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Financial Development and Economic Growth Nexus: Nigeria's Evidence and Insight

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ABSTRACT

This paper set out to empirically examine the efficacy of financial development indicators such as Finance Ratio (FR), Financial Inter-relation Ratio (FIR); New Issue Ratio (NIR); Intermediation Ratio (IR) and Ratio of Money to National Income (RMNI) on Nigerian economic growth for the period 1989-2024.The study adopted the Augmented Dickey- Fuller (ADF) unit root test, co-integration analysis and error correction model estimation techniques, using secondary data from Central Bank of Nigeria statistical bulletin. The results of the unit root test reveal that all the variables achieved stationarity at first difference at the order of 1(1). The co-integration test showed that the variables are co-integrated, implying that significant long-run relationship exist between the study variables. From the ECM result, Finance Ratio, Intermediation Ratio and Ratio of Money to National Income have positive relationship with nominal GDP growth rate in Nigeria, while Financial Intermediation ratio and New Issue Ratio negatively relate with nominal GDP growth rate. However, only finance ratio, new issue ratio and ratio of money to national income, are the most financial development indicators influencing the economic activities significantly in Nigeria. We therefore conclude that, financial development significantly influences the economic growth in Nigeria. Based on the above results, the study recommends that the regulatory authority should strengthen the financial market with a level framework and information dissemination to sensitize and coax investors' participation. Also, financial institutions should be encouraged in products development by rebranding or creating appropriate clients-tailored products so as to enhance savings' mobilization and also investors' potential to invest.

Key Words: Finance Ratio, Financial Inter-relation Ratio, New Issue Ratio, Intermediation Ratio, and Ratio of Money to National Income, Nominal Gross Domestic Product, Nigeria

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1. INTRODUCTION

One of the targets of every country is to achieve a sustainable economic growth that will lead to economic development in the long-run with many sectors of the economy contributing their quota (Nuhu & Isma'il, 2024). Theoretically, it is believed that financial development under well-developed financial system will promotes economic growth through intermediation process, cost reduction in information, transaction and monitoring. Also, business activities such as trading and funding of viable business opportunities, savings mobilization, risks diversification as well as hedges are enhanced in a well-developed financial system. The above pertinent roles of financial system lead to prudent resources allocation, quick physical and human capital accumulation and rapid technological progress, thereby causing economic growth in the economy (Agu et al., 2025).

A well-organized financial system forms a foundation capable of building sustained economic growth. Initial neoclassical growth literature reveals that financial services performed inert function of just mobilizing individual savings to investors. Nevertheless, a contrary position was taken by authors such as Goldsmith (1969) and Mckinnon (1973) who advocated that financing services perform greater roles in enhancing growth. This finding has invited great number of both theoretical and empirical literature examining the dominant role of financial activities in economic growth and development.

Financial system success obtainable in any economy largely depends on the quality of reforms in the financial sector in form of initiation of market-based practices, removal of capital flows restrictions and fostering competition in the financial sector. The essence of these reforms is to enable a viable financial system of efficiency and stability capable of facilitating maximum performance in the economy. In order to achieve these reforms' objectives, requires adequate platform for the implementation of stabilization policies alongside with efficient mobilization of capital, thereby achieving great level of economic growth (John & Sundararajan, 1999). While some countries enjoy incessant growth and financial system efficiency due to successful financial reforms, others are characterized with financial crises as well as disruptions to economic growth.

Statement of the Problem

The place and role of money, credit and finance in an economy are synonymous to blood in human life. In the presence of needed resources judiciously allocated, an efficient financial system is capable of influencing greatly economic growth acceleration. Specifically, economic growth is a function of capital formation, and capital formation is determined by quality and quantity of finance created at a suitable time and on a mutually benefiting terms. Financial development constituents are generally discussed by pointing out financial structures differences of the developing economies (Bhole, 2006).The financial sector of Nigeria is of a long events of financial repression as well as regulatory regimes. In 1986, the Structural Adjustment Programme (SAP) was initiated by Nigerian government in an attempt to correct the economic ills of financial repression. The programme strategized to achieve three objectives which are: financial structure improvement; improvement of monetary management, and reforms to strengthen the capital movements as well as the foreign exchange market. The efforts were directed at promoting financial savings, reducing distortions associated with investment and inducing an effective intermediation process amongst savers and investors. The reforms led to changes in the financial sector of Nigeria, all in attempt of promoting competition, strengthening the supervisory role of the regulatory authority and streamline the interaction amongst the public and financial sectors of the economy (CBN, 2006).

National growth and development are key economic objectives of all countries. Recognizing its potential, Nigeria embarked on a strategic plan to grow its economy to be among the 20 developed world economies by 2020. Nigeria driven by this goal, emulated the successes of the South East Asian and the BRIC countries (Brazil, Russia, India and China). The great economic feat in these countries is attributed to successful transformation recorded in their financial system (CBN, 2007).

The worry here in Nigeria emanates from the underperformance of the financial institutions especially banks' limited ability to mobilise savings capable of financing long-term development projects (Adeoye & Adewuyi, 2005; Agu et al., 2025). In addition, Ayadi (2009) posit that there is no significant contribution to economic growth arising from financial deepening in the post SAP period.

In agreement with Nzotta and Okereke (2009), most literatures showing the nexus among financial development and economic growth in Nigeria employed money market indicators (Akinlo & Akinlo, 2007; Edo, 1995; Ndebbio, 2004; Ogun, 1986; Oyejide, 1986), and found that positive and significant relationship between financial development and economic growth. More so, either theories or methods that neglect some of the direct channels (credit supply and real interest rate) as well as indirect channels (stock market), or models that ignore the short run influence were used in their studies.

