FINANCIAL INTERMEDIATION AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT
This study examined the relationship between financial inclusion and economic growth in Nigeria from 2004Q1 to 2022Q4. Specifically, the study evaluated how Nigeria's economic growth is been influenced by aggregate savings, aggregate credits to the private sector, and financial inclusion. The study was hinged on the neoclassical theory of economic growth. The study estimation was based on the autoregressive distributed lag (ARDL) model. The result of the study showed that from 2004Q1 to 2022Q4, Nigeria's economic growth was significantly impacted adversely by savings, while aggregate bank credit to the private sector had a non-significant positive effect. Additionally, financial inclusion had a non-significant negative effect on economic growth. The study therefore suggests that aggregate savings negatively impact economic growth, requiring macroeconomic stability, particularly inflation, to ensure full benefits. It also recommends reviewing monetary policies that impede credit flows into the economy and pursuing strategic financial inclusion policies to integrate the informal sector into the financial landscape. The Central Bank of Nigeria should also review its monetary policies to ensure full benefits from savings.
Keywords: Financial intermediation, aggregate savings, private sector credits, financial inclusion, economic growth, ARDL
JEL: C33, E52, O33, I33

INTRODUCTION
Economic growth is a crucial aspect of global development, playing a pivotal role in shaping the prosperity and well-being of nations. It is a measure of the increase in the production and consumption of goods and services within an economy over a specific period (Akintola & Adesanya,2021; Yeboah, 2020; Epor, Yua & Iorember, 2024). The importance of economic growth in Nigeria cannot be overstated. As the most populous country in Africa and one of the largest economies on the continent, Nigeria's economic performance has significant implications for the well-being of its citizens, regional stability, and global economic dynamics. By this, economic growth is crucial for Nigeria's development, poverty reduction, job creation, and overall prosperity (Olowofeso, Adeleke & Udoji, 2015). However, it has been advocated that economic growth relies so much on financial intermediation to thrive. According to Ogege and Boloupremo (2014), financial intermediation is important to economic growth to encourage the accumulation of savings, allocation of such savings for capital accumulation through a more efficient transaction cost.

Financial intermediation plays a crucial role in the economy by facilitating the flow of funds between savers and borrowers. It involves the process of channeling funds from those who have surplus funds (savers) to those who need funds (borrowers) (Nguyen, 2020; Markjackson,

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Timinipre, Nelson & Okoyan, 2017). This process is essential for the efficient functioning of financial markets and the overall economic growth. The significance of financial intermediation can be observed from various perspectives, including its role in promoting investment, risk management, and economic development. For Nigeria, deposit money banks are the most important institutions for savings mobilization and financial resource allocation (Adebisi& Ewa, 2020). Consequently, these roles make them occupy important positions in the Nigerian economic growth and development. In performing this role, it must be realized that banks have the potential, scope and prospects for mobilizing financial resources and allocating them to productive investments.

Nigeria's financial system comprises various institutions, including banks, non-bank financial institutions, capital markets, and microfinance institutions. These entities serve as intermediaries between savers and investors, facilitating the flow of funds within the economy. The Central Bank of Nigeria (CBN) serves as the apex regulatory authority overseeing the operations of these institutions. The Nigerian financial system has undergone significant reforms aimed at enhancing its effectiveness and efficiency in promoting economic growth. Despite efforts to promote financial inclusion, a substantial portion of the population remains underserved by formal financial institutions. This lack of access to finance constrains entrepreneurship, hampers productive investment, and perpetuates income inequality (John & Nwekemezie, 2019).

There is an increasing amount of theoretical and empirical research tying financial sector development to economic growth. Schumpeter (1911), who believes that financial markets play an important role in the evolution of the real economy, was the first to discover a major and positive link between financial development and economic growth. He underlines the banking sector's importance as a driver of economic growth since it finances productive enterprises. There are two primary schools of thought on how the financial sector affects economic growth. The Schumpeter group, also known as the supply-leading hypotheses, argues that the financial sector impacts economic growth, whereas the demand-following hypotheses believe that the economy influences the financial sector. These two opposing theoretical positions becomes the bane of the finance-growth nexus that has prompted debates in recent years.

As a result, notable empirical endeavours have been done to affirm of disprove either of the theoretical positions. For instance, Nguyen (2022) examined the role of the banking system in the growth of the Vietnamese economy, and found that a positive long-term effect of banking development on growth. Yeboah (2020), explored the relationship between financial intermediation and economic growth spanning from 1993 to 2018 for Ghana, found that a negative long-run relationship between domestic banks credit to the private sector and Ghana's economic growth. for Nigeria, Manasseh, Okoh, Abada, Ogbuabor, Alio, Lawal, Nwakoby, & Asogwa (2021) established that bank credit was insignificant to growth despite the positive significance of bank deposits and liquid reserves. That means empirical results can vary from country to country as well from indicator to indicator. These inconclusive findings are enough ground for an academic nexus.

For the Nigerian economy to have experienced significant changes over the past few decades, saw the transitioning from an agrarian-based economy to one driven by oil exports and a growing services sector. Despite these developments, the country faces various challenges related to

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financial intermediation and economic growth. These challenges include limited access to finance for small and medium-sized enterprises (SMEs), underdeveloped capital markets, high levels of non-performing loans in the banking sector, and a reliance on oil revenues. Addressing these challenges requires a comprehensive understanding of the relationship between financial intermediation and economic growth in Nigeria. This is why a study devoted to the relationship between financial intermediation and economic growth in Nigeria cannot be overemphasized.

Nigeria has recognized the importance of growing the economy, especially aiding it with the financial sector, that is why several reforms have been carried out. In the 1980s, Nigeria adopted Structural Adjustment Programs (SAP) under the guidance of international financial institutions such as the International Monetary Fund (IMF) and the World Bank. SAPs were designed to address macroeconomic imbalances and promote economic stability through measures such as currency devaluation, trade liberalization, privatization of state-owned enterprises, and fiscal discipline. Again, The National Economic Empowerment and Development Strategy (NEEDS) was introduced in 2004 as a medium-term development plan aimed at achieving sustainable economic growth and poverty reduction. NEEDS focused on key areas such as macroeconomic stability, private sector development, infrastructure improvement, human capital development, agricultural revitalization, governance reform, and social welfare programs. And in recent times, the Buhari administration launched the Economic Recovery and Growth Plan (ERGP), as a medium-term strategy spanning 2017-2020, to restoring macroeconomic stability, promoting diversified growth across key sectors, investing in infrastructure development, enhancing human capital productivity, and fostering institutional reforms.

Despite these economic initiatives, it is surprising that Nigeria's economy has failed to be fully diversified. The Nigerian economic growth has been so tied to oil market fundamentals, making it very volatile. However, Bencivenga and Smith (1991) had advocated that financial intermediary are designed to channel savings into long-term assets that are more productive than short-term assets. This was supported by Nguyen (2022) and Alimi and Adeoye (2020), while findings from Nigeria showed no significant effects of financial intermediation (Manasseh, Okoh, Abada, Ogbuabor, Alio, Lawal, Nwakoby & Asogwa, 2021; Adebisi & Ewa, 2020; John & Nwekemezie, 2019). However, the disturbing results suggest that financial inclusion could be the missing link.

