions such as transferring money, paying bills, or making deposits (Central Bank of Nigeria, 2020). For instance, a bank might charge a fee for international wire transfers made through its online platform, or for using an ATM outside the bank's network (Kenton, 2023). These fees are typically designed to cover the costs of providing and maintaining the digital infrastructure that supports such transactions, including system security, customer support, and transaction processing.

Account Maintenance Income

Account maintenance income refers to the fees charged by financial institutions for the ongoing management and administration of customer accounts (Motlhabane, 2017). These fees are typically applied to deposit accounts, such as checking, savings, and money market accounts, and are meant to cover the operational costs associated with maintaining these accounts (FasterCapital, 2024). For banks, account maintenance income is a significant source of non-interest revenue, providing a steady and predictable stream of income that helps offset the costs of offering banking services. Banks charge account maintenance fees to help cover a variety of expenses related to the upkeep of customer accounts (Central Bank of Nigeria. (2020). These expenses can include costs for providing account statements, managing transactions, and providing customer service. In many cases, these fees are charged on a monthly or annual basis, and the amount varies depending on the type of account and the services provided. For instance, a basic checking account might incur a small monthly maintenance fee, while a premium account that offers additional services like higher interest rates or dedicated customer support might carry a higher fee.

Performance of Commercial Banks

The performance of commercial banks is a critical determinant of the overall stability and growth of the financial sector and the broader economy. In assessing the performance of these institutions, various financial metrics are employed, including Return on Assets (ROA), Return on Equity (ROE), and Net Profit Margin (NPM). These metrics provide insights into the banks' ability to generate profits relative to their assets, equity, and interest-bearing liabilities, offering a comprehensive view of their operational efficiency and financial health.

Return on Assets (ROA)

ROA is a key indicator of a bank's efficiency in utilizing its assets to generate earnings. It measures a company's ability to generate profits from its assets. It is calculated by dividing the net income by total assets, providing a percentage that reflects the profitability per unit of assets. Formula;

$$ROA = Net\ Income / Total\ Assets.$$

A higher ROA indicates that the bank is effectively managing its assets to generate profit, which is crucial for sustaining growth and maintaining investor confidence. Recent studies have emphasized the importance of ROA as a measure of performance, particularly in the context of the Nigerian banking sector, where asset quality has been a major concern (Adeoye & Adewoye, 2020), He further portrayed that the prevalence of non-performing loans (NPLs) has historically undermined asset quality, reducing the effectiveness of assets in generating income and, consequently, lowering ROA. In response to this, banks have implemented stricter credit risk management practices and enhanced their loan monitoring processes to improve asset quality and, by extension, ROA). ROA, in particular, is a valuable measure of a bank's profitability and operational efficiency as it indicates how efficiently a bank manages its assets to generate earnings (Ghosh 2019). Furthermore, ROA offers a holistic evaluation of a bank's performance as it integrates the effects of income generation, asset usage, and risk management (Mehzabin et al, 2023).

Theoretical Review

Financial Intermediation Theory

This theory was developed by Gurley and Shaw in 1960. Financial Intermediation Theory explains the role of financial institutions, particularly banks, in facilitating the flow of funds between savers and borrowers. According to this theory, banks act as intermediaries that reduce transaction costs and information asymmetries between lenders and borrowers, thereby

enhancing the efficiency of financial markets. Banks collect deposits from individuals and institutions and then channel these funds into productive investments, primarily through loans, while also generating income from various statutory income streams such as interest and non-interest income. This theory is relevant to the study as it highlights the central role of banks in generating income from their core activities, such as lending (interest income) and other financial services (non-interest income). The theory underscores the importance of these income streams in determining the overall performance of commercial banks. The performance of banks, as financial intermediaries, depends significantly on their ability to manage these income sources effectively while minimizing risks. Hassan, Maingi, Ben and Willis (2024) agreed to this after investigating the overall outcome of financial intermediation on the sustainability of youth-owed enterprises in Kenya and found out that access to financial services significantly influences the enterprises. Understanding how statutory income streams influence bank performance aligns with the core principles of Financial Intermediation Theory, making it an appropriate theoretical foundation for the study. The theory is perfect for this study because it provides a comprehensive framework for analyzing the relationship between income streams and bank performance. By focusing on the role of banks as financial intermediaries, the theory allows for an in-depth examination of how interest income, non-interest income, income from government securities, and dividend income contribute to the profitability and stability of commercial banks. In the work of Bongomin, Yosa and Amani (2022), their study confirmed that financial intermediaries play a pivotal role in enhancing financial performance of microfinance banks, supporting Gurley and Shaw's assertions.

Huang, Jurin, Tam and Ren (2024), agreed with this theory when they studied the Chinese banks and concluded that the Chinese banks developed unique financial evolution by engaging in other sources of revenue other than the interest income. The study aligns perfectly with this theory as it investigates how effectively banks are leveraging their intermediary roles to optimize these income streams and, in turn, enhance their financial performance.

Empirical Studies

Obadiaru and Ogunyemi (2024) 10slamic10 the impact of interest and non-interest income on the profitability of money deposit banks in Nigeria. Secondary data were collected from the annual reports of selected banks over a 12-year period (2010–2021). Descriptive and inferential statistics were used to 10slamic the data, and a generalized linear model (GLM) was applied to test the hypotheses. The study found a significant relationship between interest

income and profitability but an insignificant relationship between non-interest income and profitability. It was recommended that banks implement policies to attract both interest and non-interest income in the Nigerian banking industry.