Considering that Nigerian financial sector have undergone series of reforms with the aim of strengthening the role of financial sector in financial intermediation, yet without a commensurate success in economic growth, necessitates the need for this study in an attempt to examine the relationship between financial development and economic growth in Nigeria. Therefore, the specific objectives include among others, to:

i) determine the nature of relationship between Finance Ratio and Nominal Gross Domestic Product in Nigeria;
ii) evaluate the nature of relationship between Financial Inter-relation Ratio and Nominal Gross Domestic Product in Nigeria;
iii) examine the nature of relationship between New Issue Ratio and Nominal Gross Domestic Product in Nigeria;
iv) investigate the nature of relationship between Intermediation Ratio and Nominal Gross Domestic Product in Nigeria;
v) determine the nature of relationship between Ratio of Money to National Income and Nominal Gross Domestic Product in Nigeria;

This research work was organized into five sections. Section One introduces the background of the study, statement of the problem, and the purpose of the study, as highlighted above. Section Two reviews the related literature of the study, a probe of the conceptual, theoretical and empirical frame work coupled with the literature gap. Section Three examines the method of study, it comprises of the research design, sources of data collection, model specification and the method of data analysis of the study. Section Four deals with the presentation and analysis of data, interpretation and test of hypotheses and lastly, Section Five ends the study with summary of the findings, conclusion and recommendations.

2. LITERATURE REVIEW

2.1a Conceptual Review of Financial Development

Financial development (FD) could be seen as development in the operations of the financial sector. Financial sector comprises of all institutions that are financial services providers, whether formal or informal, wholesale or retail offering their services to consumers,

businesses as well as financial firms in the economy. These institutions include: stock exchange, banks, insurers, microfinance firms, credit unions as well as money lenders. In this context, Wikipedia dictionary defines Financial Development as "a process that marks improvement in quantity, quality and efficiency of financial intermediary services. This process involves the interaction of many activities and institutions and possibly is associated with economic growth". In addition, the World Bank (2001) views financial development as "an increase in the volume of financial services of banks and other financial intermediaries as well as of financial transactions on capital market".

So, this development is in size, efficiency, stability of the financial system. Conceptually, we can define FD as a process of cost reduction in information gathering and rendering financial services (which include: making transactions and enforcing contracts). Nwakanma and Nnamdi (2011) describefinancial services as"those services essentially delivered through the administration of designed financial products with ultimate improvements in the financial positions of the clients (customers) as well as the financial service providers (institutions and persons) without necessarily resulting in the transfer of titles or ownership of anything to either party"

Development of the financial sector could be evidenced in: improvement of efficiency and competitiveness in the sector, increase in the scope of available financial services, increase in the variety of institutions operating in the financial sector; increase in the quantum of fund intermediated via the financial sector, increase in the magnitude to which private-sector businesses can access capital from private-sector financial firms, and also, allowing the forces of demand and supply to prevail in the market, instead of being influenced by the government in the direction of lending, improvement of the financial sector's regulation and stability, and increase in the population of people that have access to financial services – which is a sign of poverty reduction.

Financial Development Indicators

Kelvin (1954) asserts that we are doubtful to know much about a subject unless we can measure it in some way. Very cardinal in the determination of FD and EG relationship is the issue of obtaining a satisfactory proxy for FD. According to Bhole (2006), what constitutes financial development is generally discussed by stating financial structures differences of emerging countries and developed countries. Using the above approach, different researchers have used more or one of the indicators below to denote the extent, stage, degree of FD an economy.

Most famous employed measures of FD include: money to national income ratio, banking deposit liabilities to national income ratio, private sector credit to national income ratio, private sector credit to domestic credit ratio and domestic credit to national income ratio. Monetary aggregates give a collection of variables needed to capture the magnitude of financial development (De Gregorio & Guidotti, 1995; Lynch, 1996).

Also, in the association amongst financial development and economic growth, Bhole (2006) specified financial indicators to be jointly quantitative as well as qualitative in nature. This study emphasize mostly the quantitative indicators as shown below.

i) Finance Ratio (FR): Finance Ratio is viewed as the total issues of primary claims and secondary claims in relation to national income (Bhole, 2006). By convention, the magnitude of stock market of a country is assessed by its market capitalization to Gross Domestic Product, which is expressed as the ratio of total listed shares' value in relation to GDP. Stock market capitalization does not measure how much firms have invested,

rather it gives an indication of the possibility to raised funds for investment through the stock market. New Issues' amount; that is, the amount of new issues of securities raised in a capital market in its totality is a key indicator of how popular the market is as a factor of growth. However this hinges on investors' level of confidence and the comparative cost of raising similar funds from alternative sources within the financial system.

ii) Financial Inter-relation Ratio (FIR): This ratio expresses the interaction amidst total financial assets and total physical assets in the country. FIR is a measure of the relative significance of the financial system within any economy (Goldsmith 1975) and is computed by dividing total financial assets by total physical assets. Increase in this ratio indicates FD which in turn yields corresponding output in production of goods and services.

iii) New Issue Ratio (NIR): New Issue Ratio can be defined as the ratio of primary claims to the physical capital formation, which indicates how far investment has been financed by direct issues to the savers by the investing sectors (Bhole, 2006).

iii) Intermediation Ratio (IR): Intermediation Ratio can be expressed as the ratio of secondary issues to Primary Issues. According to Bhole (2006), a financial intermediation ratio measures the development magnitude of financial institutions as strong mobilizers of funds relative to real sectors as direct mobilisers of funds. It indicates institutionalization of the financial activity of the economy. Increase in IR is an indication of financial development which supports economic growth.

iv) Ratio of Money to National Income (RMNI): Several studies reviewed reveal that the most commonly used measure of FD is the ratio of money stock (usually, M2) to national income. This indicator measures the degree of monetization and size of exchange economy in the country. The higher this ratio the higher the FD in the country (Bhole, 2006).The 'narrow money' stock (M1) best reflects payment-services while 'broad money' (M2) reflects savings function. Narrow money balances should rise in line with economic transactions, but broad money should rise at a faster pace if financial deepening is occurring (Lynch, 1996).