According to Sanusi (2011), achieving an optimal level of financial inclusion in Nigeria entails empowering 70.0 percent of the population living below the poverty line, which will boost growth and development by promoting multiple economic activities, resulting in increased national productivity, and automatically decreasing poverty. There is also the need to subject this claim to empirical test, as studies that combine financial intermediation indicators with financial inclusion are still lacking.

To do this, this study intends to combine in a single empirical model, the effects of savings, credit to the private sector as well financial inclusion on economic growth. This will then be subjected to the Autoregressive Distributed Lag (ARDL) modeling technique for the estimation of the model parameters. The general objective of this study is to investigate the effects of financial intermediation on economic growth in Nigeria. However, the specific objectives include to: investigate the effect of aggregate bank savings on economic growth in Nigeria; examine the impact of aggregate bank credit to the private sector on economic growth in Nigeria and ascertain

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the effect of financial inclusion on economic growth in Nigeria.

This study focuses on the investigating the influences of financial intermediation on economic growth in Nigeria. This study will focus on the effect of bank aggregate savings, private sector credits and financial inclusion on economic growth in Nigeria. However, because banks are the dominant financial intermediaries in Nigeria, this study will focus on the financial intermediation indicators that concern deposit money banks in Nigeria. This study will be evaluated using quarterly time series data, which spans from 2004Q1 to 2022Q4. The base years was chosen due to availability of data. Relevant data will be obtained from The World Bank development indicators database and Central Bank of Nigeria (CBN) publications such as CBN statistical bulletin, CBN annual report and national bureau of statistics.

Studying financial intermediation and economic growth in Nigeria is of significant importance due to the critical role that financial intermediaries play in the economy. One of the key reasons why studying financial intermediation and economic growth in Nigeria is significant is the potential to address the issue of financial inclusion. Despite its economic potential, a large proportion of Nigeria's population remains unbanked or underbanked, meaning they have limited access to formal financial services. Furthermore, studying financial intermediation and economic growth in Nigeria can shed light on the challenges and opportunities facing the country's financial sector. Nigeria's financial system has undergone significant reforms in recent years, aimed at strengthening regulatory oversight, enhancing transparency, and promoting stability. Finally, it will guide the Central Bank of Nigeria (CBN) on to formulate relevant policies that will contribute to the growth and development of the Nigerian economy.

LITERATURE REVIEW
Financial intermediation
Financial intermediation is a crucial concept in the field of finance that plays a significant role in the economy by facilitating the flow of funds between savers and borrowers. Financial intermediation refers to the process by which financial institutions act as intermediaries between those who have excess funds (savers) and those who need funds (borrowers) (Usman, Alimi & Onayemi, 2018; Epor, Yua & Iorember, 2024). These financial intermediaries help channel funds from savers to borrowers efficiently, thereby promoting economic growth and development. Financial intermediaries include banks, credit unions, insurance companies, mutual funds, pension funds, and other financial institutions that accept deposits from savers and provide loans or investments to borrowers. They play a vital role in the economy by providing various financial services such as deposit-taking, lending, investing, and risk management. Through these activities, financial intermediaries help allocate capital to its most productive uses, reduce information asymmetry between savers and borrowers, and mitigate risks associated with lending and investing.

The conduit called financial intermediation makes it simple to mobilize funds using all available means and directs them toward a desired location where they will have a bigger impact. It may also be thought of as a conduit for funds to be transferred from the plentiful unit to In turn, the economy's scarcity unit promotes and facilitates the growth and development of a certain nation's economy. The financial intermediation process encompasses the activities of the money market with regard to short-term securities and the capital market with regard to long-term securities. The

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financial market supplements the activities of both the money and capital markets with services like risk insurance cover, future market contracts, foreign exchange market, etc (Nzotta, 2004). It also creates a platform for the transfer of funds from banks to other financial institutions authorized by law to handle depositors' funds.

Banks are the cornerstone of financial intermediation due to their unique role in mobilizing savings and channeling them into productive investments (Akintola & Adesanya, 2021). They serve as key players in the financial system by performing various functions that facilitate economic activities and promote growth. For deposit mobilization, banks attract deposits from individuals, businesses, and other entities by offering various deposit products such as savings accounts, checking accounts, certificates of deposit (CDs), and money market accounts. These deposits represent a stable source of funding for banks, which they can then lend out to borrowers for various purposes. And for funds allocation, banks provide credit to borrowers in the form of loans, mortgages, lines of credit, and other financial products. By evaluating the creditworthiness of borrowers and assessing their ability to repay, banks help allocate capital to productive uses that generate returns for both lenders and borrowers.

Deposit mobilization is a crucial aspect of financial intermediation, playing a significant role in the functioning of financial institutions and the overall economy. This process involves collecting funds from savers. Recall that financial intermediation is the process through which financial institutions facilitate the flow of funds between savers and borrowers in an economy (Adebisi & Ewa, 2020), making savings and deposit mobilization an integral part of the financial intermediation process. Deposit mobilization is a key function of financial intermediaries such as banks, credit unions, and other deposit-taking institutions. These institutions collect deposits from individuals, businesses, and other entities with surplus funds and use these funds to provide loans and other financial services to those in need of capital. By mobilizing deposits and allocating them to productive uses, financial intermediaries play a vital role in promoting economic growth and stability.

Deposit mobilization serves several important functions within the financial system. Firstly, it helps to allocate resources efficiently by directing funds from savers to borrowers who can put them to productive use. This process enables businesses to invest in new projects, individuals to purchase homes or finance education, and governments to fund public infrastructure projects. By matching savers with borrowers, deposit mobilization contributes to the overall efficiency of the economy. Secondly, deposit mobilization promotes financial inclusion by providing individuals and businesses with access to formal banking services. By accepting deposits from a wide range of customers, including those from marginalized or underserved communities, financial institutions help to broaden the base of savers and borrowers in the economy. This increased participation in the formal financial system can lead to greater economic empowerment and improved standards of living for a broader segment of the population. Furthermore, deposit mobilization plays a crucial role in creating liquidity in the financial system. Deposits are typically considered a stable source of funding for banks and other financial institutions, providing them with a pool of resources that can be used to meet withdrawal demands and fund lending activities.