Abu, Awad, and Ellis (2024) examined the effects of non-interest income on bank performance in the Middle East and North Africa (MENA) region, addressing existing research gaps and conflicting results. The analysis is based on data from 40 banks (5 banks from each country) operating in Bahrain, Egypt, Jordan, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates between 2010 and 2022. Using correlation analysis and three regression models (OLS, FE, and RE), this study explores the relationship between non-interest income, overheads, capital adequacy, loan loss provision, bank size, and return on assets. The findings reveal positive associations among banks' overhead, size, capital adequacy, and loan loss provision. Additionally, a 11slamic11le correlation is observed between non-interest income and bank performance. Non-interest income significantly influences the profitability of MENA region banks across all three models, supporting the main hypothesis. While the study's limitations include sample size and geographic focus, the findings provide valuable insights for policymakers, allowing them to recognize the positive impact of increasing non-interest income on commercial bank profitability in the MENA region and consider implementing policies that encourage and support banks in diversifying their income sources.

Ghorbani, Haji, Fotros, and Sarlak (2024) examined the impact of income diversification strategies on efficiency in banks admitted to the Tehran Stock Exchange between 2011 and 2021. Using data from the financial statements of banks, this research investigated the effect of income diversification strategies on efficiency. The statistical population included all banks admitted to the Tehran Stock Exchange during the period, with 10 banks selected using the targeted elimination method. The data envelopment analysis (DEA) approach was used to measure efficiency, and the autoregressive distributed lag (ARDL) model was employed to estimate the research model. The findings showed that income diversification strategies (interest and non-interest) have a positive and significant effect on the efficiency of banks in both the short and long term.

Amahalu, Okudo, and Ezechukwu (2023) examined the nexus between diversification and financial performance of quoted commercial banks in Nigeria. Diversification was measured using investments in debt securities, equity securities, and subsidiaries, while Return on

Assets served as a proxy for financial performance. Thirteen quoted commercial banks were sampled from 2009 to 2022. The study adopted an ex-post facto research design, with secondary data 12slamic12 using E-Views 10 statistical software. Pearson correlation and Panel Least Squares (PLS) regression analysis revealed that investments in debt securities, equity securities, and subsidiaries had a significant positive relationship with return on assets. The study recommended that commercial banks expand their diversification techniques to manage financial risks effectively and explore the use of derivatives to mitigate financial asset risks.

Saynab (2023) examined the effect of income diversity on Kenyan publicly traded banks' operational effectiveness. The study sample comprised 14 microfinance banks located in Kenya, covering the period from 2018 to 2022. A descriptive research design was employed, with control variables including liquidity, capital sufficiency, and bank size. Results indicated that income diversity accounted for approximately 20.1% of the variation in efficiency, as reflected by an R-square value of 0.201. The model was statistically significant, with an ANOVA p-value of 0.022. According to the Herfindahl-Hirschman Index, the relationship between efficiency and income diversity was weak and statistically insignificant. However, bank size exhibited a strong positive correlation with efficiency. Capital sufficiency showed a negative but statistically insignificant relationship, while liquidity had a small positive effect on efficiency. The study recommended that banks develop customized income diversification strategies and advised investors not to rely solely on diversification as a marker of improved efficiency.

Ngozi, Chukwudi, and George (2023) studied the relationship between bank diversification and return on assets in Nigerian deposit money banks over the period 1990–2020. The explanatory variables included treasury bills, acquisition of ordinary shares, investments in subsidiaries, and foreign investments, while return on assets served as the dependent variable. Data were sourced from the Central Bank of Nigeria's statistical bulletin and the Nigerian Deposit Insurance Corporation's annual reports. Using the Augmented Dickey-Fuller test for unit roots, along with the autoregressive distributed lag and Bounds test methods, the study explored both short- and long-term relationships. In the short run, treasury bills, ordinary shares, and investments in subsidiaries were positively associated with return on assets, whereas foreign investments had a negative but insignificant effect. Long-term relationships were found among all explanatory variables and return on assets.

Uddin, Majumder, Akter, and Zaman (2022) explored the effects of income and asset diversification on the profitability of Bangladeshi banks. The study utilized dynamic panel data and system generalized method of moments, analysing data from 32 banks over 318 bank-year observations spanning 2007 to 2016. The results demonstrated a significant positive relationship between both types of diversification and bank profitability, indicating that diversification strategies can enhance profitability in the banking sector.

Quyen, Ha, Darsono, and Minh (2021) examined the correlation between income diversification and financial performance, considering factors such as bank size, ownership type, and the financial crisis in Vietnam. The study utilized financial data from 29 commercial banks in Vietnam, covering the period from 2005 to 2018, and employed a Generalized Method of Moments (GMM) regression. The results did not find statistical evidence of a direct effect of income diversification on financial performance. However, when considering classification factors like bank size and ownership type, the findings showed that large banks and state-owned banks could leverage diversification strategies to enhance profitability. Additionally, income diversification was found to have a significant positive effect on financial performance during crisis periods.

Teimet (2021) assessed the relationships between revenue diversification, technical efficiency, size, and financial performance of commercial banks in Kenya. The study explored the direct effect of revenue diversification on financial performance, the mediating role of technical efficiency, the moderating role of size, and the joint effect of these variables. Adopting a longitudinal descriptive research design, the study relied on data from the Central Bank of Kenya and covered the period 2009–2018. Using the Hirschman-Herfindahl Index to measure diversification and data envelopment analysis for technical efficiency, the study employed a panel least squares fixed-effects model. The results revealed significant relationships between both interest ($\bar{R}^2 = .37$, $\beta = 6.27$, $p = .00$) and non-interest ($\bar{R}^2 = .36$, $\beta = 5.16$, $p = .00$) diversification and financial performance. Size moderated the relationship between non-interest diversification and performance ($\beta = -.68$, $p = .02$), while technical efficiency showed no mediating effect. Collectively, diversification, technical efficiency, and size significantly influenced financial performance ($\bar{R}^2 = .46$, $F(4, 416) = 8.52$, $p = .00$).