The employment of ratio of narrow money to national income as a measure of FD is criticized by De Gregorio and Guidotti (1995) on the grounds low monetization rate leads to high sophistication magnitude in the financial market which allows individuals to economize on their money holdings, however, a high monetization rate (M1/GDP) has the tendency to result to financial underdevelopment. Therefore, De Gregorio and Guidotti (1995) opined the employment of less liquid aggregate of money (M3 or M2/GDP) as measure of FD.

Stages of Financial Development

Financial development stages have been identified in the order of three key stages. These stages are: firstly, the rudimentary deposit banking system that characterized period when commercial banks act primarily as intermediaries among savers and investors; secondly, is the stage of advance money creating banking system where some type of banks' liabilities greatly welcomed as payment means; and lastly, is this contemporary era with progressive securitization of former bank credit relationship in the financial sector (Graff, 2001).

Factors That Determine Financial Development

The key drivers of FD in emerging economy are macroeconomic fundamentals. Deducing from relevant literature, particularly, Kose et al (2004) that examined the impacts on FD from two key areas of globalization – trade and financial integration found out level of national

income, ratio of exports to imports, inflation rate, level of financial risk, as key macroeconomic factors that determine FD of a country.

However, Ezirim, et al (2008) posit that financial development has been constrained by:scarcity of skilled personnel, relatively poorer education level as well as poor banking habits of their customers (evidence in low savings habit and discouraging loan repayment culture),alongside high cost of modern day technology needed to drive financial services relative to their available capital resources.

In agreement with Ezirim, et al (2008), Region Economic Outlook: Sub Saharan Africa (2012) asserts that: "… weak quality of the institutions contribute to inhibit Financial Development in many of the developing countries".

Financial System of Nigeria

Financial system of Nigeria consists essentially of both informal as well as formal sectors. The regulatory agencies; foreign exchange markets; money and capital markets; insurance companies and brokerage firms; Deposit Money Banks; Development finance and other financial institutions are all elements that constitute the formal sector, while elements of the informal financial sector comprises oforganizations and groups, including cooperative societies, savings union; credit union, self-help groups, local money lenders, etc. This segment is scantilydeveloped, restricted in outlook and seemingly detached from the official recognized financial system. The formal institutions are regulated by various authorities in contrast to institutions in the informal sector.

Competition is high across all sub-sectors but more when it comes to banking subsector. Entry barriers are high for banking, moderate for insurance and low forinvestment management along with capital market activities (Erdal et al., 2007).

In an attempt to have a robust and dependable banking sector in Nigeria capable of ensuring the safety of the money of depositors and also play vital roles in the development of the economy of Nigeria as well as becoming proficient and competitive banks in the financial system both within Africa and beyond, reforms for banking sector were announced by the Central Bank of Nigeria in July 2004 which was the first phase while the second phase involves encouraging the emergence of regional specialized banks. The consolidation agenda increased Banks' shareholders' Funds from minimum of #2billion (US $15million) to #25billion (US $200million). This move led to a significant consolidation of the industry, reducing the number of banks from 89 to 24 in 2006. Also, the establishment of Asset Management Corporation of Nigeria (AMCON) was established in 2010 with the aim of tackling the permeating nature of non-performing loans assets of commercial banks, due to the global financial crises that rocked the country. More so, the Bank Recapitalization Programme Launched in March 2024, with the target of increasing minimum capital requirements for banks to ensure they maintain sufficient capital to sustain operations and withstand economic challenges. The new minimum capital requirements range from N10 billion to N500 billion, depending on the type of licence. Then, the Cash Reserve Requirement (CRR) Framework introduced in February 2024, was purposely meant to strengthen banks' ability to plan, monitor, and align their records with the CBN, addressing liquidity challenges in the financial system.

These plans provided incentives for banks in the country to consolidate through mergers and acquisitions and also sought to encourage banks to play active development roles in the Nigerian economy, while becoming competent and competitive players in African regional

and global financial systems. Many banks recapitalized to meet the new minimum share-holders' fund requirement through private placements, right issues and public offers.

Significantly, remarkable profitability and growth have been recorded in the financial sector than many other sectors in the economy of Nigeria. The universal banking system currently in practice in Nigeria enables most banks offer services of broad range covering core banking areas such as lending, treasury, private banking, trade finance, as well as financial advisory services.

Catalogue of these financial products include: asset based finance leases, loan syndication, advances, bonds, guarantees, cash management, mutual funds, company floatation, mergers and acquisitions; capital reconstruction and restructuring, project finance, custodial service, and trust services among others.

The capital market is dominated by institutions such as: Securities and Exchange Commission (SEC), which is at the apex and saddled with the authority and responsibility of regulating participants as well as activities in the market; Nigerian Stock Exchange (NSE), the issuing houses and the stock broking firms. At present, Nigerian Stock Exchange has six divisions. Clearing, Settlement and Delivery of transactions operated in the Stock Exchange are done electronically through the Central Securities Clearing System Limited (CSCS), a subsidiary of market.

Other Financial institutions in Nigeria's financial system are finance and investment companies, Nigerian Social Insurance Trust Fund (NSITF); primary mortgage institutions and Bureau de change. The pension reform law of 2004 also established a contributory pension system for Nigeria. About twelve Pension Fund Managers have been licensed. Principal regulators in Nigerian financial system include Securities and Exchange Commission, Federal Ministry of Finance, National Insurance Commission; Nigerian Deposit Insurance Corporation and the Central Bank of Nigeria, which is the apex in the ladder.

Regulatory Authorities and the Nigerian Financial System Stability

The critical role of any country’s financial system is the mobilisation as well as rational allocation of funds needed for the purpose of investment. For effective functioning in the economy, the qualities of soundness, stability and reliability are cardinal expectations from the financial institutions. Bank failure poses severe risks for the whole country given the intermediary role it plays, particularly as a holder of depositors‟ funds and facilitator of payment systems. Regulatory authorities are statutory institutions established to make sure that stakeholders play and stay according to the fundamental rules for the purpose of financial stability in the system. This has placed the Central Bank of Nigeria, Nigeria Deposit Insurance Corporations, Securities and Exchange Commission, Nigeria Stock Exchange, Abuja Commodity and Securities Exchange, and Self-Regulatory Organizations, at prominent position to pursue and ensure stability in the financial system, using their peculiar instruments. Foot (2003) argued that financial stability is said to be when: there is achievement in monetary stability, employment rate is close to natural level in an economy, the public reposes high confidence in the financial institutions’ operations and practices, there is relative stability in movement of price of both financial assets and real assets. By inference, financial stability cannot be achieved in a situation of rapid inflation or high rate of unemployment.

