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FINANCIAL INCLUSION AND FINANCIAL PERFORMANCE OF DEPOSIT MONEY BANKS IN NIGERIA

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ABSTRACT: *This study investigated the relationship between financial inclusion and financial performance of deposit money banks in Nigeria from 2011 to 2021. The specific objectives were to investigate the relationship between customers loan and return on assets of deposit money banks in Nigeria; determine the relationship between customers deposit and return on assets of deposit money banks in Nigeria; evaluate the relationship between bank branches spread and return on assets of deposit money banks in Nigeria; ascertain the relationship between online banking and return on assets of deposit money banks in Nigeria; and investigate the relationship between agent banking and return on assets of deposit money banks in Nigeria. The study employed ex post facto and correlation research design with secondary data obtained from the Central Bank of Nigeria and financial institutions of deposit money banks. The population of the study consisted of all listed deposit money banks and a sample size of ten (10) was employed for data analyzing using univariate, bivariate and multivariate analysis. The results indicated a positive and significant relationship between loans to customers, deposits by customers, bank branches, mobile banking and agency banking on return on assets of deposit money banks. The study concluded that financial inclusion positively influences the level of financial performance of deposit money banks. On the basis of the conclusion, the paper recommended amongst others that financial inclusion innovation methods should be stressed in the financial sector through Central Bank of Nigeria (CBN) regulatory and advisories since it leads to improved financial performance and efficiency. In addition, the study also recommends that deposit money banks in Nigeria should invest more on agency, internet banking and ATM services to include the excluded people in financial services and products throughout the country since they provide significant influence on the financial performance of deposit money banks.*

KEYWORDS: Deposit, Loans, Agency banking, Mobile banking, Return on assets, Financial inclusion and performance.

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INTRODUCTION

Financial inclusion and performance of deposit money banks continuously stimulate the interest of finance and economics researchers globally. This is because financial inclusion stimulates financial deepening and economic growth. According to Kinyua and Omagwa (2020), financial inclusion is becoming more germane as it is turning out to be a policy concern, particularly in developing countries. Johnpaul et al. (2021) posited that financial inclusion is designed at ensuring that all adult members of the society have easy access to a broad range of financial products, designed according to their needs and provided at affordable costs. Similarly, Kinyua and Omagwa (2020) stated that financial inclusion is intended at ensuring formal system access to financial service requesters. All financial inclusion roles are expected to promote economic development and growth, reduce poverty, and enhance individuals' personal well-being. Additionally, greater financial inclusion ensures that the financial system requires more small savers. This helps in expanding a financial network and creating an effective financial flow within the borders of the organization (Ahamed & Mallick, 2017). Winful et al. (2022) noted that research on financial inclusion and financial performance revealed that financial inclusion was one of the solutions to the development of firms globally. In Nigeria, the Central Bank of Nigeria and deposit money banks is in the driving seat of the national effort to achieve financial inclusion. The CBN policy recognized the role of deposit money banks in providing services to the individual and SMEs operators who are traditionally excluded from or not well served by the conventional financial institutions.

Financial inclusion, in general, is defined as a process of engaging all social groups and disadvantaged groups in having access to formal financial systems (Pham et al., 2019). In a broader perspective, Oz-Yalaman (2019) defined financial inclusion as “individuals and businesses have access to useful and affordable financial products and services that meet their needs e-transactions, payments, savings, credits and insurance delivered in a responsible and sustainable way”. Koker and Jentzsch (2012) defined financial inclusion as ensuring access to formal financial services at an affordable cost in a fair and transparent manner. These definitions entail that financial inclusion includes accessibility, availability and the usage of financial systems. Financial inclusion does not only influence financial performance of deposit money banks but also lead to an increase in Gross Domestic Product (GDP) growth rate which encourages more financial inclusion. Financial performance is a state whereby a financial system constituting of market infrastructure, financial intermediaries and financial markets can withstand financial shock that are capable of significantly disrupting savings distributions to profitable substitute investments (Anatolyevna & Ramilevna, 2013). This has resulted in governments, central banks and other policy makers increasingly taking on the mandate of ensuring performance of both financial institutions, non-financial sectors and by extension the economic stability of countries.

Kinyua and Omagwa (2020) supported three key strategies by way of which financial inclusion can influence banks performance positively. First, banks could diversify their investment portfolio by increasing the amount of credit, which in effect will reduce the banks' overall risk. Second, greater financial inclusion ensures that the financial system requires more small savers. Besides, the availability of more small savers would result in an increment of the size of deposits and their stability, thus decreasing non-core funding reliance, which has a great impact especially in financial crisis times. The key metrics for bank financial performance includes capital sufficiency, asset performance, sound management, earnings and productivity, liquidity, and market risk tolerance (Morgan & Pontines, 2018). Deposit money banks are

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perceived as fundamental financial intermediaries in any economy. Deposit money banks are vital for carrying out the basic functions of money transfer services, money lending and accepting deposits hence represent a critical role in the implementation of governments' economic policies (Odundo, 2018).

Several studies were carried out analyzing and comparing the determinants of financial inclusion among regions (Sarma & Pais, 2011; Gupte et al., 2012; Akudugu, 2013; Hassan, 2015; Park & Mercado, 2015; Lotto, 2016; Hillary, 2016; Uddin et al., 2017; Abel et al., 2018; Hussaini & Chibuzo, 2018; Neaime and Gaysset, 2018; Anyanwu et al, 2018; Mdasha et al, 2018; Ojwang & Otinga, 2019; Kapaya, 2019; Kinyua & Omagwa, 2020; Al-Chahadah et al., 2020; Koomson et al., 2020; Singh, 2020; Anastesia et al., 2020; Kamal, 2021; Eze & Alugbuo, 2021; Johnpaul & Patience, 2021; Maity & Sahu, 2021; Naser & Alabassi, 2022; Al-Eitan et al., 2022; Winful et al., 2022). However, most of the previous studies focused on the determinants of financial inclusion in the developing countries of Asia, South America, Europe, North Africa, Sub-Saharan Africa or in countries such as Bangladesh, India, China and Indonesia. Even in Nigeria, most prior studies focused on financial inclusion and economic development or economic growth. For instance, Naser and Alabassi (2022) result showed that financial inclusion has a positive and moral effect on financial performance, and financial inclusion supports the interaction of (banks, customers) with banks in a way that leads to building long-term relationships with customers.

Al-Eitan et al. (2022) findings indicated that the number of loan accounts and size of deposits significantly impacted the financial performance of the commercial banks in Jordan negatively. Jungo et al. (2022) result indicated that there is no statistically significant effect of financial regulation on financial stability in SSA countries. Maity and Sahu's (2021) result indicated that a significant difference between Assam and aggregate Indian financial inclusion and the status of Assam is somewhat lower as compared to the aggregate financial inclusion status of India. Johnpaul and Patience's (2021) result showed that SMEs in Nigeria have access to financial products that are made available by banks and other financial institutions. Also, financial inclusion significantly affects the growth of SMEs in Nigeria. The research gaps include:

(i) few studies on drivers of financial inclusion in both developed and developing economies has been conducted in deposit money banks, their focuses were that financial inclusion were made by governments for enhancing economic and social development;

(ii) the different internal and external factors affecting financial inclusion in South America, Europe, North Africa, Sub-Saharan Africa or in countries, such as Bangladesh, India, China and Indonesia are different when compared to deposit money banks in Nigeria. This study analyzed the key determinants of inclusive finance in Asia region during the 2011 to 2016 period with panel data and proposed some recommendations for supporting the Asian region in improving financial inclusion;

(iii) prior studies findings are mixed, no census conclusion. Hence, this study investigates financial inclusion and financial performance of deposit money banks in Nigeria from 2011 and 2021. The specific objectives include the following:

1. To investigate the relationship between customers loan and return on assets of deposit money banks in Nigeria;

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2. to determine the relationship between customers deposit and return on assets of deposit money banks in Nigeria;
3. to evaluate the relationship between bank branches spread and return on assets of deposit money banks in Nigeria;
4. to ascertain the relationship between online banking and return on assets of deposit money banks in Nigeria; and
5. to investigate the relationship between agent banking and return on assets of deposit money banks in Nigeria.