Hao, Long, Phung, and Nguyen (2020) studied the impact of non-interest income from various sources, including service activities, foreign exchange trading, securities trading, capital contribution, share purchasing, and other activities, on the profitability of 23 joint-stock

commercial banks in Vietnam from 2010 to 2018. Using fixed-effect and random-effect regression models, they found that non-interest income positively impacts banks' profit-generation capacity. Additionally, total assets, bank capitalization, GDP growth, and inflation positively influence bank profitability, while operating costs have a negative effect. The study contributes to the growing literature on banks' non-interest income and suggests policies for bank administrators to enhance the profitability of Vietnamese joint-stock commercial banks.

Paul, Josephat, Mwangi, and Elly (2020) examined how diversification in interest and non-interest revenue affects the return on assets of commercial banks in Kenya. Using an unbalanced panel dataset from 42 commercial banks spanning 2009 to 2018, they measured diversification using the Hirschman-Herfindahl index and return on assets through earnings before interest over total assets. Anchored on the resource-based theory, the study employed panel data regression and found that return on assets positively correlates with both interest and non-interest income diversification. The study recommends a policy framework encouraging banks to engage in various interest-bearing activities to optimize returns.

Mundi (2019) investigated the impact of income streams, specifically fund income and fee income, on bank performance. The study 14slamic14 data from 74 public, private, and foreign banks over the period 2005–2014, sourced from CMIE Prowess. Bank performance was measured using return on equity (ROE) while controlling for return on assets (ROA). Multiple regression analysis was employed to examine the relationship between the two income streams and performance. The findings revealed a moderate positive correlation between fund income, fee income, and ROE, highlighting the evolving role of income streams in a competitive banking environment.

Nwokoye and Osifo (2019) investigated the influence of income diversification on the performance of quoted deposit money banks in selected Sub-Saharan African countries. Through judgmental sampling and data availability, they selected Botswana, Ghana, Kenya, Malawi, Mauritius, Namibia, Nigeria, South Africa, Uganda, Zimbabwe, and Zambia. Secondary data from annual audited financial statements of quoted deposit money banks over the period 2007-2017 were utilized. The study employed panel unit root analysis, co-integration tests, and the system-GMM technique. Using return on assets (ROA) and Tobin's Q as dependent variables, income diversification was the main explanatory variable, while foreign diversification, subsidiary diversification, bank size, and bank age were used as control variables. The findings showed that income diversification had a positive and

significant effect on all performance indicators. The study recommended that banks adopt income diversification as a long-term strategy to foster growth and expansion.

Kimwomi and Muturi (2018) 15slamic15 the influence of income streams on market returns of commercial banks listed on the Nairobi Securities Exchange. Using a descriptive research design, they conducted a census survey of all 11 commercial banks listed on the NSE, collecting secondary data from audited financial reports and the NSE 20 Share Index for the period 2012–2017. Data were 15slamic15 using SPSS, with multi-regression analysis applied to test hypotheses. The results indicated that all income stream predictors, except dividend income, significantly influenced market returns. The combined effect of income streams on market returns was positive and significant, with an F-statistic of 0.027.

Adedeji and Adedeji (2018) examined the impact of non-interest income on the profitability of deposit money banks in Nigeria between 2006 and 2015. Five banks were purposively selected based on their customer base, transaction volume, geographical spread, and availability of balanced secondary data. Using an ex-post facto research design, secondary data were obtained from annual financial reports, and multiple regression analysis was applied. The study found that non-interest income was a significant predictor of profitability, explaining 61.5% of changes in profitability. Non-interest income had a positive and significant effect, but its growth rate was inconsistent. The study recommended continuous improvement in products and services to enhance non-interest income and boost profitability.

METHODOLOGY

This research adopted the *ex-post-facto* research design with express focus on the Nigerian banking industry. When picking a bank, one thing to consider is how big the bank is, because that affects what services it can provide and how many places you can access it. Based on this rationale, the best 7 commercial banks were sampled because of their international domain of operations. Moreso, these were consistently active and provide complete financial data from years 2013 - 2024. The sample is representative of the larger population of banks in that category, providing insights into the overall performance trends within the sector. These commercial banks were Access Bank, Fidelity Bank, First City Monument Bank, First Bank of Nigeria, Guaranty Trust Bank, United Bank of Africa, and Zenith Bank plc.

The study employed a multiple regression model to evaluate the relationship between statutory income streams and the performance of commercial banks. The dependent variables

(financial performance ,was represented with Return on Assets, while the independent variables such as: Interest income and Non-interest Income were used to measure the statutory Income stream of commercial banks in Nigeria. Interest income was measured with Investment Security, Loan & Advance to Banks and Loan & Advance to Customers) while the non-interest income was measured with Credit related fees, Letters of credit commission & fees, E-Business income and Account Maintenance income.