Similarly, high incidences of bank failures and inability of institutions in the financial system to perform their financial intermediary roles either for individuals or corporate customers are symptoms of financial instability.

2.1b Conceptual Review of Economic Growth

It represents an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Anyanwu and Oaikhenan (1995) viewed economic growth as increase, over time, of a nation's or an economic capacity to produce needed goods and services for the improvement of the citizens' well-being in increasing numbers and diversity. Ayres and Warr (2006) define economic growth as 'a rise in the total output (goods or services) produced by a country. The foregoing assertions suggest that increase in aggregate output, technological advancement, presence of variety of economic products, institutional and ideological adjustments can be used to describe economic growth.

Measuring economic growth could be done either in nominal or real terms. It is nominal with the inclusion of inflation, otherwise it is real economic growth after adjusted for inflation. Monetary terms are always used to denote growth when measuring economic growth, however economic growth neglects other facets of development (Illyas & Siddiqi, 2010). Sometimes, in place of gross domestic product (GDP), the gross national product (GNP) is alternatively used as a measure. Beck and Web (2003) posit that economic growth statistics of two or more countries could be compared using a single currency whether premised on purchasing power or current exchange rate. But if the compared countries have difference in population size, then, preferably statistics on per capita should be employed. Ideally, the GDP or GNP is normally presented in "real" (that is, inflation adjusted) term instead of "nominal" term which reflect the actual money in order to compensate for changes that emanate from value of money (Ayres & Warr, 2006).

Economic position of any nation could be facing increase or decrease. Increasing economic position indicates economic growth. However, decreasing economic position could be described as shrinking economy. Negative growth is synonymous to economic recession or economic depression (King & Levine, 1993).

However, for the sake of this study, the nominal GDP is employed to capture economic growth trend in Nigeria. Reasons for this are that this has not been deflated unlike the real GDP. This brings the dependent variable to the same page with the independent variables which are not also deflated. Besides, it portrays the current price of products which indicates the largest amongst other indicators of economic growth as common to emerging countries like Nigeria (Bhole, 2006).

Meanwhile, it is worthy to emphasize that economic growth used in this study is not synonymous to economic development, as they are not the same. For instance, Clauer (1966) works on Liberian economy titled "Growth without Development", where there was great or rapid export of primary commodities but absence of structural and institutional changes. However, he concluded that development cannot exist without growth. Thus, in this study, we shall strictly limit ourselves to economic growth with emphasis on Nominal Gross Domestic Product (GDP) as the measurable variable. This is because the measurable variables of growth differ also from that of economic development.

Factors that Inhibit Economic Growth in Less Developed Countries (LDCs)

Despite international aid and support, emerging nations were not able to grow and prosper because of economic traps. Collier (2007) identified these traps to include conflicts or wars, rent seeking on natural resources, dependence on only one neighboring nations, and devoid of the rule of law. Although the growth of real per capita GDP of emerging countries was greater than the world average, they had low rates of socioeconomic conditions. Corruption and poor governance hinders the economic health of countries. Mauro studied 67 countries and found out that yearly economic growth increased 1.3 percentage points where corruption

was reduced (Murro, 1995). Poor nations with people of different backgrounds, cultures, languages, and customs are highly susceptible to corruption. Empirical models can test these claims and see their workability in developed as well as developing economies. It was as a result of weak institutions, low physical and human capital, conflicts, poverty, a low rate of productivity, lack of international trade, and heavy reliance on external help. Since they had a low rate of real per capita GDP, the theory of convergence, "catching up," should hold true. In fact it seemed to, because despite all the problems, they had higher growth rates compared to other advanced countries.

A country rich in natural resources stands to gain from the production and sale of such wealth. Yet, even with abundant natural resources such as oil and diamonds, African countries have not experienced substantial GDP growth (Sachs & Warner, 1997). This may be because poor countries fall into the natural resource trap. For one thing, the export of the natural resource results to an increase in the rate of exchange, which makes their other exports more expensive which commonly called "Dutch Disease."

Also, diverting human and physical capital from other industries to the production of natural resources shrinks other industries (Collier, 2007). In addition, natural resource sales fuel corruption and other rent-seeking behavior. Many of the emerging economies in Sub-Saharan Africa are rich in natural resources, yet with very low per capita GDP.

Financial Development and Economic Growth Nexus

Inquisition of the causality direction between two variables especially FD and EG has always been an important discussion subject. Patrick (1966) pointed out two possibilities of causality direction. The first which is called demand following hypothesis is characterized with causality from EG to FD, and the second known as supply leading hypothesis, showing causality from FD to EG. According Patrick (1966), while the supply-leading hypothesis is dominant at the initial stage of EG, at the later stages comes the demand-following hypothesis being prominent.

Other authors argue that the direction of causality situation is a two-way happening, in the sense that both FD and EG reinforce each other. That is to say that FD promotes EG and EG renders support to FD. More so, authors like Chandavarkar (1992); Lucas (1988); Qayyum, Siddiqui and Hani (2012); Stern (1989) are of the opinion that there is significant independent relationship between FD and EG, implying that there exist no causal relationship among them.