Credit is a fundamental component of the financial system that facilitates economic transactions and enables businesses and individuals to access funds beyond their immediate means (Olowofeso,

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Adeleke & Udoji, 2015). In essence, credit allows borrowers to leverage their future income or assets to meet their current financial needs or pursue investment opportunities. For businesses, credit is essential for funding capital expenditures, expanding operations, managing cash flow fluctuations, and investing in research and development. For individuals, credit can help finance education, purchase homes and cars, cover unexpected expenses, and improve their standard of living. The provision of credit to the private sector is primarily carried out by financial institutions such as banks, credit unions, and non-bank lenders. These institutions evaluate the creditworthiness of potential borrowers based on factors such as their income, assets, liabilities, credit history, and overall financial stability. Lenders use this information to assess the risk of lending to a particular borrower and determine the terms and conditions of the credit arrangement, including the interest rate, repayment schedule, collateral requirements, and other covenants.

Commercial banks are among the primary institutions that provide credit to the private sector (Nguyen, 2020). Banks collect deposits from individuals and businesses and use these funds to extend loans to borrowers for various purposes such as purchasing homes, starting or expanding businesses, or funding infrastructure projects. Through their lending activities, banks facilitate economic growth by supporting entrepreneurship, job creation, and overall economic activity. Non-bank financial institutions also play a significant role in providing credit to the private sector. These institutions include insurance companies, pension funds, mutual funds, hedge funds, and other financial entities that mobilize savings from investors and allocate these funds to different investment opportunities. Non-bank financial institutions complement the role of traditional banks by offering specialized financial products and services tailored to specific needs of borrowers in the private sector.

Financial inclusion refers to the access and usage of financial services by individuals and businesses, particularly those who are underserved or excluded from the formal financial system (Christopher, Dyaji Baba & Olugbenga, 2023). These services include savings, credit, insurance, and payment services. The concept of financial inclusion is closely linked to economic growth, as it has the potential to enhance productivity, reduce poverty, and promote overall economic development (Toby & Dibiah, 2022). Financial inclusion plays a crucial role in promoting economic growth by providing individuals and businesses with access to essential financial services. Access to formal financial services allows individuals to save money securely, access credit for investment in education or business ventures, and manage risks through insurance products. For businesses, access to financial services enables them to invest in productive activities, expand their operations, and manage cash flows effectively. By facilitating these activities, financial inclusion contributes to increased productivity, income generation, and overall economic growth.

One of the keyways in which financial inclusion promotes economic growth is by enabling individuals and businesses to accumulate savings and access credit (Uzoma, Olushola & Chikamnele, 2022). Savings provide a source of funds for investment in education, healthcare, housing, and entrepreneurship. Moreover, savings can be channeled into the formal financial system for productive use by financial institutions. Access to credit allows individuals and businesses to invest in income-generating activities such as starting or expanding a business, purchasing assets, or investing in education and skills development. This access to credit can lead to increased productivity and income generation, thereby contributing to economic growth.

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Furthermore, financial inclusion facilitates risk management through insurance products. Insurance protects against unexpected events such as illness, accidents, natural disasters, or crop failure. By mitigating these risks, individuals and businesses are better able to withstand shocks and continue their economic activities without being pushed into poverty or bankruptcy. This resilience contributes to the stability of the overall economy and supports sustained economic growth.

Economic growth
Economic growth refers to the increase in a country's production of goods and services over time. It is a crucial indicator of a nation's economic health and development, reflecting improvements in living standards, employment opportunities, and overall prosperity. Economic growth is typically measured by the percentage increase in a country's Gross Domestic Product (GDP) over a specific period (Epor, Yua & Iorember, 2024). This growth is driven by various factors such as investment, technological advancements, population growth, and government policies. One of the primary goals of economic growth is to enhance the standard of living for the population. As an economy expands, it generates more income and job opportunities, leading to higher wages and improved living conditions for individuals. Economic growth also enables governments to invest in social programs, infrastructure development, and other public services that benefit society as a whole. Moreover, economic growth plays a significant role in reducing poverty levels within a country. As the economy grows, more resources become available for poverty alleviation programs, education initiatives, and healthcare services. This can help lift individuals out of poverty and improve their quality of life.

Put in another way, the increase in the market value of the products and services generated by an economy over time, adjusted for inflation, is known as economic growth (Uzoma, Olushola & Chikamnele, 2022; Nwite, 2014). Businesses earn more from economic expansion. As a result, stock prices grow, providing businesses with additional funding for investments and hiring. Income increases when more jobs are created. With more money in their pockets, consumers can purchase more goods and services, which boosts economic development. The traditional method of measuring it is as a percentage rise in the real gross domestic product, or GDP. However, growth in the GDP to population ratio, or GDP per capital, also known as per capita income, is more significant.

Financial intermediation and economic growth in Nigeria
The evolution of financial intermediation policies in Nigeria can be traced back to the pre-independence era when the country's financial sector was dominated by foreign banks. Following independence in 1960, the Nigerian government introduced various regulations to promote indigenous participation in the financial sector and enhance access to credit for local businesses. The 1970s saw the nationalization of major banks and the establishment of development finance institutions to channel funds towards priority sectors such as agriculture, industry, and housing. In the 1980s and 1990s, Nigeria experienced economic challenges due to falling oil prices, high inflation, and unsustainable debt levels. This period was marked by financial sector reforms aimed at liberalizing the economy, deregulating interest rates, and promoting competition among financial institutions. The adoption of structural adjustment programs led to the privatization of state-owned banks and the emergence of new players in the financial sector.

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The early 2000s witnessed further reforms in Nigeria's financial sector following the consolidation of banks to strengthen their capital base and enhance their capacity to support economic growth. The CBN introduced prudential guidelines to improve risk management practices among banks and ensure their compliance with international best practices. The adoption of Basel II standards aimed at aligning Nigeria's banking regulations with global standards on capital adequacy and risk management. In recent years, Nigeria has continued to refine its financial intermediation policies to address emerging challenges such as non-performing loans, cyber risks, and money laundering activities. The CBN has introduced measures to enhance financial inclusion through agent banking, mobile money services, and fintech innovations. The implementation of credit bureaus has improved credit assessment processes and reduced information asymmetry in the lending market.

Despite these efforts, Nigeria still faces significant obstacles in its financial intermediation process that hinder inclusive growth and sustainable development. Figure 1 showed that Nigeria's economic growth dipped in 2016, a feat attributed to the fall in global crude oil price. This reemphasizes Nigeria's dependence on the oil sector. Furthermore, according to Q2 GDP figures issued by the National Bureau of Statistics (NBS), Nigeria's GDP rose by 1.94% (year-over-year) in real terms between April and June 2019. While it may not seem like much, the growth was encouraging since it represents a gain of 0.44% points when compared to the second quarter of 2018, when growth was reported at 1.50%. Nonetheless, the actual growth rate for the second quarter of 2019 shows a decrease of –0.16% points from the 2.20% reported in the first quarter. This indicates that the economy performed better in January through March than it did in April through June.
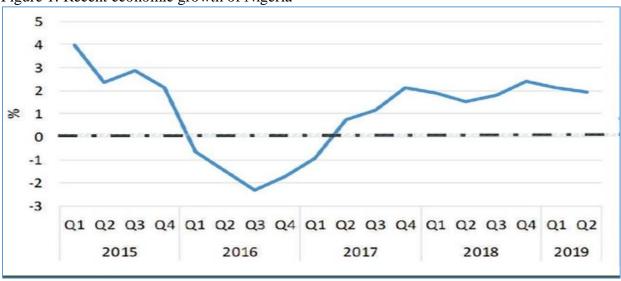
Figure 1: Recent economic growth of Nigeria