In a similar study conducted by (Uniamikogbo, Okoye & Akonye, 2020) and (Hartini & Universitas, 2023), the market value added (MVA) was used to measure performance, hence the following model:

$MVA_{it} == a_o + a_1EB_{it} + a_2FEE_{it} + a_3FSIZE_{it} + U_{it}$ ……Eqn 1

$TOBINQ_{it} == a_0 + a_1LNNB_{it} + a_2ESG_{it} + a_3LNTA_{it} + a_4NPLTLK_{it} + U_{it}$ …….Eqn 2

Where

MVA == Market Value Added TobinsQ == dependent variables

EB == E-banking income it === at time

FEE == Fee income ESG ==independent variables

FSIZE == Firm Size

a === coefficients

U == Error term

The present study adapted the above models and further modified them by decomposing the interest income and non-interest income into sub proxies to suit the intent of the present study. Below are the models as estimated for the study:

$ROA_{it} == a_0 + a_iIS_{it} + a_2LAB_{it} + a_3LAC_{it} + U_{it}$ ……..Eqn 3

$ROA_{it} == a_0 + a_iCRF_{it} + a_2LOCC_{it} + a_3EBI_{it} + a_4AMI_{it} + U_{it}$ ……..Eqn 4

Where:

ROA = Return on Assets

IS = Investment securities

LAB = Loan and Advances to Banks

LAC = Loans and Advances to Customers

CRF = Credit Related Fees

LOCC = Letter of Credit Commission

EBI = E-Banking Income

I = Number of Banks

t = Period covered in the Investigation

JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING
Volume 6, Number 2, December 2025, pp. 1 – 28.
ISSN 2814 - 1113
https://journals.unizik.edu.ng/index.php/jocia/index

a = Constance Coefficients

U = Error term

The results of the analysis were interpreted in the context of the Nigerian banking sector, providing insights into the impact of statutory income streams on bank performance. The implication was that where the t-statistic is greater than the critical value, reject the null hypothesis and conclude that the independent variable has a significant effect on the dependent variable. But where the t-statistic is less than or equal to the critical value, fail to reject the null hypothesis and conclude that the independent variables have a significant effect on the dependent variable.

RESULT AND DISCUSSIONS

Descriptive Analysis of Data

Table 1 Descriptive Analysis

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Loan and Advances to Banks (₦'000)	84	0	183258000	13053623.19	31427014.893
Loan and Advances to Customers (₦'000)	84	4887000	1631109000	236347643.69	276819318.320
Investment Security (₦'000)	84	789999	1267731000	124512717.29	198898144.998
Credit Related Fees (₦'000)	84	0	162407000	11351805.58	20709880.801
Account Maintenance income (₦'000)	84	0	69315000	11616413.89	13010385.854
Letter of Credit Commission (₦'000)	84	0	59863000	3798483.26	8624638.358
E-Banking Income (₦'000)	84	1504463	178611000	24405611.65	26871281.271
ROA	84	.00	.09	.0258	.01745
Valid N (list wise)	84				

Source: Analysis Output Using Statistical Software (SPSS V. 26) (2025)

Loan and Advances to Banks (LAB): The minimum income from loans and advances to other banks was ₦0, while the maximum was ₦183,258,000. The mean income was ₦13,053,623.19, with a relatively large standard deviation of ₦31,427,014.893. This shows considerable variation in interbank lending activities. Some banks might not have participated in interbank lending at all during some periods, while others may have engaged heavily, leading to substantial earnings. The high spread also reflects different liquidity positions and strategies adopted by the banks.

Loan and Advances to Customers (LAC): Loan and advance income from customers had a minimum value of ₦4,887,000 and a very high maximum of ₦1,631,109,000. The average

stood at ₦236,347,643.69, making it the highest among the interest income components. The very high standard deviation of ₦276,819,318.320 indicates extreme variability, suggesting that while this was a major revenue stream for most banks, the scale of lending varied widely depending on bank size, customer base, and risk tolerance. This variable clearly represents a core component of income for the commercial banks under study.

Investment Security (IS): Income from investment securities ranged from ₦789,999 to ₦1,267,731,000, with a mean value of ₦124,512,717.29. The standard deviation is ₦198,898,144.998, which is quite large and points to wide differences in the level of investment in securities across the banks. This suggests that some banks made extensive use of securities as part of their income-generation strategy, while others maintained a more conservative approach. The high mean and wide range reflect the importance and variability of capital market investment income in the sector.

Credit Related Fees (CRF): Credit-related fee income showed a minimum of ₦0 and a maximum of ₦162,407,000. The average income from this source was ₦11,351,805.58, with a standard deviation of ₦20,709,880.801. The minimum value of zero suggests that some banks did not earn income from credit-related fees during certain periods. The variability may arise from differences in credit product offerings and customer demand, highlighting the uneven distribution of non-interest income among banks.

Account Maintenance Income (AMI): Account maintenance income ranged from ₦0 to ₦69,315,000, with a mean value of ₦11,616,413.89 and a standard deviation of ₦13,010,385.854. This indicates that account-related fees were a moderate but consistent source of non-interest income. The presence of zeros implies that not all banks may have charged or reported this fee uniformly. The variability may reflect differences in customer volume or bank policies on service charges.

Letter of Credit Commission (LOCC): Income from letters of credit commissions had a minimum of ₦0 and a maximum of ₦59,863,000. The mean was ₦3,798,483.26, with a standard deviation of ₦8,624,638.358, showing a significant disparity in usage. The low mean compared to the maximum suggests that only a few banks actively earned large commissions from international trade facilitation, likely due to specialization or market focus in trade finance.

JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING
Volume 6, Number 2, December 2025, pp. 1 – 28.
ISSN 2814 - 1113
https://journals.unizik.edu.ng/index.php/jocia/index

E-Banking Income (EBI): Electronic banking income ranged from ₦1,504,463 to a high of ₦178,611,000. The mean income was ₦24,405,611.65, and the standard deviation was ₦26,871,281.271. This high variability highlights the growing but uneven adoption of digital banking channels across banks. Banks with stronger digital infrastructure and customer engagement in online services likely earned more from this stream, reflecting the modernization of banking services.