The following research questions were analysed:

1. What is the relationship between customers' loan and return on assets of deposit money banks in Nigeria?
2. What is the relationship between customers deposit and return on assets of deposit money banks in Nigeria?
3. What is the relationship between bank branches spread and return on assets of deposit money banks in Nigeria?
4. What is the relationship between online banking and return on assets of deposit money banks in Nigeria?
5. What is the relationship between agent banking and return on assets of deposit money banks in Nigeria?

The following null hypotheses were tested:

H_1: There is no significant relationship between customers' loan and return on assets of deposit money banks in Nigeria.

H_2: There is no significant relationship between customers deposit and return on assets of deposit money banks in Nigeria.

H_3: There is no significant relationship between bank branches spread and return on assets of deposit money banks in Nigeria.

H_4: There is no significant relationship between mobile banking and return on assets of deposit money banks in Nigeria.

H_5: There is no significant relationship between agent banking and return on assets of deposit money banks in Nigeria.

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REVIEW OF RELATED LITERATURE

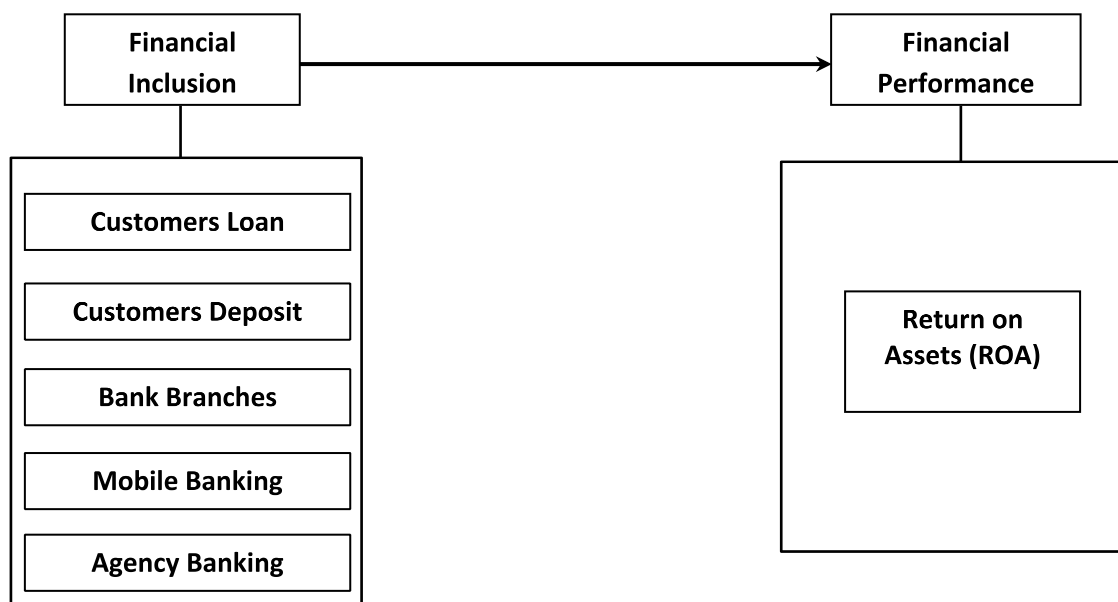

Fig. 1: Conceptual Framework on Financial Inclusion and Financial Performance

Concept of Financial Inclusion: The concept of financial inclusion ensures a process that will appropriately market financial products and services, such as payments, savings deposits, insurance, credit facilities and pension to all sectors of the economy, not excluding the vulnerable people in a transparent manner according to their needs and at affordable price when needed without any form of mismatches caused by institutional and regulatory players (Nair, 2014). Financial inclusion covers sustainable, relevant, cost effective and meaningful financial services for the financially underserved population especially rural dwellers (Ibor et al., 2017). Thus, financial inclusion is the ability of individuals to access and use basic financial services like savings, loans and insurance designed in a manner that is reasonably convenient, reliable and flexible. Centre for Financial Inclusion (2013) also described financial inclusion as a state in which all people who can use financial services have access to a complement of quality financial services, provided at affordable prices, in a convenient manner and with dignity for the clients. Kabakova and Plakenkov (2018) defined financial inclusion as obtaining some form of financial access, for example having an account in a formal financial company that allows individuals to borrow, save and invest. Financial inclusion is defined as the process that includes the delivery of financial services (loans, deposits, insurance) in a timely manner to all segments of society at appropriate costs.

Vo et al. (2021) defined financial inclusion as a situation in which companies and individuals can have access to and make use of financial services. Therefore, it does not only reflect financial development, but also financial knowledge, and therefore, financial inclusion can provide the basis for the development of the financial system (Chuc et al., 2022; Emara & El Said, 2021). Mhlanga (2021) defined financial inclusion as the process in which banking services are provided to all segments of society, especially those with low incomes. Similarly,

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Anastesia et al. (2020) opined that financial inclusion is the process of extending financial products to the unbanked and vulnerable populace. This process enables individuals and businesses to have access to financial services such as deposit, loans, insurance, payments and fund transfer at their convenience and to meet economic needs. Ojwang and Otinga (2019) noted that financial inclusion is the increasing access to formal financial services including having bank accounts, using credit and savings facilitated through the banks. Over the years financial inclusion has grown beyond physical branch as ICT is revolutionizing the access and use of bank services globally. Demirgüç-Kunt et al. (2018) argued that the absence of the financial system would cause emerging poverty traps as well as constrain economic development. In addition, financial inclusion is considered as a way to ensure a sustainable economy. Lakuma et al. (2019) pointed out the importance of financial inclusion by saying that it helps to alleviate enterprises' growth constraints and increases their access to finance thus leveling the playing field between firms of different sizes. Specifically, financial inclusion connects and avails people the opportunity to interact with banks which yield social and economic benefits both to the individual and the nation.

Dimensions of Financial Inclusion: Financial inclusion is measured in various ways, depending on the aspects and focuses of different studies. The most commonly used indicator is the number of bank accounts (per 1000 adult persons). Some other indicators are number of bank branches (per million people), number of ATMs (per million people), amount of bank credit and amount of bank deposit and the amount of loans and credits granted to micro, small, and medium enterprises (Kabakova & Plakenkov, 2018).

Loans Granted to Customers: Loans granted to customers refer to the total loans granted by the bank. According to Puspitasari et al. (2021), loans granted to customers compare the size of a bank loan to its deposits to analyze the bank's funding strategy. Funding can come from customer deposits or the wholesale markets (in the form of demand deposits, savings accounts, time deposits, time deposits certificates, and other immediate obligations in the form of credit). Lending is the main activity of the bank, besides collecting funds from customers, because it is the main source of bank income. Banks generally make money by borrowing money from depositors and compensating them with a certain interest rate. The banks will lend the money out to borrowers, charging the borrowers a higher interest rate, and profiting off the interest rate spread. If the loans are one of the important sources of financing, and on the other hand, the loan provides the issuing bank with an opportunity to obtain appropriate returns (interest rate) and thus improves financial performance (Qamruzzaman & Wei, 2019). Al-Hamad et al. (2021) posited that deposit money banks all over the world thrive on their ability to generate income through their lending activities. Since commercial banks depend on depositor's money as a source of funds, it means that there are some relationships between the ability of the banks to mobilize deposits and the amount of credit granted to the customers.