Source: Nigeria Bureau of Statistics, NBS, 2020

In recent years, Nigeria has faced a number of challenges that have hindered its economic growth potential. These include political instability, corruption, inadequate infrastructure, poor governance, security concerns, and a lack of diversification in the economy. Addressing these challenges is crucial for unlocking Nigeria's full economic potential and promoting sustainable

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growth that benefits all segments of society. One key factor that influences economic growth in Nigeria is government policy. The Nigerian government plays a central role in shaping the country's economic environment through its policies on taxation, regulation, investment, trade, and public spending. Effective policymaking can create an enabling environment for businesses to thrive, attract foreign investment, promote innovation and entrepreneurship, and stimulate economic activity across various sectors.

Infrastructure development is another critical factor that affects economic growth in Nigeria. Inadequate infrastructure, including roads, ports, airports, energy supply, and telecommunications networks, hinders productivity, increases production costs, limits market access, and constrains economic growth potential. Furthermore, promoting industrialization is essential for driving economic growth in Nigeria by diversifying the economy away from its heavy reliance on oil exports towards manufacturing and value-added industries. Human capital development is another critical driver of economic growth in Nigeria. Investing in education, skills training, healthcare services, social protection programs can improve labor productivity levels enhance workforce skills increase employability rates reduce poverty levels promote social inclusion gender equality empower youth foster innovation entrepreneurship drive sustainable development progress.

Moreover, fostering innovation entrepreneurship is essential for driving economic growth in Nigeria by promoting creativity problem-solving skills technology adoption business startups market competition product differentiation value creation market expansion job creation wealth generation sustainable development progress.

Theoretical framework

The analysis was based on Robert Solow and Trevor Swan's neoclassical growth theory, which was created in 1956. The neoclassical growth theory emerged in the late 1950s and early 1960s as a consequence of extensive study in the field of growth economics. Neoclassical growth theory is an economic theory that describes how a consistent rate of economic growth is achieved via the interaction of three driving forces: labor, capital, and technology (Oluwole, 2014; Epor, Yua & Iorember, 2024). The National Bureau of Economic Research credits Robert Solow and Trevor Swan with inventing and introducing the long-run economic growth model in 1956. The model initially utilized external population increases to define the growth rate, but Solow integrated technological development into the model in 1957. This neoclassical growth theory emphasizes capital accumulation and the decision to save as a key predictor of economic growth. The standard Neoclassical growth model assumed a two-factor production function with capital and labor as output determinants.

According to the Neoclassical Growth Model's production function, capital accumulation in an economy and how individuals utilize it are essential factors in influencing economic growth. It goes on to say that an economy's overall production is determined by the interaction between capital and labor. Finally, the idea asserts that technology boosts labor productivity, boosting overall production through higher worker efficiency. As a result, the production function of the neoclassical growth model is used to quantify an economy's economic growth and equilibrium. In the neoclassical growth model, the general production function looks like this;

$$Y = AF(K, L)$$

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Where:
Y   –   Income, or the economy's Gross Domestic Product (GDP)
K   –   Capital
L   –   Amount of unskilled labor in the economy
A   –   Determinant level of technology

Also, because of the dynamic relationship between labor and technology, an economy's production function is often re-stated as Y = F (K, AL). This states that technology is capital and labor augmenting and that capital and workers' productivity depends on the level of technology.

As discussed earlier, the neoclassical theory of economic growth is an exogeneous growth theory depending on external factors to the business entity. When economic growth opens up to seek finance, believing that additional funds would help them expand, the result is increase in the rate of capital accumulation by economic growth. Capital accumulation by economic growth results when some proportion of their present income is saved and invested in order to augment future output and incomes (Yeboah, 2020). Capital accumulation by economic growth is a component of economic growth and a core parameter in the neoclassical growth theory. In a situation where savings are low, the most ideal policy direction is to source funds from outside sources, most probably commercial banks. This growth model has undergone a lot of modifications after it was postulated. For instance, Mankiw, Romer, and Weil, (1992) modified it to include accumulation of human capital, Abubakar (2020) applied it to the relationship between institutional quality and economic growth.

$$Y = F(K, AL)$$

From the original neoclassical production function above, changes in A are expected to captures technological changes, but these may not necessarily be due to technology alone (Salisu, 2023; Epor, Yua & Iorember, 2024). The effects of other digital financial inclusion factors electronic banking and agency banking, which are by themselves sources of technology to the underdeveloped economic growth sector of Nigeria. These digital financial inclusion factors, together with the extent of commercial banks financial coverage, are especially important to a developing country's economic growth sector that is short of adequate credits and savings. The proposed modified neoclassical model with external financial inclusion factors can be written as:

$$Y = f(K, A)$$

Where, K stands for the coverage of external commercial bank financing, and A stands for financing platforms that include agency banking and electronic banking.

Review of empirical literature
Christopher, Dyaji Baba and Olugbenga (2023) examined the relationship between financial inclusion and economic growth in Nigeria. The study relied on the use of the Autoregressive Distributed Lag Model (ARDL) technique to estimate parameters. The study's findings, which showed a positive correlation between GDP and the use of financial services (UFS), highlight the need of promoting financial literacy and encouraging people and businesses to utilize financial services wisely.

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Nguyen (2022) examined the role of the banking system in the Vietnamese economy's growth in the transition that started in the early 1990s. An ARDL approach-based multivariate regression technique is applied to shed light on the impact of banking development, which is measured by broad money and bank credit. The empirical findings confirm a positive long-term effect of banking development on growth, reflecting the important role of the banking system in a typical bank-based financial system in mobilizing and supplying capital to the economy, thus contributing to growth throughout the process of economic transition. The empirical findings also indicate a nonlinear effect and a diminishing marginal effect of banking development in the sub-period 2007–2020. The thresholds for the two measures of banking development are estimated to be around 107% and 101% of the GDP, respectively. This finding suggests that bank credit expansion needs to be closely controlled to be adaptive to the capital-absorptive capacity of the economy.

Uzoma, Olushola and Chikamnele (2022) empirically inquired if financial inclusion is a solution to economic growth in Nigeria from 2004 to 2020. The World Development Indicator and the Central Bank of Nigeria Statistical Bulletin provided the data for this investigation. The econometric methods used are the Autoregressive Distributive Lag (ARDL) and Error Correction Model (ECM). The empirical result between financial inclusion and economic growth revealed that financial inclusion promotes economic growth in Nigeria.