Return on Asset (ROA): ROA ranged from 0.00 to 0.09 with a mean of 0.0258 (2.58%) and a standard deviation of 0.01745. This suggests that on average, banks generated a modest return on their total assets. The relatively low mean indicates efficient but conservative asset utilization, while the narrow range and low variability suggest relative uniformity in how assets were deployed to generate income across banks.

Test of Hypotheses

Hypothesis one

H_0: Interest income has no significant effect on Return on Assets of commercial banks.

H_i: Interest income has a significant effect on Return on Assets of commercial banks.

Table 2: Regression Analysis outcome
Dependent Variable: ROA
Method: Panel EGLS (Cross-section SUR)
Date: 05/11/25 Time: 12:29
Sample: 2013 2024
Periods included: 12
Cross-sections included: 7
Total panel (balanced) observations: 84
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
IS	-0.014316	0.001983	-7.221150	0.0000
LAB	0.000858	0.000214	4.012586	0.0001
LAC	0.008402	0.000806	10.42361	0.0000
C	0.065616	0.017113	3.834263	0.0002

Weighted Statistics

R-squared	0.801803	Mean dependent var	1.775521
Adjusted R-squared	0.794370	S.D. dependent var	3.676265
S.E. of regression	1.014317	Sum squared resid	82.30717
F-statistic	107.8795	Durbin-Watson stat	1.610699
Prob(F-statistic)	0.000000		

Source: Analysis Output Using Statistical Software (Eviews V. 12) (2025)

Table 2 shows the result of the hypotheses testing the effect of interest income on ROA. The Adjusted R-squared value of 0.7944 indicates that approximately 79.44% of the variation in ROA is explained by the independent variables—Investment Securities income (IS), Loan and Advances to Banks (LAB), and Loan and Advances to Customers (LAC). This shows a very high explanatory power of the model. Additionally, the Prob(F-statistic) is 0.0000, confirming that the model is significant at the 5% level, and that the explanatory variables collectively have a meaningful effect on ROA.

The Durbin-Watson statistic of 1.6107 is close to 2, suggesting no significant autocorrelation in the residuals, which validates the model's reliability. The constant term (C) has a coefficient of 0.065616 with a p-value of 0.0002, which implies that when all explanatory variables are held at zero, the expected ROA of a commercial bank is 6.56%, and this effect is significant at 5%. This baseline ROA can be interpreted as the average performance level of the banks in the absence of interest income streams. For the variable Investment Securities income (IS), the coefficient is -0.014316 with a p-value of 0.0000, indicating a significant negative effect on ROA at the 5% level. The marginal effect implies that a unit increase in income from investment securities leads to a 1.43% decrease in ROA, holding other variables constant. This negative effect may suggest that while investment securities generate income, they might also reflect more conservative investment strategies that yield lower asset productivity.

The coefficient for Loan and Advances to Banks (LAB) is 0.000858, and the p-value is 0.0001, showing a positive and significant effect on ROA. The marginal effect indicates that a unit increase in income from loans to other banks increases ROA by 0.086%, assuming other variables are held constant. Though small, this suggests that interbank lending contributes positively to banks' asset efficiency, potentially due to its short-term and relatively secure nature.

Loan and Advances to Customers (LAC) has a coefficient of 0.008402 with a p-value of 0.0000, indicating a positive and highly significant effect on ROA. The marginal effect implies that for every additional unit earned from loans and advances to customers, ROA increases by 0.84%, holding other factors constant. This is a strong indication that core lending activity is central to improving asset performance, reinforcing the traditional business model of commercial banking where retail and corporate lending remains a dominant driver of returns.

JOURNAL OF CONTEMPORARY ISSUES IN ACCOUNTING
Volume 6, Number 2, December 2025, pp. 1 – 28.
ISSN 2814 - 1113
https://journals.unizik.edu.ng/index.php/jocia/index

In summary, since the p-value (0.0000) is less than 0.05, the study concluded that interest income has a significant effect on the return on asset of listed commercial banks in Nigeria such that: Investment securities income has a negative but significant effect on ROA (β = -0.0143; p = 0.0000); loan and advances to banks have a positive and significant effect on ROA (β = 0.0009; p = 0.0001); loan and advances to customers have a positive and significant effect on ROA (β = 0.0084; p = 0.0000) of listed commercial banks in Nigeria.

This finding aligns with Obadiaru and Ogunyemi (2024), who found a significant relationship between interest income and profitability in Nigerian banks. Similarly, Somoye, Ilo, and Yunusa (2019) emphasized the pivotal role of interest income in driving profitability in Nigeria. Teimet, Lishenga, and Iraya (2020) also showed that revenue from interest income significantly improves ROA in Kenyan commercial banks, reinforcing this trend in developing markets. However, Nguyen (2019) cautioned that while interest income drives growth, over-reliance could limit risk diversification, a concern supported by Liang et al. (2020), who noted trade-offs between profitability and diversification in Chinese banks.

Hypothesis Two

Ho: The effect of Non-interest income on the Return on Assets of commercial banks is not significant.

H_i: The effect of Non-interest income on Return on Assets of commercial banks is significant.

