

Financial Deepening and Economic Growth: A Disaggregated Effect from Nigeria

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DOI: 10.56201/wjeds.v10.no2.2025.pg100.119

Abstract

This study examined financial deepening and Nigerian economic growth. The main purpose is to examine the relationship between financial deepening and Nigerian economic growth while the specific objectives are to examine the impact of interest rate, capital market development, rational savings, credit to private sector and broad money supply on the growth of Nigerian. Secondary data of the variables were sourced from the publications of Central Bank of Nigeria (CBN) from 1990-2023. Nigerian Real Gross Domestic Product (RGDP) was used as dependent variable while Broad money supply (M2), Credit to Private Sector (CPS), National Savings (NS), Capital Market Capitalization (CAMP) and Interest Rate (INTR) was used as independent variables. Multiple regressions with E-view statistical package were used as data analysis techniques. Cointegration test, Augmented Dickey Fuller Unit Root Test, Granger causality test was used to determine the relationship between the variable in the long-run and short-run. R^2 , F – statistics and β Coefficients were used to determine the extent to which the independent variable affects the dependent variable. It was found from the regression result that Broad Money Supply, credit to private sector have position effect on the growth of Nigerian Real Gross Domestic Product while National Savings, Capitalization and Interest Rate on Nigeria Real Gross Domestic Product. The co-integration test revealed presence of long-run relationship among the variables, the stationary test indicated stationarity of the variables at level. The Granger Causality Test found bi – variant relationship from the dependent to the independent and from the independent to the dependent variables. The regression summary found 99.0% explained variation, 560.5031, F – statistics and probability of 0.00000. From the above, the study concludes that financial deepening has significant relationships with Nigerian economic growth. We recommend that government and the financial sector operators should make policies that will further deepen the functions of the financial system to enhance Nigerian economic growth.

Keywords: *Financial Deepening, Economic Growth, Disaggregated, Nigeria*

INTRODUCTION

The role of the financial sector in any economy is that of financial intermediation by channeling savings from the area of surplus to that of deficit. This function bridges the savings and investment gap and enhances the realization of macroeconomic goals; it is also the transmission mechanism for the realization of government monetary and macroeconomic policies. There is strong perception of economic growth to be associated with the financial sector development through other sectors such as the real sector (Azege, 2014; Omiete, 2023). Financial deepening is to

improve economic performance through increase competitive efficiency within the financial market thereby indecently benefiting non-financial sectors of the economy (Nzoth & Okeseke, 2009; Ebere, Obarafo & Adewole, 2020). Theoretically, the main stream economists such as Schumpeters (1911), Goldsmith (1969), Shaw (1973) and McKirion (1973) emphasized the importance of the financial system in economic growth, for instance, the industrialization process in England was promoted by the development of the financial sector which increase access to financial services such as profit financing (Odenum & Udejiam 2010; Lucky & Akani, 2017). Financial deepening is refers to the measures of providing financial services with wider choice of services geared to the development of all level of society (Olofin, 2010; Echekoba & Ubesie, 2018; Yartey, & Adjasi, 2007).

The size is usually measured by the monetization ratio and intermediation ratio of the financial system. Monetization ratio include money based indicators or liquidity liabilities such as broad money supply to Gross Domestic Product (M2/GDP), intermediation ratios consists of indicators concerning bank-based measures like bank credit to the private sector (CP/GDP), (GNS/GDP) and capital market based ratio such as the capitalization ratio of stock market. The level of financial deepening reflects the soundness of the financial sector and the ability with which credit are created with respect to lending and deposit rates (Ndebbio, 2004). Financial deepening theory defined the positive role of financial system on economic growth by size of the size of the sectors activity. Well-functioning financial institutions enhance overall economic efficiency, create and expand liquidity, mobilized savings, promote capital accumulation, transfer resources from the traditional non-growth sector to the modern growth inducing sectors and encourage a competent entrepreneur respond development needs of the economy. The essence of emphasize on the development of the Nigerian financial sector is in the theory of financial repression which posited that efficient utilization of resource via highly organized development and liberal financial system will enhance economic growth. This is the so-called supply led theory of finance-growth Nexus. One of the oldest debate in economic has remain the relationship between financial development and economic growth. Its root can be traced to Schumpeter (1911) when he posited that finance is prominent to economic growth while Robbinson (1952) argued that economic growth promote finance.