Deposits with Banks: Deposits with banks refer to the total deposits with the bank (Qamruzzaman & We, 2019). If this money is available, it helps the bank to exploit investment opportunities in an optimal manner, which is reflected positively on the bank's financial performance. Choudhry (2011) stated that due to individuals or institutions, deposits are restricted to cash deposited in the banks' deposit money books. As the value of the deposit may indicate the depositor's financial status, which is a secret that cannot be disclosed, the bank deposits are subjected to strict confidentiality (Akhtar et al., 2017). The deposits are important as they are the lifeblood of banks and the main source of money. They may account for more

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than 90% of the total opponents which are the lowest cost and are among the most fertile sources of money.

Bank Branches Spread: In the past, most Nigerian banks had limited the spread of their branches to established urban centers. During that period of financial exclusion, few banks had shown interest in the rural areas of the country. According to Onaolapo (2015), some banks recorded reduction in financial performance during that period hence they were discouraged from establishing such branches. However, with the growth in financial inclusion, banks have to open up branches in different parts of the country. The biggest concern is whether the spread of the branches have an effect on financial inclusion and whether it amounts to better financial performance. As banks open up branches to rural areas, the biggest concern is whether the number of branches amounts to higher volumes of transactions. The opening up of branches is aimed at ensuring that the customers gain access to new services, which cannot be provided using agents, representatives, or mobile banking. In the past, banks were reluctant to open up branches due to the element of cost. It is important to study whether proper spread of branches across different geographical location can have an impact on the financial performance of banks. The main areas of concern for this study under the third variable include the number of branches and their spread across the country, the effect in terms of changes in volume of transaction, and the cost incurred in the operations.

Mobile Banking: The advent of mobile banking financial services during the recent 5 years is revolutionizing the landscape of financial services in Nigeria. The rapid increase in service coverage provides proof that the mobile banking channel is an effective way of providing access to people all over Nigeria including the rural areas which were previously excluded. Mobile money allows for any mobile banking subscriber whether banked or unbanked to deposit value into their mobile account, send value via a simple handset to another mobile subscriber, and allow the recipient to turn that value back into cash easily and cheaply. In this way, m-money can be used for both mobile money transfers and mobile payments. The introduction of mobile banking together with enabling technology in alternative delivery channels (mobile bank platforms, ATMs and POS) will rapidly expand financial service providers (FSP) outreach to the underserved and totally excluded population. This is also likely to facilitate services of other financial services including deposit money bank and SMEs. In Nigeria, SMEs have adopted mobile banking services provided by the financial institutions to enhance financial access which eliminates financing challenges that have been found to limit SMEs financial performance.

Agents Banking: Agent banking is one of the innovative models of delivering banking services to the population. The strategy has brought trained financial service providers within the reach of millions of people in Nigeria. However, there is little knowledge regarding the effect of agents and representatives on financial inclusion and performance of banks (Appah & Tebepah, 2017). The agents and representatives have managed to ensure person-to-person payments and ensuring that there is delivery of credit, savings and other financial products to the poor. The agents perform customer’s services (deposits and drawings), account openings, and customer care services (Appah & Tebepah, 2017). The use of the agents has however not opened up to accessing new financial services other than the ones above. The extent to which such services have influenced the financial performance of banks must be determined through analysis of the different sub variables. The agents have ensured that there is an increase in financial inclusion through serving the part of the population that was underserved (Appah & Tebepah, 2017).

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Concept of Financial Performance: Financial performance describes the bank's ability to use its assets optimally to achieve profits (Hannon et al., 2021). Financial performance represents a tool that depends on knowing the implementation of the bank's financial resources, as well as being a critical factor for the success of the company's management (Ichsan et al., 2021). Financial performance is the most important factor as the basic criterion for investment evaluation (Hazaea et al., 2021). Prasetyo et al. (2021) indicated that financial performance is an influential factor in improving the value of the bank. Financial performance is a concept that reflects the bank's ability to manage its resources in various ways in order to enjoy a competitive advantage. The financial performance of a bank is expressed in quantitative values or measures expressed in monetary units such as the rate of return on equity and the rate of return on investment. Measuring financial performance results in the formulation of rules and mechanisms that help banks improve their strategies, as well as an assessment of achieving goals and rewarding managers (Abdulnafea et al., 2022). Financial performance is defined as the degree to which the bank's financial goals are achieved (Nguyen et al., 2021). Financial performance is defined as a measure of the bank's ability to manage its assets in an optimal manner to achieve profits (Bag & Omrane, 2022). Financial performance is also known as a general measure of health. The financial performance during a certain period can be used to measure the bank's performance in comparison with the banks operating in the same sector (Ehiedu & Toria, 2022). Financial performance is the product of all the bank's operations and strategies, as the financial performance of banks provides information to develop their strategic plans (Abdulnafea et al., 2022). Kurawa and Shuaibu (2022) defined financial performance as a measure of expressing the general financial productivity of banks over a specific financial period. This study employed return on assets as the indicator for bank financial performance.

Return on Asset: Return on assets (ROA) is an indicator of how profitable a company is relative to its total assets. ROA gives a manager, investor, or analyst an idea as to how efficient a company's management is at using its assets to generate earnings. Return on assets is displayed as a percentage (Bashari & Mohammed, 2019). Return on Assets (ROA) is an indicator of how well a company utilizes its assets, by determining how profitable a company is relative to its total assets; ROA is best used when comparing similar companies or comparing a company to its previous performance. ROA takes into account a company's debt, unlike other metrics, such as Return on Equity (ROE). Return on assets (ROA), in basic terms, explains what earnings were generated from invested capital (assets). ROA for public companies can be different from one company to another dependent on the industry. This is why when using ROA as a comparative measure, it is best to compare it against a company's previous ROA numbers or against a similar company's ROA. The ROA figure gives investors an idea of how effective the company is in converting the money it invests into net income. The higher the ROA number, the better, because the company is earning more money on less investment. ROA is most useful for comparing companies in the same industry, as different industries use assets differently (Ahamed, 2017). Murekefu and Ouma (2012) stated that return on assets is a financial ratio that shows the percentage of profit a company earns in relation to its overall resources. It is commonly defined as net income divided by total assets. Net income is derived from the income statement of the company and is the profit after taxes.

Theoretical Review: This study is anchored on financial intermediation theory. This theory was advanced by Diamond (1984). The theory seeks to offer an explanation regarding why rather than practicing direct lending, surplus funds are first lent to banks who then lend to deficit units. Financial Intermediation Theory explicates the function of commercial banks in

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intermediating funds through financial inclusion as a social and profitable venture and hence stability. The significance of financial intermediation theories lies in their focus on banks role in efficient apportionment of funds, market frictions minimization, and asymmetric information, which is a vital component of effective financial stability. Goldsmith (1969) posited that the basis of the financial intermediation theory gave wide-ranging facts related to the financial structure and the economic development. It was determined that in the course of economic development of a nation, the financial system develops faster than the wealth of the nation. Determining the size of the financial system in a country is the division of the role of saving and investment among the various units in the economy (Oranga & Ondabu, 2018). The contemporary society has continued to appreciate the role played by financial intermediation in development of the economy (Scholtens & Van Wensveen, 2003). Theoretical and empirical researchers have shown that financial intermediation plays an important role in the growth of the economy. The study establishes that one of the reasons for financial exclusion is low income and assets among some people in the society. With financial intermediation, there is an efficient allocation of capital within the economy with the aim of ensuring that economic growth. Another factor mentioned to contribute to financial exclusion is limited information related to certain financial aspects. Financial intermediation provides information to the owners of capital and the borrowers of capital. The financial intermediation process brings together the deficit and surplus units in an environment not known to them (Mandell, 2008).