Table 3: Regression Analysis outcome
Dependent Variable: ROA
Method: Panel EGLS (Cross-section SUR)
Date: 05/11/25 Time: 13:18
Sample: 2013 2024
Periods included: 12
Cross-sections included: 7
Total panel (balanced) observations: 84
Linear estimation after one-step weighting matrix

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CRF	-0.003974	0.001053	-3.773877	0.0003
LOCC	-0.002167	0.000175	-12.35975	0.0000
EBI	0.000177	0.001282	0.138113	0.8905
AMI	0.001038	0.000303	3.420667	0.0010
C	0.052111	0.010433	4.994962	0.0000
	Weighted Statistics			
R-squared	0.677395	Mean dependent var		1.710110

Adjusted R-squared	0.661061	S.D. dependent var	1.274341
S.E. of regression	1.008101	Sum squared resid	80.28516
F-statistic	41.47043	Durbin-Watson stat	1.510979
Prob(F-statistic)	0.000000		

Source: Analysis Output Using Statistical Software (Eviews V. 12) (2025)

The regression model in Table 3 examines the effect of non-interest income—broken into Credit Related Fees (CRF), Letters of Credit Commission (LOCC), Electronic Banking Income (EBI), and Account Maintenance Income (AMI)—on the Return on Assets (ROA) of commercial banks. The Adjusted R-squared is 0.6611, indicating that 66.11% of the variation in ROA is explained by the combined effects of these four non-interest income variables. This reflects a strong model fit, suggesting that non-interest income is an important determinant of asset-based profitability among banks.

The model's Prob(F-statistic) is 0.000000, indicating that the model is significant at the 5% level. This means that the independent variables jointly have a reliable effect on ROA, and the results are not due to random chance. The Durbin-Watson statistic of 1.511 suggests mild positive autocorrelation, which is not uncommon in panel data and does not appear to severely compromise the validity of the findings.

The constant term (C) is 0.052111, with a p-value of 0.0000, meaning it is significant at the 5% level. This implies that when all components of non-interest income are held at zero, the average ROA is 5.21%. This value indicates that other operational and core banking functions outside non-interest income sources also contribute substantially to asset-based profitability. The coefficient for Credit Related Fees (CRF) is -0.003974, with a p-value of 0.0003, indicating a negative and significant effect on ROA at the 5% level. The marginal effect means that for every unit increase in income from credit-related fees, ROA decreases by 0.40%, holding other factors constant. This somewhat counterintuitive result may suggest that although these fees generate revenue, they might also signal riskier or costlier credit administration, thereby reducing overall asset profitability.

For Letters of Credit Commission (LOCC), the coefficient is -0.002167, and the p-value is 0.0000, which shows a significant negative effect on ROA at the 5% level. The marginal effect indicates that a unit increase in LOCC income leads to a 0.22% decrease in ROA, assuming all else constant. This again suggests that while letters of credit bring in revenue, their associated administrative, compliance, and operational costs may outweigh their marginal contribution to asset-based profitability.

The coefficient of Electronic Banking Income (EBI) is 0.000177, with a p-value of 0.8905, meaning the effect is not significant at the 5% level. Though the marginal effect implies that an increase in EBI income would increase ROA by 0.02%, this result lacks statistical strength and cannot be considered reliable. It may indicate that although electronic banking is a growing revenue stream, it does not yet significantly influence asset productivity, possibly due to high infrastructure costs or competitive pricing.

Account Maintenance Income (AMI) has a coefficient of 0.001038 with a p-value of 0.0010, which makes its effect on ROA positive and significant at the 5% level. The marginal effect implies that a unit increase in AMI results in a 0.10% increase in ROA, all else held constant. This suggests that regular income from maintaining customer accounts positively contributes to bank profitability by improving efficiency and stabilizing cash flows from non-lending activities.

Since p-value (0.0000) is less than 0.05, the study concludes that non-interest income has a significant effect on ROA: credit related fees have a negative and significant effect on ROA (β = -0.0040; p = 0.0003); letters of credit commission has a negative but significant effect on ROA (β = -0.0022; p = 0.0000); electronic banking income has a positive but statistically insignificant effect on ROA (β = 0.0002; p = 0.8905); account maintenance income has a positive and significant effect on ROA (β = 0.0010; p = 0.0010) of listed commercial banks in Nigeria.

This result finds backing in Uniarmikogbo et al. (2021), who found that commission income supports performance, but foreign exchange (a non-interest stream) detracts from it. Hao et al. (2020) also observed that non-interest income is beneficial when associated with stable services, not speculative sources. Jawad et al. (2021) emphasized that non-interest income can negatively affect efficiency when linked to high-risk services. Similarly, Sun et al. (2017) noted that non-interest income may reduce performance past certain thresholds, which explains the negative impact of some non-interest components on ROA in Nigerian banks.

CONCLUSION AND RECOMMENDATIONS

The results show that different types of income have varying effects on how well Nigerian commercial banks perform. Some income sources, like loans to customers and banks, help improve the banks' return on assets, while others, like investment securities income, can actually reduce it. This tells us that not all income is equally helpful for banks, and the mix of

income streams matters a lot in determining overall performance. Based on these, it was recommended that:

a. The Management of commercial banks should strategically increase lending activities to customers and interbank loans, while reassessing the portfolio of investment securities to minimize their adverse impact on Return on Assets.
b. The operations and revenue management teams should focus on increasing account maintenance income while reducing reliance on credit-related fees and letter of credit commissions, which negatively affect return on assets.

REFERENCES

Abila, S., Tamarapreye, O. A., & Oputa, T. A. (2020). A Re-Examination of the Place of Letters of Credit in Modern Day Global Commercial Transactions. *IJOCLLEP*, 2(1), 29-35.