From the postulation of Patrick (1966), the demand-following proposition advocates that the necessity of financial services in any economy is hinge on the output level of goods and services as well as the modernization and the commercialization of agriculture and other sectors. Thus expansionary requirements in the financial sector such as financial assets and liabilities, modern financial institutions and other related services are direct function of the need for financial services by both savers and investors in the real economy. Therefore, increase in national income will create greater demand for external fund for enterprises by investors and thereby arousing the service of financial intermediates to bridge the gap between the deficit units (the investors) and the surplus unit (the savers) since most firms may be unable to finance the business from internal generated source. This scenario of the need for financial intermediation will also take place in the presence of greater growth rates among the various sectors or industries in the economy, thus the eagerness to transfer savings to fast growing industries through financial intermediation process.

The finance-growth nexus was retested by Rousseau and Watchel (2005) using 1960 to 2003 data. Their results reveal that proxy to FD such as ratio of M3 to GDP relationship with growth was insignificant from 1985 to 1989, while same happened to private sector credit from 1990 to 1994. These periods are traceable to the period in Latin America when most her developing states experienced quick liberalization in the financial system as well as been exposed to the global market. These findings on the breakdown of the empirical relationship between finance and growth, imply that lack of financial institutions' stability, liberalization of the financial system may be counterproductive and provide perverse incentives for banks to lead imprudently. Such activities may result in a several stained or collapsed financial sector of the domestic economy if imprudent lending leads to non-performing loans, illiquidity, insolvency and capital flight.

More so, in this perspective, financial institutions service EG and on the reverse, economic growth promotes or induce financial development. Empirically, the works of Kar and Pentecost (2000); Nwakanma, et al (2014) reveal that on the balance, financial sector development being promoted by growth.

On the other hand, supply leading hypothesis as postulated by Patrick (1966) posits that supply leading has two major functions; one, transferring resources from low growth sectors to the modern high growth sectors, and two, promoting and stimulating an entrepreneurial response in the modern sectors. Thus the presence of financial services drives the need for these services by the entrepreneurs in the modern growth-inducing sectors.

Using various analytical tools such as co-integration, ordinary least square and error correction model, Demirguc-Kunt and Levine (2008) reveals significant evidence showing that FD is necessary for EG, and therefore recommended that financial sector policies prioritization by policies makers with special focus on FD determinants as channels for fostering EG.

Reviewing the works of Bagehot (1873); Schumpeter (1912); Gurley and Shaw (1955); Goldsmith (1969); Mickinnon (1973) on FD and EG nexus, Demetrides and Andrianova (2004); Wachel (2003) who used different economic analytical tools, firstly, posit that well-developed financial system economies grow faster, mostly, where (a) there is large and privately owned banks that channel to the private sector, the credit facility of private and (b) there are exchanges of liquid stock. This shows that the developmental height of stock market liquidity and banking activities influence economic growth positively. Secondly, ease of external financing constraints capable of hindering the expansion of firms and industries is a direct function of efficient financial system (Levine, 2003).

2.2 Theoretical Underpinnings

In the words of Bhole (2006), finance and financial system's roles in economic growth can best be appreciated if we study various theories of financial development impact upon savings as well as investment. Therefore, Bhole (2006) identifies: Prior Savings Theory, Credit Creation Theory, Financial Repression Theory, Financial Liberalization Theory, The Endogenous Growth Theory, The Model Growth Theory, as the theories that explain the nexus between financial development and economic growth in any economy.

i. Prior Savings Theory: Prior Savings Theory (PST) views saving as a requirement or a determinant of investment. It holds that all savings in the economy can find investment outlets. It emphasizes the role of relevant fiscal policy and monetary policy for promoting and mobilizing savings willingly in support of investments and to economic growth. It is believed that since investment is an alternative to consumption, any investment not

financed by previous savings will result to inflation and not real income or development. This theory does not subscribe to the advocacy that inflation is a necessary tool for economic growth; it is averse to inflation, it advocates inflation control, and suggest reasonably high positive real interest rates' policy to encourage savings. PST believes in the neutrality of money in the growth process. That is to say that the volume of money should not exert any influence on the real economy or real variables, implying that money is not a determinant factor of employment level, price of goods and services, real interest rates, capital intensity and output (Bhole, 2006).

ii. Credit Creation Theory (CCT): According to CCT, impact of a financial system to economic growth surpasses growing investment established from prior-savings. On this stand of thought, emphasized by Schumpeter (1934), the financial system is seen to render positive and catalytic role by supplying needed finance or credit through creation of credits in expectation of savings, thereby making investments to be independent from savings at a defined period. It is believed that the credit-created investments will yield commensurate income which through savings can be equal to initial amount invested.

iii. Financial Regulation Theory: In 1973, Stanford economists, Edward S. Shaw and Ronald I. Mckinnon introduce the term financial repression or regulation in order to disparage growth inhibiting policies in emerging markets. Financial repression refers to policies that result in savers earning returns below inflation rate so as to make banks provide cheap loans to companies and governments, reducing the burden of repayments. Proponents of this theory argued that financial markets are prone to market failures, thereby, calls for certain forms of government intervention that will make them function better. The lowering of interest rates through government intervention improves the terms and conditions associated with the pool of loan applications, and improves the efficiency with which capital is allocated.

iv. Financial Liberalization Theory: Mckinnon and Shaw (1973) have advocated that intervention and interference by the government in the financial system are common characteristics that prevail in the developing countries. These countries suffer from poor performance in terms of savings, investment culture, and economic growth due to financial control, regulation, repression by authorities. Financial repression indicators include:

a) the presence of indiscriminate distortions in financial prices such as exchange rates and interest rates.

b) imposition of ceilings on interest rates or fixing nominal interest rates administratively resulting in poor real interest rates.

c) prescribing high reserve rates

d) instituting directed credit programmes

e) inefficient quantitative (non-price) credit (loanable funds) rationing.