The banks through financial intermediation ensure that there is financial inclusion. In the process of ensuring that there is access to information, financial literacy and efficient allocation of the resources in the country, there is a risk that the banks take on behalf of the different players in the economy (Oranga & Ondabu, 2018). The risk taken during the financial intermediation process has to cover the financial institution through the charging of the interest rate. This theory is critical to the study because it highlighted the fact that financial institutions can earn through their role of financial intermediation hence improving their financial performance. The elements of financial intermediation have proven critical in ensuring financial inclusion, meaning that research of this nature would want to determine whether the financial inclusion results to profits for the financial institutions that offer intermediation services.

Empirical Review

Naser and Alabassi (2022) analyzed the impact of financial inclusion on financial performance. The study adopted the quantitative approach, and (4) banks listed in the Iraqi Stock Exchange were selected as a sample for the study. The study used multiple linear regression analysis to test the hypotheses of the study. Financial inclusion has a positive and moral effect on financial performance, and financial inclusion supports the interaction of (banks, customers) with banks in a way that leads to building long-term relationships with customers. The study suggested that the necessity of adopting financial inclusion by commercial banks as a strategy to improve financial performance. This is done by spreading a culture of financial inclusion and striving to deliver financial services to multiple regions.

Al-Eitan et al. (2022) determined financial inclusion indicators that affect Profitability of Jordanian commercial banks: Panel data analysis. 13 Jordanian banks' data from 2009 to 2019 were examined to determine the above issue. The study applied fixed effects on a panel data regression model. The findings indicated that the number of loan accounts and size of deposits negatively and significantly impacted the profitability of the commercial banks in Jordan.

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However, the number of branches and ATMs had no significant effect on the bank's profitability. In sum, both leverage and bank size were the top two determinants of commercial banks' profitability in Jordan. Based on the findings, Jordanian policymakers can shift their focus to offering affordable financial services that support SMEs' loans and start-ups.

Winful et al. (2022) investigated financial inclusion and economic development in Africa. To corroborate a panel, data were collected from 2000 to 2017 for 41 countries in Africa. Using a GMM estimation technique, the article corroborates the reviewed literature, which asserts appositive relation of the three attributes (financial access, financial stability, and financial efficiency) of financial inclusion considered in this article, financial access turned out to be significant in explaining economic development in Africa. Even though Africa is far behind the rest of the world in financial inclusiveness, some countries like South Africa and Seychelles have financially inclusive societies in terms of financial access. If Africa can build a financially inclusive society, the continent would block financial linkages in commercial banks' ability to create money for economic development.

Jungo et al. (2022) assessed the effect of financial inclusion and competitiveness on banks' financial stability, considering the moderating role of financial regulation. The study employed a time period of 2005–2018 and collected data from 46 SSA countries and 31 LACs adopting descriptive statistics. The result suggested that inclusion enhances bank stability in SSA and LAC countries, and financial regulation contributes to increasing financial stability in LAC countries, while we find no statistical significant in the effect of financial regulation on financial stability in SSA countries. Moreover, competitiveness negatively impacts financial stability, and financial regulation moderates the negative effect of competitiveness on financial stability in SSA and LAC countries. Regarding the practical implications, this study shows that fostering financial inclusion in the countries under study contributes significantly to improving the welfare of households and especially to the stability of the financial system.

Maity and Sahu (2021) examined financial inclusion in the north-eastern region: An investigation in the state of Assam. The study covers a period of 12 years from 2007–08 to 2018–19. Both the parametric and non-parametric statistical tools have been used to analyze the various dimensions of financial inclusion. The study result indicated that there is a significant difference between Assam and aggregate Indian financial inclusion and the status of Assam is somewhat lower as compared to the aggregate financial inclusion status of India. To achieve a satisfactory level of financial inclusion, it is not enough to open a bank account for the excluded people, but banks must look at flexibility and timeliness in services to offer a complete pack a ge to this segment of the population.

Eze and Alugbuo (2021) determined the effect of financial inclusion on poverty reduction in Nigeria. Data were sourced from the World Bank Global Findex survey 2017 conducted in Nigeria. The survey collects data on indicators of financial inclusion summarized for all adults and disaggregated by key demographic characteristics gender, age, education, income, employment status and rural residence. The indicators of financial inclusion measure how people save, borrow, make payments and manage risk. The survey covers a time period of 2017: A Logit model and an instrumental variable model were employed.The study result established that financial inclusion reduces household poverty in Nigeria even after controlling for endogeneity in the explanatory variables. The study also established that self-employment is crucial in poverty reduction in Nigeria in the period under review. The study suggested that adoption of policies that strengthen the rule of law, particularly contract enforcement and

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financial regulatory oversight, thereby increasing financial inclusion and contributing to poverty reduction and income disparity reduction.

Johnpaul and Patience (2021) examined financial inclusion and its effect on the growth of SMEs in Plateau State, Nigeria. Primary data were collected via questionnaires using simple random sampling techniques. Data were analyzed using Chi-Square. The results show that SMEs in Nigeria have access to financial products that are made available by banks and other financial institutions. Also, financial inclusion significantly affects the growth of SMEs in Nigeria. Furthermore, SMEs customers highly accept financial inclusion and this in turn positively affects the growth of SMEs in Nigeria. In conclusion, financial inclusion plays an irreplaceable role in the growth of SMEs in Nigeria. The study recommends that financial facilities of banks and other financial institutions should be made available at affordable rates for easy accessibility by SMEs in Nigeria.

Fadi (2021) examined the relationship between financial inclusion indicators and bank performance in Palestine. The study population and its sample include all 15 banks operating in Palestine and cover the period 2006 to 2016 with panel data from 162 observations. To interpreter the variables, the study uses the volume of loans to SMEs (usage), banking penetration, number of ATMs and branches (access), and online banking, the latter if it is a dummy variable. Further, the study uses operational profits, total revenues and ROE as bank performance indicators and dependent variables. Using empirical analysis, the results indicated that banking penetration tools, branching and ATMs, could enhance bank performance. Despite the decline in lending to SMEs, this factor could positively improve the performance of banks in Palestine. In general, financial inclusion helps banks improve their performance and increase their revenues. The study recommends that government organizations can use the obtained results to formulate their strategies and agendas for improving financial inclusion in Palestine and other developing countries.

Nguyen et al. (2021) examined the static and dynamic distributions of financial inclusion across provinces in Vietnam. The latest three biennial surveys from 2014 to 2018 and a novel approach known as the dynamic kernel density function are used in this study. The result indicated that Vietnam's economic growth and development over the 2014–2018 period is relatively inclusive. The evidence also demonstrates that households provided with access to multiple sources of finance depend significantly on the provincial level of income. It also find that provinces located in the national key economic regions, including (i) the Northern region and (ii) the Southern region, appear to achieve a higher degree of financial inclusiveness. Our findings also confirm the catching-up from the financially disadvantaged provinces to financially advantaged provinces locating within the key economic regions.