Akinrinola and Folorunso (2022) examined the relationship between financial inclusion and economic growth in Nigeria from 1980 to 2020. The total bank deposit and gross domestic product have a positive and statistically significant association, according to the Error Correction Model result. The gross domestic product and total credit disbursement have a negative and negligible connection. The study's findings support the finance-led growth theory and show that one of the elements driving Nigeria's economic expansion is the financial sector.

Toby and Dibiah (2022) examined the relationship between financial inclusion and economic growth in Nigeria. The study used quarterly data from 1981Q1 to 2017Q4 from the Central Bank of Nigeria. To analyze the data, the Vector AutoRegression (VAR) approach was applied. The study discovered a causal relationship between financial inclusion and Nigeria's economic development, as indicated by Currencies as a ratio of Broad Money.

Manasseh, Okoh, Abada, Ogbuabor, Alio, Lawal, Nwakoby and Asogwa (2021) investigated the impact of financial intermediation on economic growth in Nigeria. Data was sourced from the Nigerian Bureau of Statistics and World Bank Development indicator from 1994: Q1 to 2018: Q4 was used for analysis, and the Ordinary Least Squares (OLS) technique was adopted for the evaluation of the hypotheses. Per-capita GDP was utilized in measuring economic growth, while bank credit, bank liquidity reserves and bank deposits are to measure financial intermediation. Empirical examination revealed that deposit, bank credit and bank liquidity reserve all positively influenced economic growth, with only bank credit that reported insignificant effect.

In their study from 1994 to 2017, Akintola and Adesanya (2021) concentrated on the connection between Nigeria's deposit money banks (DMBs) and economic growth. study was carried out on secondary data obtained from real gross domestic product (RGDP), money supply (M2), bank credit (BC) and interest rate (INT). Data was sourced from the Central Bank of Nigeria statistical bulletin and National Bureau of Statistics annual report. Regression analysis was applied to

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estimate the relationship between deposit money banks (DMBs) and economic growth, while Ordinary Least Square (OLS) method was used to estimate the model. According to the study's findings, deposit money institutions significantly influenced Nigeria's economic growth through money supply, credit to the private sector, and interest rates charged on loans to borrowers.

Okonkwo and Nwanna (2021) empirically examined the relationship between financial inclusion and economic growth in Nigeria from 1992 to 2018. Regression analysis was used in the study to look at the effect relationship between the variables. The test's findings showed that there is a causal association between the amount of money in circulation and Nigeria's economic development, as well as a marginally favorable relationship. Similarly, there is a noteworthy and affirmative correlation and causal influence between the loans given by commercial banks' rural branches and the economic progress of Nigeria. Although not statistically significant, there is a positive correlation between the GDP of Nigeria and the deposits made by its rural commercial bank branches.

Alimi and Adeoye (2020) evaluated the effect of financial intermediation activities on the growth of Nigeria's economy. Data were obtained from the Central Bank of Nigeria Statistical Bulletins between 1983 and 2018. Descriptive statistics such as mean, median, skewness, and mode, etc., and econometric statistics like Ordinary Least Squares (OLS) were used to analyze the data obtained. Variable used includes Broad Money Supply, Size of Credit, and Credit delivered to the Private Sector. Findings revealed that Size of Credit and Credit delivered to the Private Sector both significantly boosted economic growth while bank deposits significantly impeded it.

Deposit Money Banks' Services and Economic Growth in Nigeria were investigated by Adebisi and Ewa (2020). Between 1984 and 2017, time series data were collected from the CBN statistics Bulletin. The data were analyzed using various econometrics techniques such as the descriptive statistics test, the augmented Dickey-Fuller (ADF) unit root test, correlation matrix, and Autoregressive Distributive Lag (ARDL) Model. Findings from the analysis showed that, there is an insignificant short and long run effects of aggregate banks credits, deposits and interest rate spread on the growth of the Nigerian economy.

Using 30 Vietnamese commercial banks, Nguyen (2020) tested the impact of commercial bank development on economic growth in Vietnam. The research data were compiled using the WDI and the annual reports of commercial banks for the years 2007 to 2018. Empirical results showed that bank credit significantly boosted economic growth, deposits and net interest margin significantly impeded it. The results of the study show the critical role that commercial banks played during this period of Vietnam's economic progress.

Yeboah (2020) explored the relationship between financial intermediation and economic growth spanning from 1993 to 2018 for Ghana. Purposive sampling technique was used in selecting data and its source. To estimate the parameters in the econometric model stated in the study using times series data, AutoRegressive Distributive Lag (ARDL) bounds testing approach to co-integration developed by Pesaran et al. was employed. Overall, the empirical evidence obtained indicates that there is a negative long-run relationship between domestic banks credit to the private sector and Ghana's economic growth, though statistically insignificant at 5% significance level. In the short-run however, the negative relationship between the two variables is statistically significant at the

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same significance level.

Obayori and George-Anokwuru (2020) examined the relationship between financial inclusion and economic growth in Nigeria from 1981-2018. The ARDL model was used to analyze the annual time series data collected from the CBN Statistical Bulletin and the World Bank report. It was found that, in both the short-run and long-run, access and effective usage of financial services bring about a significant increase in economic growth. The research aligns with the finance-led growth theory, which posits that economic expansion positively impacts the financial sector.

John and Nwekemezie (2019) investigated the effect of financial intermediation on economic development in Nigeria. The data is from 1986 to 2017. The data were obtained from the Central Bank of Nigeria Statistical Bulletin, World Bank (World Development Indicators) and International Monetary Fund (World Economic Outlook). The study focused on money supply, credit to the private sector and lending rate to measure explanatory variables, while the unemployment rate and real GDP were used to measure dependent variables. The autoregressive distributed lag (ARDL) method was used to analyze the data. Findings indicated that credit to the private sector did not really impact positively on economic development. This might be because of the exorbitant lending rate.

Okoro, Onodugo Benjamin and Chinedu, (2018) examined the impact of financial intermediation on economic development in Nigeria by using the endogenous components of financial intermediation such as demand deposits (DD), time/savings deposits (T/Sav), and credits (loans and overdraft). Secondary data from the CBN (Central Bank of Nigeria) Statistical Bulletin of various issues. The study covers an eight-year period (1995-2014). Parametric statistics in forms of analysis of variance (ANOVA), mean, standard deviation, test, co-efficient of association, and simple linear regression were used to scrutinize the data. The findings propose that, though there exists a positive growth relationship between monetary intermediation and production in Nigeria, there also exist elements of unconstructive short-run expansion relationship, especially for the periods from the global financial crisis and bank failures.

Usman, Alimi and Onayemi (2018) examined the effect of bank intermediation activities on economic growth in Nigeria. The study adopted secondary data obtained from the Central Bank of Nigeria Statistical Bulletins from 1983 to 2014. OLS results revealed that loans and advances, and money supply have positive effects on economic growth. The Cointegration result showed the existence of a long-run correlation between variables. The study established that financial mediation by banks has a significant influence on economic growth in Nigeria.