Financial repression brings about lower volume of investment, and more so, n lower quality of investment because banks as well as financial institutions ration available funds or allocate credit not in the light of expected marginal productivity of investment but by using their discretion or in the light of transactions' costs, perceived default risk, quality of collateral, political pressures, loan size and covert benefits to loan officers.

v. The Endogenous Growth Theory: More support has been given to the interaction among financial development and economic growth as a result of the proposition of the

endogenous growth theory (Romer, 1986; 1990) on the premise that this model advocates that savings behavior directly does not only determines income levels' equilibrium but also the rate of economic growth (Bencivenga &Smith, 1991). Consequently, financial market can exert significant influence on economic activities. However, Luintel and Khan (1999) assert that most of the endogenous growth models reveal a bidirectional relationship among financial development and economic growth.

vi. The Model Growth Theory: This theory recognizes two major channels by which long-run economic growth is influenced by the financial sector. They are through: its effect on capital accumulation (both physical and human capital) and its effect on the level of technological growth. These impacts come from the intermediation function rendered by financial institutions which empowering the financial sector to: muster savings for investment; foster and enhance inflows of foreign capital (such as: FDI, FPI, bonds, and remittances); and optimise the distribution of capital among competing uses, confirming that capital is best put into most productive use.

Levine (1997) recognized five key roles of financial intermediaries that resulted to these effects to be: Mobilization of savings, Risk management, Gathering information about investment opportunities, Monitoring borrowers and exerting corporate control, and Fostering the exchange of goods and services

2.3 Empirical Literature Review

In the studies of Ayadi et al (2008); Hashin (2011), all with the used of Spearman Rank Correlation Coefficient in examining the interaction that exist among FD and EG of Nigeria, the studies (from 1986-2003 and 2002-2006 respectively) reveal that there is no concrete proof to indicate that there is a significant interaction between FD and EG during the study period. These findings are in consonance with the results reported by Acaravci et al (2007) on Turkish data.

Shabbaz and Mafizur (2014); Mhadhbi (2014); Iheanacho (2016) using ARDL, ECM as well as Granger Causality test also establish a significant but negative influence of FD over EG with causality flowing from EG. Nevertheless, the study of Iheanacho (2016), using Crude oil Price as a controlled variable spurs EG in the short-run as well as long-run. Other controlled variables used include: ratio of Total Trade to GDP, Government Expenditure to GDP and GFCF to GDP on data of 1981 to 2011. Therefore, as a matter of policy implementation, the recommendation of the study is that the dominant role of oil price on economic activities calls for urgent need to diversify the economy of Nigeria.

Nnamdi and Torbira (2015); Odeniran and Udeaja (2010) showed bidirectional causality flow between the employed variables of FD and EG. Techniques employed include ECM and Granger Causality as well as VAR and Granger Causality techniques respectively. Among the explanatory variables used to proxy FD especially in the former where the study focus on various sectors, the study (1992-2014) reveals that while there is no causal relationship among facilities to agriculture/forestry and manufacturing/quarrying, causality runs to and fro among transport/commercial activities and EG in Nigeria.

Also, Al-qudah (2016); Hassen, Sandez and Yu (2011) employed VAR, VECM and Granger Causality to estimate FD-EG interaction. The studies that used 1980- 2007(Panel data) and 1993-2014(time-series) sample respectively reveal a bidirectional interaction, that is, while FD encourages economic growth (EG), EG in turn enhances financial development.

Nuhu and Isma'il (2024) examine the relationship between financial development and economic growth in Nigeria (1980 – 2022) using the ARDL and Toda-Yamamoto Granger

Causality techniques. The author anchored the study on the endogenous growth theory. They found that a 1% increase in Financial Deepening leads to 0.79% increase in economic growth and a 1% increase in stock market capitalization leads to 0.29% increase in economic growth. A 1% increases in real interest rate results in 0.55% increase in economic growth. In addition, a unidirectional causality running from Gross Domestic Product to stock market capitalization, real exchange rate, and inflation was found. A bidirectional causation between Gross Domestic Product and real interest rate was observed. However, there is no causal relationship between gross domestic product and financial deepening in Nigeria.

Also, Ayeni et al (2024) examine the impact of financial development on economic growth in Nigeria, covering 1986 to 2022. The autoregressive distributed lag model was employed by the authors. The long run result reveals that interest rate (INT), lagged value of broad money supply (M2(-1)) and domestic credit to private sector (DCP) have positive impacts on GDPG while broad money supply (M2) has a negative impact on GDPG. The short run estimate indicates that INT and DCP have positive impact on economic growth, while the coefficient of M2 has negative impact on economic growth in Nigeria. The authors concluded that financial development can be said to contribute to economic growth.

Agu et al (2025) explored on the relationship that exist among financial development, foreign direct investment and economic productivity in Nigeria for the period 1990 to 2023 using the ARDL, Fully Modified Ordinary Least Square, alongside Granger Causality test. Their results revealed that foreign direct investment exerts a positive and statistically significant long-term effect on economic productivity. Additionally, Investment, Regulatory Quality, Inflation Rate, and Interest Rate are also discovered to have a negative impact on economic productivity in Nigeria. The Fully Modified Ordinary Least Squares (FMOLS) results further confirm these findings.

In the study of Okpunor et al (2025), the authors empirically analyzed the influence of financial development on economic growth in Nigeria (1984 - 2024), using ARDL model. They anchored on Financial Development and Growth Theory along with the Demand following and supply-leading hypotheses.The authors employed financial depth (measured by the broad money supply to GDP ratio), private sector credit to GDP ratio, stock market development (measured by market capitalization to GDP ratio) and banking sector development (measured by total banks' assets to GDP ratio), as financial development indicators, while real gross domestic product used as measure of economic growth. The ARDL bounds test confirmed the existence of a long-run co integrating relationship between financial development indicators and economic growth in Nigeria. From the ARDL estimates, the authors revealed that financial depth negatively and significantly affected economic growth in the short term, however, with a positive but insignificant effect in the long term. Similarly, the privatesector credit ratio negatively impacted economic growth in both the short-term and long-term, though itwas significant only in the short term. In contrast, the market capitalization ratio positively and significantly influenced economic growth in both the short-term and long-term. Furthermore, the banking sector development (measured by total banks’ assets to GDP ratio) was found to have apositive and significant effect on economic growth in both the short-term and long-term.