Kama et al. (2021) investigated the impact of financial inclusion and financial stability: Empirical and theoretical review. The objective of the research was to review the connection among the financial inclusion (FI) and banks financial stability (FS). The research article surveys a vest body of literature devoted to evaluating the relationship of among the FI and FS of the banks. The literature review evaluates recent empirical research studies on the impact of FS and banks FS. The research works divided into following part (i) What is financial inclusion (FI) (ii) What is financial stability (FS) (iii) the influence of FI and FS (iv) FI measurement and indicator (v) whether FI lead to enhance the FS. This paper presents the relevant review of imperialistic research on the nexus among the influence of FI on FS since the period of 1995-2020. Abundant research studies to date suggest that FI has positive and significant impact on

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FS of the banks' stability. While few other research study also reveals that when FI have negative influence on the FS is due to the without having efficient management when the credit is expanded in this time it will increase the risk for financial stability.

Widyaningsih et al. (2021) analyzed the effect of the relationship between financial literacy and the accessibility of digital financial innovation on financial inclusion, financial literacy on digital financial innovation and moderating the relationship between financial literacy and financial inclusion through digital financial innovation. The study used a non-random sampling technique that was taken as many as 40 MSME actors and the technique of distributing questionnaires was convenience sampling. Completion of the multiple linear regression model and the Moderated Regression Analysis (MRA) interaction test. The result obtained that financial literacy and accessibility of digital financial innovations have a significant effect on financial inclusion, financial literacy has a significant effect on digital financial innovation. The research findings show the high level of financial literacy of the community and MSME actors as well as digital and financial technology literacy behaviors and attitudes, making it easier to promote the use of digital financial innovation products so that they can expand financial inclusion. Meanwhile, digital financial innovation information does not have a direct role in mediating the relationship between financial literacy and financial inclusion.

Cicchiello et al. (2021) investigated the relationship between the financial inclusion index and development variables in the least developed countries in Asia and Africa by using annual data of 42 countries for the period 2000–2019. The pooled panel regression and panel data analysis technique are used to explore this relationship. The empirical finding indicates that economic growth leads to financial inclusion. Unemployment and literacy rates are among the factors contributing to financial inclusion, and it is observed that women are more vulnerable than men are to lack financial inclusion. In less developed countries, the economy relies heavily on agriculture, and people are less financially inclusive when they live in rural areas of these countries. Also, pay inequality reduces financial inclusion rates and has a negative impact on development. The low financial inclusion rate reduces the levels of development in these countries.

Ratnawati (2020) analyzed the influence of financial inclusion on MSMEs' performance through financial intermediation and access to capital of MSMEs in Malang, Indonesia. The sample consists of 100 MSME actors in Malang City, which is determined using Roscoes theory. The data is collected using Simple Random Sampling method, by distributing questionnaire measured with Likert scales using Partial Least Square (PLS) model. The result of the study showed that financial inclusion influences MSMEs' performance both directly and indirectly through mediation from financial intermediation and access to capital. The direct influence means that the efforts to increase access to financial services, especially access to credit financing for MSMEs, will be able to increase market share, number of workers, sales, as well as profit of the MSMEs.

Agbim (2020) determined the contribution of financial inclusion (FI) to the financial and non-financial performance of SMEs in South Eastern Nigeria. The study adopted qualitative methodology. The interview guide was pre-tested for reliability and validity. The study data were generated from purposively selected one hundred and twenty respondents. The audio recorded interview was transcribed and subjected to thematic content analysis. The study result indicated that SMEs that received support from the government recorded marginal financial performance and improved non-financial performance. Also, SMEs that adopted FI strategies

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and devices experienced improvement in both their financial and nonfinancial performance. Finally, SMEs that combined government, friends and family supports, and FI strategies and devices recorded better improvements in their financial and non-financial performance.

Al-Chahadah et al. (2020) examined the impact of financial inclusion on the financial performance of Jordanian banks listed in the Amman Stock Exchange. The population of the study consists of all the commercial banks listed in the Amman Stock Exchange, these are (16) banks. The study covered the time period from 2014 to 2017. Simple regression analysis is applied. Findings of the study showed statistically significant impact of two indicators of financial inclusion (i.e., financial access and enterprise financing) and bank financial performance (i.e., bank profitability) of Jordanian banks. The study recommends Jordanian financial institutions to move toward increasing innovative access to financial services as well as enhancing IT infrastructure and the development of financial services to raise the level of digital banking services which is currently considered relatively low when compared to other middle-income countries.

Anastesia et al. (2020) aimed at ascertaining the effect of financial inclusion (FI) on entrepreneurial growth (EG) in retail and wholesale sub-sectors in Nigeria using quarterly data from the World Bank's World Development Indicators and the Central Bank of Nigeria. Data were analysed using correlation analysis and error correction approach. The results reveal that FI has a significant positive effect on EG particularly in the context of the retail and the wholesale subsectors contributions to gross domestic product (GDP). The results further indicate that account ownership (ACN) did not have significant influence on the growth rate of the retail and the wholesale sub-sectors, while commercial bank branches (CMB) was found to have significant influence on the growth rate of the retail and the wholesale sub-sectors. The study recommended that stakeholders should deepen efforts in encouraging ACN through improving on financial literacy of the vast unbanked populace so that formal financial system through capital accumulation can serve the needs of entrepreneurs for effective growth and contributions to GDP.

Abiola et al. (2020) examined financial institutions concentration and financial inclusion penetration in Nigeria: A comparative analysis. The study used survey research design and logit regression analysis to show evidence of a significant difference in financial inclusion penetration in the two states and its impact on the business performance and well-being of the citizens of the states. The study revealed that penetration is higher in Lagos at 81% and lower in Ekiti at 60%. Irregular income/job loss, unknown/hidden charges, long queues in the bank, and high maintenance fees constitute a top threat to 80% financial inclusion achieved in the Southwest zone. The study, therefore, recommends intervention policy that considers state-level characteristics. Also, government policy on employment generation should target low-income earners who are worse-off during an economic downturn.

Zulkieflimansyah et al. (2020) analyzed the effect of financial literacy on financial performance MsME with financial inclusion as an intervening variable in the Sumbawa region. The research uses quantitative method. Samples in study amounted to 100 respondents earned with cluster sampling. The data obtained were analyzed using Structural Equation Modeling Partial Least Square (SEM-PLS) analysis techniques through software SmartPLS version. 3.0. The results of the analysis in this study indicate that (1) Construct financial literacy of use significant has financial inclusion. (2) Contruct financial inclusion of use significant has financial performance creative SMEs. (3) Construct financial literacy of use significant has financial performance

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creative SMEs. (4) Construct financial literacy of use significant has financial performance creative SMEs with financial inclusion as intervening variable.

Aliffianti and Arifiansyah (2020) examined the impact of financial inclusion and banking performance in Indonesia. The purposive sampling method wasused to select the research sample. The descriptive statistical test and hypothesis test is used to analyze the data using the Eviews program. The research used the population of data from the National Banking. Researchers found that several indicators of financial inclusion can help improve banking performance using ROA and NIM ratios, as well as some indicators of financial inclusion that do not demonstrate its influence. The results of the study drove banking as one of the formal financial institutions to increase financial inclusion.