Abu, K. B., Awad, A. B., & Ellis, S. (2024). The impact of non-interest income on commercial bank profitability in the Middle East and North Africa (MENA) region. *Journal of Risk and Financial Management*, 17(3), 103.

Adedeji, A. O., & Adedeji, O. A. (2018). Effect of non-interest income on banks' profitability in Nigeria. *Journal of Economics, Management and Trade*, *21*(9), 1-10.

Adewuyi, A. A., & Olowookere, A. (2020). Assessing the role of government securities in the income portfolio of banks. *Journal of Banking and Finance*, 12(2), 91-107.

Adewuyi, A., & Taiwo, A. (2019). *Non-interest income and financial stability of banks in Nigeria*. *Journal of Banking Regulation*, *20*(1), 23-36.

Aduaka, U., & Awolusi, O. D. (2020). Electronic banking and profitability in the Nigerian banking industry. *Information management and Business review*, *12*(2 (I)), 20-37.

Aluko, R., & Olaoye, J. (2023). *Statutory income streams and bank performance: Evidence from Nigeria*. Journal of Financial Regulation and Compliance, 31(2), 115-132.

Amahalu, N. N., Okudo, C. C., & Ezechukwu, B. O. (2023). Diversification and financial performance of quoted commercial banks in Nigeria. *International Journal of Management Studies and Social Science Research*, *5*(3), 396-406.

Bongomin, G.O.C., Yosa, F., Lubega, J.B.Y., Yourougou, p., and Amani, A.M., (2022). Financial intermediation by microfinance banks in rural sub-saharan Africa : Finanacial intermediation theoretical Approach.*journal of Comparative international Management*, 24(2), 1-27.

Central Bank of Nigeria. (2020). *The guide to charges by banks, other financial and non-bank financial institutions.* Retrieved from https://www.cbn.gov.ng/Out/2022/CCD/Guide%20to%20Charges%20by%20Banks%2

0Other%20Financial%20and%20Non-Financial%20Institutions%20eff%20Jan%201%202020.pdf

Davis, D. D., Korenok, O., Lightle, J. P., & Prescott, E. S. (2020). Liquidity requirements and the interbank loan market: An experimental investigation. *Journal of Monetary Economics*, 1(15), 113-126.

Eke, I., Iwuanyanwu, U., & Nwosu, R. (2019). *Impact of interest rate fluctuations on bank profitability in Nigeria*. *Journal of Financial Studies, 3*(2), 45-57.

FasterCapital. (2024). *Account maintenance fees: Maintaining margins: The impact of account fees on bank revenue.* Retrieved from https://www.fastercapital.com/content/Account-Maintenance-Fees--Maintaining-Margins--The-Impact-of-Account-Fees-on-Bank-Revenue.html

Ghorbani, Z., Haji, G., Fotros, M. H., & Sarlak, A. (2024). Investigating the impact of Income Diversification Strategies on Efficiency in Banks Admitted to the Tehran Stock Exchange Between 2011 and 2021. *Environmental Energy and Economic Research*, *8*(2), 1-15.

Ghosh, Amit. 2019. Discerning the impact of disaggregated non-interest income activities on bank risk and profits in the post-GrammLeach-Bliley Act era. *Journal of Economics and Business* 108: 1–47.

Gupta, S., & Bansal, R. (2024). Manifestations of loan growth–profitability and non-performing loans–a study of the Indian banking sector. *South Asian Journal of Business Studies*.

Gurley, J.G., & Shaw, E.S. (1960) . Money in a theory of fiancé. *Brookings Institution.*

Hao, N. Q., Long, L. K., Phung, K. C., & Nguyen, T. T. (2020). The impact of non-interest income to the profitability of joint-stock commercial banks in Viet Nam. *ICFE*, *2020*, 469.

Hartini, P. K., & Universitas, K.(2023). The impact of net interest income and ESG on bank performance. *Indonesian Journal of Business Analytics (IJBA), (*3), 503-512.

Hassan, B., Maingi, M., Ben,O., and Willis, O., (2024). Influence of financial intermediation on sustainability of youth-owned enterprises in Westeern region, Kenya. *Journal of accounting and finance in emerging economic*, 10(3), 361-370.

Huang, J., Jurin, M., Tam, O.K., Gholipour, H.F., and Ren, C. (2024). Evolution of financial intermediation and performance consequences in Chinese's commercial bank. *Journal of accounting literature.*

Ibrahim, M., & Saraki, A. (2022). *Impact of income diversification on the performance of Nigerian commercial banks*. Nigerian Journal of Business Research, 8(1), 40-59.

ICIR. (2022). *Access, Zenith, GTCO, six others made N215bn in e-transactions in 2021.* International Centre for Investigative Reporting. Retrieved from https://www.icirnigeria.org/access-zenith-gtco-six-others-made-n215bn-in-e-transactions-in-2021

Jawad, M., Naz, M., & Shamsi, M. A. (2021). Impact of noninterest income on bank risk-taking and bank lending spread. *Review of Pacific Basin Financial Markets and Policies*, *24*(04), 21-29.

Kagan, J. (2024, April 3). *How do commercial banks work, and why do they matter?* Investopedia. Retrieved from https://www.investopedia.com/terms/c/commercialbank.asp

Kenton, W. (2023, June 18). *Bank fees definition and different types.* Investopedia. Retrieved from https://www.investopedia.com/terms/b/bank-fees.asp

Kimwomi, B. O., & Muturi, W. (2018). Influence Of Income Streams On Market Returns Of Commercial Banks Listed In Nairobi Securities Exchange. *European Journal of Business and Strategic Management*, *3*(4), 44-67.