Similarly, Aderinto et al (2025) investigated the relationship between financial sector development, energy consumption, and economic growth in Nigeria (1990 - 2023) using ARDL model. The authors’ findings reveal that financial development significantly contributes to economic growth in both the short and long run. Non-renewable energy consumption positively impacts economic growth, underscoring Nigeria's continued reliance on fossil fuels. However, renewable energy consumption exhibits a negative impact on

economic growth, suggesting inefficiencies or high transition costs associated with clean energy investments. Inflation negatively affects economic growth, reinforcing the need for macroeconomic stability. The study also finds that gross fixed capital formation and population growth do not significantly influence economic growth in the long run, although short-term effects vary.

2.4 Gap in the Literature

The shortcoming of earlier studies form the gap in the literature. This shortcoming in extant literature premise on the issue of adopting an adequate measurement of FD which remains unsettled in the literature. Great number of the studies used either one or two dimensions (i.e. size, activity or efficiency-based indicators of FD) but in this study, we adopt the three dimensional measures to see the FD measure that will be more robust and significant for the economic growth in Nigeria.

From the review, it was observed that there exist sparse literature that used these three measures except for Ayadi, et al (2008), Okpunor et al (2025) and Tari and Oliver (2017) but their studies were limited to bank-based assets and secondary issues, ignoring the pertinent role of total issue-based and total financial assets-based variables which define the total size of the stock market activities as well as total size of the financial sector.

Moreover, none used Nominal GDP that depicts current price of goods as well as services to match undeflated explanatory variables except Nnamdi and Torbira (2015) but in facilities to sectoral dimension. They made used of either Real GDP or Real GDP Per Capita which are all deflated at constant price of goods and services without due consideration to the predictor variables been used.

Therefore, in this light, considering the predictor variables used as proxies of Financial Development not been deflated, to have a perfect measurement scale, a non-deflated GDP should be employed in the analysis for a justifiable deduction and conclusion.

3. METHODOLOGY

This study employs the ex post facto hypothetic finametric design which enhances the researcher to observe variables for period spanning 1989 to 2024. Estimation between indicators of financial development (FD) and measure of gross domestic product (GDP) is done using Econometric View 10.0 software. The predictor variable used in this study is Financial Development in Nigeria, proxied by Finance Ratio (FR), Financial Inter-relation Ratio (FIR); New Issue Ratio (NIR); Intermediation Ratio (IR)) and Ratio of Money to National Income (RMNI). The criterion variable used in this study is Nigerian Economic Growth, measured by Nominal Gross Domestic Product (GDP) of Nigeria. Let us consider their derivations in turns.

Since this study is a quantitative data-based research, we employed a time series data for the indicators, with the assumption that their mean and variance will not vary systemically over time (Gujarati, 2013:28). Therefore, the time series data spanning from 1989-2024 were collected from the secondary source. Hence, data were collected through the documentary method, which cuts across several issues of reports of CBN statistical bulletin and Nigeria Stock exchange (NSE) fact book.

Model Specification

Given the above consideration, we can specify a five-predictor model of economic growth – financial development interaction in linear function as:

NGDPGR = f(FR, FIR, NIR, IR, RMNI) ----------(1)

Where,

NGDPGR = Nominal Gross Domestic Product Growth Rate
FR = Finance Ratio (Total Claims divided by National Income)
FIR = Financial Inter-relation Ratio (Total Financial Assets divided by Total Physical Assets in the economy)
NIR = New Issue Ratio (Primary Issues divided by Physical Capital Formation)
IR = Intermediation Ratio (Secondary issues divided by Primary Issues)
RMNI = Ratio of Money to National Income (M2 divided by National Income)
For estimation purposes, equation (1) could be rewritten as:

$$NGDPGR = \alpha_o + \beta_1 FR_t + \beta_2 FIR_t + \beta_3 NIR_t + \beta_4 IR_t + \beta_5 RMNI_t + \mu_t \text{ ----------(2)}$$

Where, α_o = constant, β = parameter or regression coefficient, μ_t = error term.

In the estimation of this study, the data on explained as well as explanatory variables are put to some statistical tests. Thus, the Stationarity test, Co-integration test, Error Correction Model, in addition Granger Causality test were employed to examine the interaction among Nigerian financial development and Nigerian economic growth.

For the apriori expectation, the relationships that subsist between FD indicators and EG can be shown thus:

$\beta_1 > 0, \beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 > 0$

4. RESULTS AND DISCUSSION

4.1 Unit Root Tests

The unit root test was conducted in the study to ascertain the stationarity of the variables using the Augmented Dickey-Fuller (ADF) test. The result of the unit root test is shown in table 1 below:

Table 1: ADF Stationarity (Unit Root) Test Result

Variable	ADF test statistic	Critical Value 5%			Order of Integration	Prob.
		1%	5%	10%		
NGDPGR	-8.070149	-3.639407	-2.951125	-2.614300	I(1)	0.0000
FR	-5.964023	-3.646342	-2.954021	-2.615817	I(1)	0.0000
FIR	-6.349262	-3.646342	-2.954021	-2.615817	I(1)	0.0000
NIR	-5.683360	-3.646342	-2.954021	-2.615817	I(1)	0.0000
IR	-5.705992	-3.639407	-2.951125	-2.614300	I(1)	0.0000
RMNI	-5.258884	-3.639407	-2.951125	-2.614300	1(1)	0.0001

Source: E-view Output
N/B: Critical Values at 5% is Considered Significant

The ADF Unit root result in table 1 shows that all the variables became stationary at first difference given that the ADF statistic value for each of the variables is greater than the critical values in absolute terms and at various level of significance (1%, 5% and 10%) respectively. On the basis of this result we proceed to estimate the presence or otherwise of long-run relationship among the variables using Johansen co-integration test.