Murtiadi et al. (2020) examined the effect of leadership style, financial inclusion, and financial management on the performance of small businesses in Makassar City. The research was a quantitative study, with a population of all small business businesses in Makassar City. The sampling technique used a probability sampling method with a minimum sample size of 140. The data used were primary data collected through a questionnaire survey. The data analysis used multiple linear regression analysis for the hypothesis of leadership style, financial inclusion, and financial management on the performance of small businesses. Based on the results of the study, it shows that the tests carried out on small businesses in Makassar City simultaneously, the three variables (X) have a positive effect together on the performance of the business in Makassar City (Y). However, partially the leadership style (X1) and financial inclusion (X2) do not have a significant effect, while the financial management variable (X3) has a significant effect on business performance (Y).

Koomson et al. (2020) evaluated the effect of financial inclusion on Ghanaian households' poverty and vulnerability. A multiple correspondence analysis was used to construct a financial inclusion index from data retrieved from the seventh round of the Ghana Living Standards Survey in 2016/17, and three-stage feasible least squares is used to evaluate households' susceptibility to poverty. The study indicated two effects of increased financial inclusion on household poverty. To begin, it is connected with a 27% reduction in the risk of a household being impoverished. Second, it reduces a household's vulnerability to future poverty by 28%. Female-headed families are more likely than male-headed households to have a bigger reduction in poverty and vulnerability to poverty as a result of increased financial inclusion. Additionally, financial inclusion alleviates poverty and vulnerability to poverty in rural areas more than in urban regions.

Kinyua and Omagwa (2020) determined the effect of financial inclusion on bank stability of Commercial banks listed in Nairobi Securities Exchange, Kenya. The study employed a descriptive research design and targeted 11 commercial banks listed in Nairobi Securities Exchange, Kenya. The period scope was year 2014 to year 2018 and purposive sampling was applied in picking a sample of 55 respondents. Primary data were collected using questionnaires while secondary data were gathered utilizing a document review guide. Multiple regression analysis, correlation analysis, and descriptive statistics were applied in the data analysis. The study found that financial availability, financial accessibility, financial usage and service delivery all had significant effects on bank stability of commercial banks listed in Nairobi Securities Exchange, Kenya. The study concluded that financial availability, financial accessibility, financial usage, and service delivery play a crucial role in fostering stability of listed commercial banks in Kenya. The study recommends that central bank should ensure

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compliance on Central Bank of Kenya policies that govern capital adequacy to avert risks associated with Non-Performing Loans.

Riwayati et al. (2020) evaluated the financial inclusion and performance to mediate the effect of banking and tax regulation on the success of small and medium enterprises in Indonesia. The sample used in the research was small and medium enterprises in Wijirejo batik Village, Pandak District, Bantul Regency, and Yogyakarta, Indonesia. Census sampling technique method was used. The population is amounted to 76 batik business actors. The method of analysis is Wrap-PLS 5.0. The result showed that a implementation of banking and tax regulation for small and medium business actors has a number of positive consequences to success of the business involved. Among them regulation of banks through the determination of rate interest on credit, the ease of credit application and the speed of credit process supported by good business management and financial knowledge (financial inclusion) is a good determinant factor in increasing capital, business scale, profit and business management. Tax regulation through the determination of tax rate, ease of tax access, simplification of tax procedure and transparency regarding taxes supported by good business management and financial knowledge (financial inclusion) become the determinant factor in increasing capital, business scale, profit and business management.

Singh et al. (2020) assessed the determinants of financial inclusion of members of Self Help Groups (SHGs) in Tripura. The study adopted primary data collection from around 380 members who are beneficiaries of 95 SHGs in Tripura, India. The data were collected using a structured interview schedule administered to the members of SHGs. A structured interview schedule was prepared to measure the level of financial inclusion of the members of SHG. The reliability of the items in the interview schedule was assessed by computing Cronbach"s Alpha. Regression analysis was also done to fit in the regression model. The research work enumerated six factors that have an effect on inclusive financing for SHG members. The factors found are suitability of financial products, ease of banking, physical infrastructure, and economic status of the SHG members, I.T. infrastructure and financial awareness. Ordinal logistic regression shows that IT infrastructure is not a significant factor for bringing financial inclusion among the members of the SHGs. The study recommended that the collaboration and joint efforts of government and financial institutions must process this information and understand the patterns in it to simplify the process of banking and disbursement of credit to the underprivileged populace.

Ojwang and Otinga (2019) determined financial inclusion and financial performance of equity agency banking business in Siaya Town. The study applied descriptive survey research design with a target population of 83 agent bankers; census sampling technique was used in conjunction with a structured questionnaire to select sample size and collection of data. Descriptive and inferential statistics were used to analyze the data. The study's result indicated that a unit change in financial inclusion would result in significant change in performance. The study concluded that financial inclusion positively affected financial performance of equity agency banking business. The study recommended that equity banks together with other commercial banks should encourage their customers to fully embrace agency banking particularly for services such as cash deposits, cash withdrawals and account opening which can be achieved through creating awareness in market segments as this will enhance performance and collection of information to fit the needs of the customers.

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Nguli and Odunga (2019) examined the effect of firm characteristics on financial inclusions: Evidence from women owned enterprises in Kenya. The study employed explanatory survey research. The target population of study comprised 8000 women owned SMEs in the North Rift Region Economic Bloc Counties. Cluster sampling was employed to group SMEs in seven Counties, while simple random was used to select a sample size of 723 using multiple regression method of analysis. The finding revealed a negative and significant effect of firm age on financial inclusion and firm size has a positive and significant effect on financial inclusion. From the findings of the study, it is suggested that older SMEs are encouraged to keep up to date of the trends in business.

Thanh et al. (2019) investigated determinants of financial inclusion among Asian countries using panel data of twenty Asian countries over a period of six years (2011-2016). The study employed the Random Effects Model (REM). The findings are that: (i) the countries with stronger economic growth and higher income have a significantly higher financial inclusion index, as people have more resources/incomes and better chances to utilize financial services; (ii) the higher the literacy, the better the financial inclusion as people with higher literacy understand the pros and cons of financial services and providers, better knowledge of using financial services wisely; (iii) unemployment rates had a negative impact on the financial inclusion index; (iv) surprisingly differing from previous studies, inflation, population density, network and deposit interest rate were not statistically significantly correlated with financial inclusion.

Shihadeh and Liu (2019) examined the relationship between enhancing the financial inclusion and banks performance and risk. The study used data from Bank Scope, World Bank economic development, and financial development databases for 189 countries and 701 banks. The study used the empirical approach to testify to the study hypothesis. The study presents global evidence that enhancing financial inclusion, with branches as the main tool for banking penetration, and other financial inclusion indicators could help the banks to achieve more return and decrease the risks. This evidence not only supports the global agenda to enhance financial inclusion but also encourages banks to invest in more branching and penetration. Therefore, policymakers can use these findings to develop their strategies in the expansion of the branches networks. Also, governments can play a vital role in developing the laws and procedures to enhance the banking penetration to reach more disadvantaged people.

Murauni and Gichure (2019) examined the effect of mobile banking financial inclusion on the performance of commercial Banks. The study adopted a descriptive research design. The target population included all 157 staffs in the 6 commercial banks. The study collected primary data by use of structured questionnaires. Questionnaires were administered by the drop-off and pick-up later method. Descriptive analysis was used to draw important conclusions and deductions with regards to the study objectives. Multiple regression analysis was done to assess the relationship between the independent variable and the dependent variables. Data were presented in the form of table, graphs, figures and pie chart forms. The results of the study revealed that financial inclusion through the specific objectives of the study that is network distribution and mobile money services enrolments, mobile banking services and products and the value of mobile money transaction significantly affected performance of commercial banks because most if not all respondents agreed with the questions asked while the number of mobile banking transactions didn’t affect the performance of commercial banks. The study concluded that network distribution and mobile money services enrolments significantly affected performance of commercial banks. The study recommends that communication authority of

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Kenya should provide conducive regulatory environment that facilitates network distribution. Commercial banks in Kenya should enhance the rate at which customers' access loans as this would significantly result into enhanced performance.