Lamothe, P., Delgado, E., Solano, M. A., & Fernández, S. M. (2024). A global analysis of bank profitability factors. *Humanities and Social Sciences Communications*, *11*(1), 1-12.

Mehzabin, Saima, Ahanaf Shahriar, Muhammad Nazmul Hoque, Peter Wanke, and Md Abul Kalam Azad. 2023. The effect of capital structure, operating efficiency and non-interest income on bank profitability: New evidence from Asia. *Asian Journal of Economics and Banking* 7: 25–44.

Michael, C. (2024, April 15). *Banks' e-payment revenue up 39% on CBN's cashless policy.* BusinessDay. Retrieved from https://businessday.ng/market-intelligence/article/banks-e-payment-revenue-up-39-on-cbns-cashless-policy/#google_vignette

Motlhabane, K. L. (2017). The impact of maintenance fees on students willingness to maintain bank accounts and establish credit profile. *Banks & bank systems*, 12(3), 283-297.

Mundi, H. S. (2019). Income streams for banks and bank performance. *Journal of Banking and Finance*, *2*(1), 37-42.

Ngozi, O. J., Chukwudi, O. K., & George, A. A. (2023). Banks diversification and return on assets of deposit money banks in Nigeria. *International Journal of Advanced Academic Research*, 9(9), 86-104.

Nwokoye, G. A., & Osifo, O. (2019). Income diversification and performance of quoted deposit money banks in selected Sub-Saharan African countries. *Federal University Otuoke Journal of Management Sciences*, 3(1), 10-23.

Obadiaru, E. D., & Ogunyemi, A. E. (2024). The effect of interest and non-interest income on the profitability of banks in Nigeria. *International Journal of Research Publication and Reviews*, *5*(2), 317-322.

Odeleye, S., & Bamigbola, O. (2021). The effect of interest income on the performance of commercial banks in Nigeria. *Nigerian Journal of Banking and Finance*, 6(1), 78-95.

Ogunleye, O., Abayomi, A., & Adejumo, O. (2017). Diversification strategies and non-interest income in Nigerian banks. *International Journal of Business Management*, 12(3), 14-29.

Olokoyo, F. O. (2017). Determinants of interest income in the Nigerian banking sector: A dynamic panel approach. *African Journal of Economic and Management Studies, 8*(2), 136-148.

Paul, T., Josephat, L., Mwangi, I., & Elly, D. (2020). The effect of revenue diversification on return on assets of commercial banks In Kenya. *DBA Africa Management Review*, 10(3), 14-29.

PNBIndia. (2024). *Credit related service charges*. Punjab National Bank. Retrieved from https://www.pnbindia.in/Credit-Related-Service-Charges.html

Quyen, P. G., Ha, N. T. T., Darsono, S. N. A. C., & Minh, T. D. T. (2021). Income diversification and financial performance: The mediating effect of banks' size, ownership structure and the financial crisis in Vietnam. *Journal of Accounting and Investment*, *22*(2), 296-309.

Saiz-Sepúlveda, Á., & Hernández-Tamurejo, Á. (2025). Exploring the impact of loans on credit risk management in Spanish systemic banks. *The Journal of Risk Finance*, *26*(1), 22-40.

Sangwan, S., Nayak, N. C., Harshita, & Sangwan, V. (2021). Borrowers' credit risk factors, perception towards repayment interventions and moral hazard in loan delinquency: an investigation of Indian microfinance institutions. *Applied Economics*, *53*(56), 6554-6569.

Somoye, R. O. C., Ilo, B. M., & Yunusa, L. A. (2019). Interest income and deposit money banks (dmbs) performance in Nigeria. *Economic Review: Journal of Economics & Business/Ekonomska Revija: Casopis za Ekonomiju i Biznis*, *17*(2).

Sun, L., Wu, S., Zhu, Z., & Stephenson, A. (2017). Noninterest income and performance of commercial banking in China. *Scientific Programming*, *2017*(1), 4803840.

Teimet, P. R. (2021). *Revenue Diversification, Technical Efficiency, Size and Financial Performance of Commercial Banks in Kenya* (Doctoral dissertation, University of Nairobi).

Teimet, P., Lishenga, J., & Iraya, M. (2020). Revenue Stream Diversification and Returns on Assets of Commercial Banks in Kenya. *African Development Finance Journal*, *4*(1), 15-39.

Uddin, M. J., Majumder, M. T. H., Akter, A., & Zaman, R. (2022). Do the diversification of income and assets spur bank profitability in Bangladesh? A dynamic panel data analysis. *Vilakshan-XIMB Journal of Management*, *19*(2), 177-194.

Uniamikogbo, E., Okoye, E. I., & Akonye, C., (2020). Non-interest income and financial performance of selected deposit money banks in Nigeria. *International Journal of Business* Strategy *and Automation,Volume1.Issue 3.july-september2020.*

Uniamikogbo, E., Okoye, E. I., & Amos, A. O. (2021). Income diversification and financial performance of selected deposit money banks in Nigeria. *International Journal of Applied Management Sciences and Engineering (IJAMSE)*, *8*(1), 89-105.

Wagner, H. (2024, February 24). *Analyzing a bank's financial statements: An example.* Investopedia. Retrieved from https://www.investopedia.com/articles/stocks/07/bankfinancials.asp

Wolski, M., & van de Leur, M. (2016). Interbank loans, collateral and modern monetary policy. *Journal of Economic Dynamics and Control*, *73*, 388-416.

Zinn, D. (2022, November 16). *What are investment securities?* SmartAsset. Retrieved from https://smartasset.com/investing/securities