Markjackson, Timinipre, Nelson, and Okoyan (2017) examined the impact of financial intermediation on economic growth in Nigeria. The research adopted secondary data obtained from the Central Bank of Nigeria Statistical bulletin from 1992 to 2015. The study employed the Engle-Granger Representative Theorem of Error Correction to analyze functional correlation. The findings revealed that loans and advances to the agriculture sector, manufacturing sector, forestry, fisheries, and commercial bank credit to small scale enterprises have a significant impact on economic growth in Nigeria.

Oluwasogo, Princess, Oluwatoyin, and Folasade (2017) investigated the effect of financial

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intermediation on economic growth in Nigeria. The period covered was from 1980 to 2014. The study adopted the Johansen cointegration test and Error Correction Model. The study revealed that financial intermediation has a long-term relationship with economic growth.

Marshal, Okey-Nwala, Kenn-Ndubuisi, and Charles (2016) examined the long-run and short-run dynamics between financial intermediation development and economic growth in Nigeria using annual time series data spanning the period 1970-2015 by employing the VAR testing approach, Johansen co-integration testing technique, and Engle and Granger causality test. The results indicate a long-run equilibrium between financial intermediation development indicators (broad money supply and private sector credits) and economic growth. Further, the VAR result showed that broad money supply exerted instant positive and private sector credits exerted instant negative effects on economic growth. However, these effects swapped when past effects are considered. A possible explanation for this is that credits to the private sector are not channeled to productive uses but are diverted to other personal uses. The study concludes that M2 to GDP exerts more influence on the Nigerian economy than the credit to private sector to GDP.

Gisanabagabo and Ngalawa (2016) examined the probable cointegration and causal connection between financial intermediation and economic growth in Rwanda. Quarterly data covering 1966: Q1 to 2010: Q4 was utilized. A Structural Vector Autoregressive model was used to evaluate short-run dynamics between the variables used. Results revealed evidence of a cointegrating correlation between financial intermediation and economic growth.

Olowofeso, Adeleke and Udoji (2015) investigated the influence of private sector credit on economic growth in Nigeria. The study used the Gregory and Hansen (1996) cointegration test. The technique employed quarterly data covering 2000: Q1 to 2014: Q4, while the fully adjusted Ordinary Least Square method was utilized to assess model coefficients. The study discovered a cointegrating correlation between a dependent variable and explanatory variables. There is a significant influence of private sector credit on output, while improved key lending rate prevented growth.

Nwanne (2015) evaluated the effects of the cost of financial intermediation on economic growth in Nigeria. The study used OLS regression analysis. The co-integration test suggested a long-run association between the cost of financial intermediation and economic growth in Nigeria. The study revealed that credit has a significant effect on economic growth in Nigeria. The interest rate has a significant influence on the development of the Nigerian economy. Also, the level of total deposit over the years has impacted negatively on economic growth in Nigeria.

Nwite (2014) examined the effect of financial intermediation on economic growth in Nigeria. The study adopted the Ordinary Least Square method. The study showed that interest rate margin affected economic growth in Nigeria significantly. Credit to the private sector significantly affected the growth of the Nigerian economy positively. The lending rate over the years impacted economic growth in Nigeria negatively.

Ogege and Boloupremo (2014) examined the effect of sectoral credit allocation by deposit money banks on accelerating GDP growth in Nigeria. The research adopted time-series data from 1973 to 2011. Engle-Granger Representation Theorem of Error Correction was used for data analysis. The

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study recommended that credit to the production sector has a significant effect on the development rate of Nigeria while general commerce, other sectors and services have an unimportant and negative connection with GDP in Nigeria.

METHODOLOGY

Ex post facto design will be used in this study to collect, examine, and analyze data relevant to the goals of the investigation. By selecting this kind of design, the researcher will have the opportunity to observe variables over an extended length of time. Because of this, observations will be made of both the dependent and independent variables from 2004Q1 to 2022Q4.This work's data came from a secondary source. These data come from official sources including World Bank Development Indicator and the statistics bulletins of the Central Bank of Nigeria. The study will be quantitative in nature, with data spanning from 2004Q1 to 2022Q4.

The study's data are categorized into dependent and independent variables.

Dependent variable: Economic growth refers to the increase in a country's production of goods and services over time. It is a crucial indicator of a nation's economic health and development, reflecting improvements in living standards, employment opportunities, and overall prosperity. Economic growth is typically measured by the percentage increase in a country's real Gross Domestic Product (GDP) over a specific period. That is:

$$Economic\ growth\ rate\ = ECG = [(real\ GDP_t/real\ GDP_{t-1}) - 1] * 100$$

Independent variables

Bank Savings

Bank savings refer to the funds that individuals deposit into a bank account for safekeeping and to earn interest over time. Savings accounts are one of the most common types of bank accounts, offering a secure way for people to store their money while also allowing them to earn a modest return on their deposits. The measure is aggregate bank savings as a ratio of GDP.

Credit to the Private Sector

Bank credit to the private sector refers to the provision of funds by commercial banks and other financial institutions to private individuals, businesses, and organizations for various purposes. This form of credit is distinct from public sector credit, which involves lending to government entities or public institutions. Private sector credit encompasses a wide range of financial products and services, such as loans, lines of credit, overdraft facilities, trade finance, and other forms of financing. The measure is aggregate bank credit to the private sector as a ratio of GDP.

Bank Financial Inclusion

Bank financial inclusion refers to the efforts made by financial institutions, particularly banks, to provide access to financial services to individuals and businesses who are traditionally excluded from the formal banking system. This concept is crucial for promoting economic development, reducing poverty, and fostering financial stability. This is measured by commercial bank branch coverage. Commercial bank branches are retail locations of resident commercial banks and other resident banks that function as commercial banks that provide financial services to customers and are physically separated from the main office but not organized as legally separated subsidiaries.

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Model specification and method of analysis

The model of the study was a modification of the model of Uzoma, Olushola and Chikamnele (2022), Manasseh, Okoh, Abada, Ogbuabor, Alio, Lawal, Nwakoby and Asogwa (2021), Epor (2024) and Adebisiand Ewa (2020). Using their models, this study's model is specified as:

$$ECG = f(SV, CRD, FI)$$

Where,

ECG	-	economic growth
SV	-	bank aggregate savings to GDP ratio
CRD	-	bank credit to the private sector to GDP ratio
FI	-	financial inclusion, proxied with bank branch coverage

The method of data analysis for this study is the Autoregressive Distributed Lag (ARDL) modelling technique. In this stage, it is about studying the impact relationship from financial intermediation on economic growth. The ARDL model in equation is expressed thus:

$$\Delta ECG_t = \beta_0 + \sum_{k=1}^{p} \beta_1 \Delta ECG_{t-k} + \sum_{k=0}^{p} \beta_2 \Delta SV_{t-k} + \sum_{k=0}^{p} \beta_3 \Delta CRD_{t-k} + \sum_{k=0}^{p} \propto_3 \Delta FI_{t-k}$$
$$+ \partial_1 ECG_{t-1} + \partial_2 SV_{t-1} + \partial_2 CRD_{t-1} + \partial_2 FI_{t-1} + \mu_t$$

DATA ANALYSIS, RESULTS AND DISCUSSIONS

The study analysis begins with descriptive statistics. Descriptive analysis was conducted as part of preliminary test to observe the statistical characteristics of the variables used for this study. The original data, obtained from the World Bank Development indicator as well as Central Bank of Nigeria Statistical Bulletin, are in percentages. The unification of data became necessary for easy interpretation and to conform to unity in linear rule. The data are quarterly data, ranging from 2004Q1 to 2022Q4.