Sanistasya et al. (2019) examined the effect of financial inclusion on small enterprises (SEs) performance. The research employed an explanatory research and a sample that includes 100 SEs in East Kalimantan. The sample was gathered by using non probability sampling technique. By implementing a census approach, the data were gathered from all SEs in East Kalimantan. The study was a quantitative approach and data were analyzed using PLS (Partial Least Square). The unit of level analysis is the SEs business players in East Kalimantan. The results showed a positive and significant effect of financial literacy on enterprises (SEs) performance and, financial inclusion positively affects the performance of small enterprises (SEs).

Lakuma et al. (2019) examined the financial inclusion and micro, small, and medium enterprises (MSMEs) growth in Uganda. The study draws data from Uganda's 2013 World Bank Enterprise Survey (WBES), which comprises data on 762 firms across Uganda to assess the effects of the business environment, with particular interest on the impact of finance on firm growth by focusing on differences across firm size. The study adopted error, omitted variable bias, and endogeneity method of data analysis. The result suggested that micro, small, and medium enterprises (MSMEs) in Uganda benefit more from financial access than large firms. These effects are stronger and more sustained among medium firms. The paper interprets these results as evidence that MSMEs are more credit constrained relative to large firms. The paper also discerns that while informality and poor regulatory environment may help divert economic activity from large firms to MSMEs, informality increases the vulnerability of MSMEs to corruption to sustain their informal and invisible status.

Methodology

This study investigated the association between financial inclusion and financial performance of deposit money banks in Nigeria. This study adopted ex post facto and correlational research design. The population consisted of the listed deposit money banks in Nigeria. Naturally, since the population is small, a census approach should have been the ideal technique. A sample size of ten (10) deposit money banks was used due to data availability giving rise to one hundred and ten (110) data points consisting of eleven-year observations (i.e. 2011-2021) per sampled banks. The data for this study were collected from the Central Bank of Nigeria and Sampled deposit money banks (Union Bank, First Bank, Zenith Bank, United Bank for Africa, First City Monument Bank, Guaranty Trust Bank, Access Bank, Fidelity Bank, Unity Bank and Wema Bank). The data analysis was executed in three distinct stages. Firstly, a univariate (or descriptive) analysis was executed, followed by bivariate analysis and lastly, multivariate analysis. This study is guided by the linear model below:

$$ROAit = \beta_0 + \beta_1 LogLTC_{it} + \beta_2 LogDEPi_t + \beta_3 LogBNBi_{it} + \beta_4 LogMOBit + \beta_5 \ LogAGBit + \varepsilon it$$
-------- (1)

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Where:

ROA = Return on Assets

LTC = Loans to Customers

DEP = Deposits from Customers

BNB = Bank Branches

MOB = Mobile Banking

AGB = Agency Banking

RESULTS AND DISCUSSIONS

Table 1: Descriptive Statistics

	ROA	LTC	DEP	BNB	MOB	AGB
Mean	0.057286	0.129735	0.110919	0.062015	0.008476	0.973286
Median	0.044451	0.102058	0.112979	0.063409	-0.008000	0.991185
Maximum	0.264935	1.002754	1.634054	0.855773	0.019296	0.999792
Minimum	-0.196595	-3.723443	-0.655022	-1.836464	-0.058111	-0.240286
Std. Dev.	0.079513	0.433124	0.250577	0.258151	0.008166	0.121304
Skewness	0.345143	-6.639671	1.409397	-3.606125	-2.307012	-9.767665
Kurtosis	4.232207	61.77768	16.07824	30.24191	19.12856	98.20516
Jarque-Bera	8.644257	15735.01	775.6062	3441.266	1219.485	40931.16
Probability	0.013272	0.000000	0.000000	0.000000	0.000000	0.000000
Sum	5.957716	13.49246	11.53556	6.449523	-0.881504	101.2218
Sum Sq. Dev.	0.651205	19.32246	6.467252	6.864140	0.006868	1.515599
Observations	110	110	110	110	110	110

Source: Researchers Computation, 2022

Table 1 shows the descriptive statistics of the relationship between financial inclusion and financial performance of deposit money banks in Nigeria. The mean for return on assets, loans to customers, deposits from customers, bank branches, mobile banking and agency banking were 0.129735, 0.110919, 0.062015, 0.008476 and 0.973286 while loans and advances was 0.05786. The maximum of the variables include 0.264935, 1.002754, 1.634054, 0.855773, 0.019296 and 0.999792.

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Table 2: Correlation Matrix

Correlation Probability Observations	ROA	LTC	DEP	BNB	MOB	AGB
ROA	1.000000 ----- 110					
LTC	0.522260 0.0000 110	1.000000 ----- 110				
DEP	0.193554 0.0490 110	0.089514 0.3662 110	1.000000 ----- 110			
BNB	0.186657 0.0578 110	0.076058 0.4429 110	0.029340 0.7675 110	1.000000 ----- 110		
MOB	-0.059108 0.5512 110	-0.059805 0.5465 110	-0.448703 0.0000 110	0.826163 0.0000 110	1.000000 ----- 110	
AGB	0.240544 0.0139 110	0.004619 0.9629 110	0.232880 0.0174 110	0.717722 0.0000 110	0.609970 0.0000 110	1.000000 ----- 110

Source: Eviews Version

Table 2 shows the correlation matrix of the relationship between financial inclusion and financial performance of deposit money banks in Nigeria. The result reveals the association between loans to customers (LTC), deposits (DEP), bank branches (BNB), mobile banking (MOB), agency banking (AGB) on the return on assets (ROA) of deposit money banks in Nigeria.

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Table 3: Result on Regression Equation of ROA

Dependent Variable: ROA
Method: Panel EGLS (Cross-section random effects)
Date: 11/28/22 Time: 05:14
Sample: 2011 2021
Periods included: 11
Cross-sections included: 10
Total panel (balanced) observations: 110
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LTC	0.139014	0.067228	2.067799	0.0432
DEP	0.094108	0.043284	2.174198	0.0373
BNB	0.078784	0.036904	2.134830	0.0344
MOB	0.081123	0.023364	3.472110	0.0007
AGB	0.050707	0.024602	2.010936	0.0469
C	1.166653	0.124537	9.367956	0.0000
Effects Specification				
			S.D.	Rho
Cross-section random			0.105703	0.7043
Idiosyncratic random			0.068492	0.2957
Weighted Statistics				
R-squared	0.720605	Mean dependent var	0.025523	
Adjusted R-squared	0.697797	S.D. dependent var	0.130705	
S.E. of regression	0.071852	Sum squared resid	0.758924	
F-statistic	31.59476	Durbin-Watson stat	1.976305	
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.003278	Mean dependent var	0.127146	
Sum squared resid	3.813670	Durbin-Watson stat	0.198306	

Source: Eview

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Table 3 indicates the multiple regression results of the relationship between financial inclusion and financial performance of deposit money banks from 2010 to 2021. The result revealed that the R^2 statistic is 0.7206 while the adjusted R^2 statistic is 0.6978. This shows that 72.1% of systematic variation in return on assets (ROA) of the sampled deposit money banks in Nigeria is explained by changes of financial inclusion indicators such as loans to customer (LTC), deposits (DEP), bank branches (BNB), mobile banking (MOB) and agency banking (AGB). After adjusting the degree of freedom, 69.8% variation in the ROAs of the sampled deposit money banks in Nigeria is explained by changes of financial inclusion indicators, such as loans to customer (LTC), deposits (DEP), bank branches (BNB), mobile banking (MOB) and agency banking, leaving 30.2% unexplained due to the presence of stochastic error term. This suggests that financial inclusion indicators, such as loans to customer (LTC), deposits (DEP), bank branches (BNB), mobile banking (MOB) and agency banking (AGB) influence the level of financial performance (ROA) of deposit money banks from 2010 to 2021 in Nigeria.