4.2 Co-integration Test

Having established that the variables are integrated at order one 1(1), we tested for the existence of long run relationship among the variables using the Johansen multivariate co-

integration analysis based on trace test and maximum eigenvalue test. The result of the co-integration test is presented in table 2 below:

Table 2: Johansen Co-integration Test Result

Date: 04/22/26 Time: 10:37
Series: NGDPGR FR FIR NIR IR RMNI
Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.921974	201.1965	117.7082	0.0000
At most 1 *	0.724672	119.5737	88.80380	0.0001
At most 2 *	0.640944	78.30035	63.87610	0.0019
At most 3 *	0.553380	45.52349	42.91525	0.0268
At most 4	0.345512	19.72996	25.87211	0.2399
At most 5	0.175237	6.165108	12.51798	0.4396

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Source: E-view Output

From table 2, the result of the Johansen's co-integration analysis based on trace statistics shows four co-integrating equations which imply that the variables are co-integrated and that significant long-run relationship exists between the various indicators of financial development and economic growth in Nigeria. We therefore reject the null hypothesis of no co-integration and proceed to determine the adjustment for the discrepancies between the long-run and short-run interaction of the times series using error correction estimation mechanism.

4.3 Error Correction Mechanism

The error correction mechanism (ECM) is used in this study to determine the speed or rate at which the dependent variable will adjust to changes in the independent variables. The error correction mechanism result is therefore presented in table 3 below:

Table 3: Error Correction Estimate Output for the Model

Dependent Variable: D(NGDPGR)
Method: Least Squares
Date: 04/23/26 Time: 15:25
Sample (adjusted): 1992 2023
Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-1.029065	0.620418	-1.658664	0.1136
D(FR(-1))	0.983545	0.304324	3.231900	0.0044
D(FIR(-1))	-0.150594	0.103026	-1.461707	0.1602
D(NIR(-1))	-0.178999	0.064653	-2.768607	0.0122
D(IR(-1))	0.074492	0.038538	1.932937	0.0683
D(RMNI(-1))	1.801496	0.467897	3.850198	0.0011
ECM(-1)	-1.000000	0.049818	-20.07306	0.0000

R-squared	0.964905	Mean dependent var	-0.107812
Adjusted R-squared	0.942741	S.D. dependent var	13.40042
S.E. of regression	3.206579	Akaike info criterion	5.459490
Sum squared resid	195.3609	Schwarz criterion	6.054945
Log likelihood	-74.35183	Hannan-Quinn criter.	5.656866
F-statistic	43.53293	Durbin-Watson stat	2.197372
Prob(F-statistic)	0.000000		

Source: E-view Output

From the ECM result presented in table 3 above, the coefficient of –1.000000 shows that the error correction term is correctly signed and significant, implying that the discrepancies between the short-run and long-run equilibrium can be corrected each year by the tone or speed of 100 percent. The F- statistics with the p-value of 0.000000 shows that the regression is statistically significant and the model has a good fit. The coefficient of determination of 0.964905 shows that about 96.5 percent of the total variation in economic growth, using nominal GDP growth rate is jointly explained by the variation in financial development variables within the study period while the remaining 3.5 percent variation is attributed to other factors not included in the model. This implies that financial development indices exhibited high power in explaining the variations in the growth of Nigerian economy.

Analysis of the short-run estimates showed that Finance Ratio (FR), Intermediation Ratio (IR) and Ratio of Money to National Income (RMNI) have positive relationship with nominal GDP growth rate in Nigeria within the study period to the extent that a one percent increase in FR, IR, and RMNI will all things being equal increase the growth of Nigerian economy by 98.3 percent, 7.4 percent and 180.1 percent respectively, while Financial Intermediation ratio (FIR) and New Issue Ratio (NIR) negatively relate with nominal GDP growth rate. However, only FR, NIR, and RMNI significantly influence nominal GDP growth rate.The implication of the result is that FR, NIR, and RMNI are important financial development indicators that drive the growth rate of Nigerian nominal GDP, thereby spurring economic growth in terms of output level of goods and services, capable of serving the needs and welfare of citizens in the country. These findings agree with a priori expectation with exception to FIR and NIR, therefore support the empirical submission of Okpunor et al (2025) that financial development variables were found to have a positive and significant effect on economic growth in both the short-term and long-term.

5. CONCLUSION AND RECOMMENDATIONS

This paper set out to empirically examine the efficacy of financial development indicators such as Finance Ratio (FR), Financial Inter-relation Ratio (FIR); New Issue Ratio (NIR); Intermediation Ratio (IR) and Ratio of Money to National Income (RMNI) in Nigeria for the period 1989-2024.The study adopted the Augmented Dickey- Fuller (ADF) unit root test, co-integration analysis and error correction model estimation techniques. The results of the unit root test reveal that all the variables achieved stationarity at first difference at the order of 1(1). The co-integration test showed that the variables are co-integrated, implying that significant long-run relationship exist between the study variables. From the ECM result, Finance Ratio, Intermediation Ratio and Ratio of Money to National Income have positive relationship with nominal GDP growth rate in Nigeria, while Financial Intermediation ratio and New Issue Ratio negatively relate with nominal GDP growth rate. However, only FR, NIR, and RMNI strongly influence nominal GDP growth rate. This implies thatthe output level of goods and services is greatly determined by finance ratio, new issue ratio and ratio of money to national income in Nigeria. The study therefore concluded that financial development significantly influences economic growth in Nigeria. Based on the above results, the study recommends that the regulatory authority should strengthen the financial market with a level framework and information dissemination to sensitize and coax investors' participation. Also, financial institutions should encourage financial products development by rebranding or creating appropriate clients-tailored productsso as to enhance savings' mobilization and also investors' potential to invest.

Contribution of study

As a matter of improvement in method, the financial development indicators employed, captured the size, activities, in addition to the efficiency of financial institutions as it relates to Nigerian economic growth. These indicators which include: Finance Ratio, Financial Interrelation Ratio, New Issue Ratio, Intermediation Ratio, and Ratio of Money to National Income as postulated by Bhole (2006), are reliable financial development indicators capable of predicting Nigerian economic growth.

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