Table 1: Descriptive statistics

	ECG	CRD	SV	FI
Mean	4.386570	12.37482	11.02151	0.538908
Median	5.307924	12.06879	11.65312	0.172257
Maximum	9.250558	19.60353	14.94330	3.618987
Minimum	-1.794253	8.111026	4.400323	0.065138
Std. Dev.	2.922283	2.789440	2.761355	0.797882
Skewness	-0.458519	0.838641	-0.992073	2.527220
Kurtosis	2.006140	3.534933	3.031842	8.622096
Jarque-Bera	5.562345	9.427420	11.97762	173.8475
Probability	0.061966	0.008971	0.002507	0.000000
Sum	320.2196	903.3620	804.5703	39.34026
Sum Sq. Dev.	614.8612	560.2302	549.0060	45.83631
Observations	76	76	76	76

Source: E-view 12 version

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Table 1 presents values for mean, median, minimum, maximum, and standard deviation. From the table, the mean value for ECG, CRD, SV and FI are 4.38%, 12.37%, 11.02% and 0.53, respectively. While the above stated are for the mean values of the variables under consideration, the Jacque-Bera test, with the respective probability values, 0.061966, 0.008971, 0.002507 and 0.000000 means that CRD, SV and fi are not normally distributed. Also, the standard deviation information revealed that ECG, with a standard deviation value of 2.922 is the most volatile among all the ones we used in the study.

Correlation indicates the degree of association between variables. It assesses the extent and strength of the association between two variables. The correlation analysis does not only show the association between variables but also show the possibility of collinearity among independent variables. The correlation matrix of the variables employed in this study is present in Table 4.2.

Table 2: Correlation matrix of variables

Correlation Probability	ECG	CRD	SV	FI
ECG	1			
CRD	0.129543 0.2747	1		
SV	-0.567677 0.0000	0.474065 0.0000	1	
FI	0.368361 0.0013	-0.540998 0.0000	-0.792958 0.0000	1

Source: Author, 2024

The result as presented in Table 2 showed that the financial intermediation variables do not have any high correlation with dependent variable. Again, while CRD and FI had positive relationship with ECG, that of savings and economic growth was negative. However, while the relationship between savings and financial inclusion with economic growth was significant, that of credits and economic growth was insignificant.

Pre-estimation Analysis
Unit root tests: Augmented Dickey-Fuller test
The OLS regression estimation usually require data to be stationary, however in cases where data are not stationary, some models have been developed to address such occurrence. One of such models is the ARDL modeling technique. The ARDL modeling techniques is based on the fundamentals that data are stationary at I(0), I(1) or a combination of both (Epor, Ibenta, Yua & Ityavyar, 2023). To ensure the data were free from stationarity defect, the stationarity test was checked using the Augmented Dickey-Fuller (ADF). The ADF test are presented in table 4.3.

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Table 3: Augmented Dickey-Fuller Test for unit root

Variables	ADF Tests: Levels		ADF Tests First		Order of Integration
	ADF Test Statistic	p-values	ADF Test Statistic	p-values	
ECG	-1.5144	0.1208	-2.8589	0.0049	*I(1)*
CRD	-4.3507	0.0050			*I(0)*
FI	-2.6054	0.0099			*I(0)*
SV	-3.0971	0.1150	-2.6497	0.0087	*I(1)*

Source: Author, Eviews, version 12

The ADF unit root test result in Table 3 depicts that credits and financial inclusion variables were stationary at levels, while economic growth and savings were integrated at first difference. Since the variables are stationary at $I(0)$ and $I(1)$, we can conveniently apply the autoregressive distributed lag (ARDL) modeling technique. It is now important to test for cointegration by employing the ARDL bounds test to cointegration.

ARDL Bounds test for cointegration
Recall, we stated earlier that to estimate one model in section three, which we tag: financial intermediation-economic growth model. With these stated models, the ARDL bounds test were carried out on it. The ARDL bounds tests are presented in table 4.

Table 4: The ARDL Bounds test to cointegration results

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
		Asymptotic: n=1000		
F-statistic	8.013019	10%	2.72	3.77
k	3	5%	3.23	4.35
		2.5%	3.69	4.89
		1%	4.29	5.61

Source: Author, Eviews, version 12

The ARDL bounds test from table 4 shows that the F-statistics from the model was more than the upper bounds at 5%. This revelation means that the financial intermediation variables exhibit long-run relationship with economic growth in Nigeria. By this, there will be a need to estimate the long-run and short-run models.

ARDL Error Correction model
Having established that the determinants of economic growth model variables are related with economic growth model variables in the long-run, it then becomes necessary to determine this with error correction model, which we expect to be significant, negative, and less than unity (Epor, 2024). This was ascertained using the ARDL approach and provided in table 5. As can be seen in table 5, the error correction model coefficients in the economic growth model did show the supposed negative and statistical significance at 5% significance level. This result implies that there is significant error taking place and there is also the tendency of the model to move towards

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any long-term equilibrium following disequilibrium in previous periods. The Durbin-Watson statistic values, being 1.6725, approximately lying between the acceptable bounds of 1.5 and 2.4, means that the economic growth model is free of first order serial correlation.

The p-value of savings in the financial intermediation-economic growth model (i.e., 0.0000), being less than the significance level (0.05), means that SV has a statistically significant negative effects (β = -1.4247) in the financial intermediation-economic growth model in Nigeria for the long-run period of 2004Q1 to 2022Q4. Hence, the null hypothesis that savings do not significantly affect economic growth in Nigeria is rejected and we conclude that savings have a significant negative effect on economic growth in Nigeria from 2004Q1 to 2022Q4. The p-value of aggregate bank credit to the private sector in the financial intermediation-economic growth model (i.e., 0.4497), being greater than the significance level (0.05), means that CRD have a statistically significant positive effects (β = 0.2355) in the financial intermediation-economic growth model in Nigeria for the long-run period of 2004Q1 to 2022Q4. Hence, the null hypothesis that aggregate bank credit to the private sector do not significantly affect economic growth in Nigeria is accepted and we conclude that aggregate bank credit to the private sector have a non-significant positive effect on economic growth in Nigeria from 2004Q1 to 2022Q4.