The F–statistic, 31.59476 with a zero-probability value indicated that the model satisfies the overall goodness-of-fit statistical test. It implies that financial inclusion measures, such as loans to customer (LTC), deposits (DEP), bank branches (BNB), mobile banking (MOB) and agency banking (AGB) are able to predict ROA of the sampled deposit money banks in Nigeria. The Durbin-Watson statistic of 1.996505 indicates that there is no degree of positive serial autocorrelation in the model. It suggests that the result is good for policy prescription. Similarly, the t-statistics and R^2 statistics are not extremely high as to suggest the existence of Multicollinearity and Heteroskedasticity in the model. It further portends that the econometric model employed in this study satisfies both statistical and diagnostic criteria. It represents a good and consistent estimator, and hence useful for policy direction of deposit money banks in Nigeria.

The individual coefficients show different levels of significances, giving rise to rejection of each and every associated hypothesis. The result shows that a unit change in loans to customer (LTC), deposits (DEP), bank branches (BNB), mobile banking (MOB) and agency banking (AGB) increases the return on assets (ROA) of the sampled deposit money banks in Nigeria by 0.139014, 0.094108, 0.078784, 0.081123 and 0.050707 units but is statistically significant at 5% level. Hence, there is positive and significant relationship between loans to customers and financial performance of deposit money banks in Nigeria; there is also a positive and significant relationship between deposits by customers and financial performance of deposit money banks in Nigeria; there is a positive and significant relationship between the number of bank branches and financial performance of deposit money banks in Nigeria; there is a positive and significant relationship between mobile banking services such as point of sales (POS), Automated Teller Machines (ATMs) and financial performance of deposit money banks in Nigeria; and there is positive and significant relationship between agency and representative banking and financial performance of deposit money banks in Nigeria from 2011 to 2021.

DISCUSSION OF FINDINGS

Loans to Customers and Financial Performance: The results revealed a positive and significant ($0.0432 < 0.05$) relationship between loans advanced to customers and returns on assets of deposit money banks in Nigeria. The result is in line with Fadi (2021), Shihaden et al. (2018), and Akhisar et al. (2015) that the volume of loans to customers positively and

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significantly influences the level of bank performance. However, the findings of this study indicate inconsistency with the study conducted by Kumar et al. (2021) that the number of loan accounts had no significant association with the financial performance of deposit money banks.

Deposits by Customers and Financial Performance: The results revealed a positive and significant (0.0373 < 0.05) relationship between deposits by customers and returns on assets of deposit money banks in Nigeria. The result of this study disagrees with that of Shihadeh et al. (2018) that deposits by small and medium scale enterprises do not affect the financial performance of deposit money banks.

Branches of Banks and Financial Performance: The results revealed a positive and significant (0.0344 < 0.05) relationship between the number of bank branches and returns on assets of deposit money banks in Nigeria. The results concur with the findings of Fadi (2021), Kumar et al. (2021), Kinyua and Omagwa (2020), Ojwang and Otinga (2019), Nkuna et al. (2018) that the number of bank branches influences the level of financial performance of deposit money banks. However, the study disagrees with the findings of Al-Eitan et al. (2022), Jouini (2021) that the number of branches of deposit money banks negatively affects the level of bank performance.

Mobile Banking Services and Financial Performance: The results revealed a positive and significant (0.0007 < 0.05) relationship between mobile banking services and returns on assets of deposit money banks in Nigeria. The results concur with the findings of Fadi (2021), Kinyua and Omagwa (2020), Ojwang and Otinga (2019), Nkuna et al. (2018) that the mobile banking services such as ATM, POS does influence the level of financial performance of deposit money banks. However, the study disagrees with the findings of Al-Eitan et al. (2022) and Jouini (2021) that mobile banking services (ATM, POS) of deposit money banks negatively affects the level of bank performance. Also Akhisar et al. (2015) revealed that internet banking negatively affects the return on assets of deposit money banks.

Agency Banking and Financial Performance: The results revealed a positive and significant (0.0469 < 0.05) relationship between agency banking and returns on assets of deposit money banks in Nigeria. The results concur with the findings of Kinyua and Omagwa (2020), and Ojwang and Otinga (2019) that the mobile banking services such as ATM, POS does influence the level of financial performance of deposit money banks.

Summary, Conclusion, Recommendations and Implications of the Study

The study empirically investigated the relationship between financial inclusion and financial performance of deposit money banks in Nigeria from 2011 to 2021. The study used ex post facto and correlational research design with data collected from the Central Bank of Nigeria and financial statements of the ten (10) sampled deposit money banks. The secondary data collected were analysed using descriptive, correlation and multiple regression analysis. The results from the multiple regression analysis indicated a positive and significant relationship between loans advanced to customers and return on assets of deposit money banks in Nigeria; a positive and significant relationship between deposits by customers and return on assets of deposit money banks in Nigeria; a positive and significant relationship between number of branches and return on assets of deposit money banks in Nigeria; a positive and significant relationship between mobile banking and return on assets of deposit money banks in Nigeria; and a positive and significant relationship between agency banking and return on assets of

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deposit money banks in Nigeria from 2011 to 2021. Hence, the study conclusively stated that the majority of deposit money banks have adopted financial inclusion (advancement of loans, acceptance of deposits, number of branches, mobile banking and agency banking) thereby improving the level of financial performance (return on assets) of deposit money banks in Nigeria. On the basis of the conclusion, the study made following recommendations to improve the level of financial inclusion in Nigeria:

1. The study recommends that financial facilities (Loans and other services) of deposit money banks should be made available at affordable rates for easy accessibility by citizens in Nigeria. This would improve the yields (interest) of deposit money banks ability to create money.

2. The study also recommends that the government and the Central Bank of Nigeria (CBN) should improve credit facilitation to the private sector and money supply should be properly managed in the country so as to improve the level of financial performance of deposit money banks in Nigeria.

3. The study recommends that financial inclusion innovation methods should be stressed in the financial sector through Central Bank of Nigeria (CBN) regulatory and advisory bodies since it leads to improved financial performance and efficiency. In addition, the study also recommends that deposit money banks in Nigeria should invest more on agency, internet banking and ATM services to include the excluded people in financial services and products throughout the country since they provide significant influence on the financial performance of deposit money banks.

4. The study recommends that deposit money banks in Nigeria should encourage their customers to fully embrace agency banking mainly for services such as cash deposits, cash withdrawals and account opening which can be achieved through creating awareness in market segments as this will enhance financial performance of banks in the country.

5. The paper also recommends that deposit money banks in Nigeria should aim at increasing the level of financial inclusion through digital finance and hence achieving financial performance through availability, accessibility and usage of financial services of citizens in urban and rural areas in the country.

The implication of this study indicates that fostering financial inclusion in Nigeria contributes positively to improving the welfare of households and specifically to the stability of the banking system.

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