Table 5: The ARDL ECM and long-run estimations

Short-run ARDL			Long-run ARDL		
Variable	Coef.	Prob.	Variable	Coef.	Prob.
C	1.6982	0.0000***	CRD	0.23551	0.4497
D(ECG(-1))	0.5317	0.0000***	SV	-1.4247	0.0000***
D(CRD)	0.5895	0.0133**	FI	-1.3986	0.4526
D(CRD(-1))	-0.3625	0.2404			
D(CRD(-2))	0.0060	0.9843			
D(CRD(-3))	0.0060	0.9843			
D(CRD(-4))	-0.7530	0.0041**			
D(SV)	-0.9140	0.0259**			
D(SV(-1))	0.7877	0.1332			
D(SV(-2))	-0.0045	0.9930			
D(SV(-3))	-0.0045	0.9930			
D(SV(-4))	2.0555	0.0000***			
D(FI)	2.1692	0.0000***			
ECT(-1)*	-0.1069	0.0000***			
R-squared	0.7911	-0.0469			
Adj. R-squared	0.7408	0.6127			
Durbin-Watson	1.6726	0.6890			
F-statistic	15.7318	1.6726			
Prob(F-statistic)	0.0000				

Note: ***, ** & * are significant at 1%, 5% & 10%, respectively

Source: Author, Eviews, version 12

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The p-value of financial inclusion in the financial intermediation-economic growth model (i.e., 0.4526), being greater than the significance level (0.05), means that FI does not have statistically significant negative effects (β = -1.3986) in the financial intermediation-economic growth model in Nigeria for the long-run period of 2004Q1 to 2022Q4. Hence, the null hypothesis that financial inclusion does not significantly affect economic growth in Nigeria is accepted and we conclude that financial inclusion has non-significant negative effect on economic growth in Nigeria from 2004Q1 to 2022Q4.

The first objective was to examine how aggregate savings influence economic growth in Nigeria. From the test of the hypothesis related to this objective, it was found that the null hypothesis that savings do not significantly affect economic growth in Nigeria is rejected and we conclude that savings have a significant negative effect on economic growth in Nigeria from 2004Q1 to 2022Q4. This means that increases in savings makes the economy to recess. This is a surprise contradiction from the fundamentals in the finance-growth nexus. However, this finding is in variance with Manasseh, Okoh, Abada, Ogbuabor, Alio, Lawal, Nwakoby and Asogwa (2021) who found that bank deposits significantly boosted economic growth backed by sufficient credits and bank liquid reserve. Savings can negatively impact economic growth in Nigeria due to several factors. Low investment rates, where savings are often held in liquid forms, can lead to stagnation in economic growth. This lack of capital for expansion and development can result in a lack of necessary capital for businesses and infrastructure. Additionally, high savings can sometimes lead to inflation if not matched by an increase in production. In Nigeria, where inflation rates are volatile, excessive savings without adequate investment can exacerbate these pressures, reducing purchasing power and overall economic activity.

The second objective was to examine how aggregate bank credit to the private sector influence economic growth in Nigeria. From the test of the hypothesis related to this objective, it was found that the null hypothesis that aggregate bank credit to the private sector does not significantly affect economic growth in Nigeria is accepted and we conclude that aggregate bank credit to the private sector have a nonsignificant positive effect on economic growth in Nigeria from 2004Q1 to 2022Q4. This means that the increases in aggregate bank savings were not sufficient enough to increase economic growth. This finding is in agreement with Akinrinola and Folorunso (2022) who earlier established that bank credits have a negligible effect on economic growth in Nigeria. The relationship between private sector credit and Nigeria's economic growth is complex and multifaceted. While access to credit is generally considered a crucial factor for stimulating economic activity, the impact of private sector credit on economic growth in Nigeria has been observed to be negligible for several reasons. Nigeria's economy faces structural issues, such as reliance on oil exports and financial sector inefficiencies, which can divert resources away from productive sectors. The regulatory environment, including bureaucratic hurdles, corruption, and lack of transparency, can also stifle the effectiveness of private sector credit. Additionally, the unstable macroeconomic environment, including high inflation rates, currency volatility, and fiscal deficits, discourages investment and may lead businesses to choose not to invest or expand despite available credit.

The final objective was to examine how financial inclusion influences economic growth in Nigeria. From the test of the hypothesis related to this objective, it was found that the null hypothesis that financial inclusion does not significantly affect economic growth in Nigeria is accepted and we

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conclude that financial inclusion has non-significant negative effect on economic growth in Nigeria from2004Q1 to 2022Q4. This means that increases in financial inclusion is not enough to propel economic growth. The finding is in variance with Uzoma, Olushola and Chikamnele (2022), who earlier found that financial inclusion promotes economic growth. Nigeria's financial inclusion initiatives have been criticized for their negligible impact on economic growth due to structural economic challenges, low financial literacy, and the informal economy dominance. High unemployment rates, inadequate infrastructure, and reliance on oil exports limit the potential benefits of increased financial inclusion. Low financial literacy hinders individuals from effectively using available financial services and limiting opportunities for investment in growth-enhancing ventures. Despite increased access to finance, the informal economy still dominates many economic activities.

CONCLUSION AND RECOMMENDATIONS

This study examined the relationship between financial inclusion and economic growth in Nigeria from 2004Q1 to 2022Q4. Specifically, the study evaluated the how Nigeria's economic growth is been influenced by aggregate savings, aggregate credits to the private sector and financial inclusion. The study was hinged on the neoclassical theory of economic growth. When applied to the financial intermediation-economic growth nexus in Nigeria, Economic growth encourages businesses to seek finance, leading to increased capital accumulation by economic growth, where a portion of present income is saved and invested to boost future output.

The study estimation was based on the autoregressive distributed lag (ARDL) model. The ARDL model was chosen because, it not just account for the lagged of bank lending determinants variables, but also accommodates the flexibility of data stationarity. Based on data stationarity, where some were I(0) and others I(1), the study conducted four ARDL estimation.The result of the study showed that from 2004Q1 to 2022Q4, Nigeria's economic growth was significantly impacted adversely by savings, while aggregate bank credit to the private sector had a non-significant positive effect. Additionally, financial inclusion had a non-significant negative effect on economic growth.

Recommendations
In line with the findings/conclusion made in this study, the following recommendations are put forward: (i) from the first discovery, it can be deduced that aggregate savings have significant detrimental effect on economic growth. To reverse this, macroeconomic stability, especially inflation, must be controlled to ensure the full benefits of savings infuse into the economic life of the country; (ii) Since aggregate credits to the private sector was found to insignificantly influence economic growth in Nigeria, it is recommended that monetary policies that have been advocated to impede credit flows into the economy be reviewed; (iii) The Central Bank of Nigeria needs to pursue financial inclusion policies more strategically to derive the utmost benefits from integrating the informal sector into the financial landscape.

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