Over the years, Nigerian government has embarked on structural and institutional policy reforms in the financial sector to deepen the operational efficiency of the institution for the realization sets monetary and macroeconomic goals, for instance the deregulation of interest rate in 1986 was aimed at reducing the cost of fund and allocate financial resources to preferred investors and sectors (Osinubi & Amaghionyeodiwe, 2003). The banking sector consolidation aimed at repositioning the banking sector to be an active player in the global financial market rather than a spectator (Toby, 2006), while the internationalization of the Nigerian capital market was aimed at attracting foreign real and portfolio investors (Musa, Magaji, Salisu, & Peter, 2022; Akani & Lucky, 2018). The extents to which these policies have affected financial deepening for the realization of macroeconomic goals remain a knowledge gap and attract empirical research. However, despite the growing literature on financial sector reforms and economic growth, the effect of various measures of financial deepening on economic has not been captured in previous

studies; therefore this study examined the relationship between financial deepening and Nigerian macroeconomic growth.

LITERATURE REVIEW

Financial Development and Growth: Theory

One of the oldest debates in economics has remained the relationship between financial development and economic growth. Its root can be traced to Schumpeter (1911), when he posits that finance is paramount for economic growth. However, Robinson (1952) argues that economic growth promotes financial development. Financial markets provide an economy with vital services comprising, for example, the management of risk and information, and the pooling and mobilization of savings (Gries et al., 2011). Theoretically, the linkage between finance and economic growth may take different forms. On the one hand, the financial sector may affect growth through the accumulation channel and the allocation channel. The accumulation channel emphasizes the finance-induced growth effects of physical and human capital accumulation (Pagano, 1993). The allocation channel focuses on the financed-induced efficiency gains in resource allocation that enhances growth (King & Levine, 1993). Following these considerations, causality runs from finance to growth (supply-leading hypothesis). On the other hand, financial development may also be stimulated by economic growth. For instance, in a growing economy, the private sector may demand new financial instruments and an improved access to external finance. Financial activities then simply expand in step with general economic development (Robinson, 1952; Lucky, 2018), positing the so-called demand-following hypothesis. Additionally, finance and growth may be mutually dependent. The real sector may provide the financial system with the funds necessary to enable financial deepening, eventually allowing for a capitalization on financial economies of scale which in turn facilitates economic development (Berthelemy & Varoudakis, 1996). The latter hypothesis postulates bidirectional causality. Countries with better-developed financial systems are therefore expected to grow faster over long periods of time. Following more skeptical views (Lucas, 1988), the financial and real sector may also be independent of each other, thereby naturally putting emphasis on other factors that may determine economic development (insignificant causation).

Supply - Leading Hypothesis

The supply-leading hypothesis suggests that financial deepening spurs growth. The existence and development of the financial markets brings about a higher level of saving and investment and enhance the efficiency of capital accumulation. This hypothesis contends that well-functioning financial institutions can promote overall economic efficiency, create and expand liquidity, mobilize savings, enhance capital accumulation, transfer resources from traditional (non-growth) sectors to the more modern growth inducing sectors, and also promote a competent entrepreneur response in these modern sectors of the economy. The recent work of Dernirguc-Kunt & Levine (2008) in a theoretical review of the various analytical methods used in finance literature, found strong evidence that financial development is important for growth. To them, it is crucial to motivate policymakers to prioritize financial sector policies and devote attention to policy determinants of financial development as a mechanism for promoting growth.

Demand - Following Hypothesis

The demand-following view of the development of the financial markets is merely a lagged response to economic growth (growth generates demand for financial products). This implies that any early efforts to develop financial markets might lead to a waste of resources which could be allocated to more useful purposes in the early stages of growth. As the economy advances, this triggers an increased demand for more financial services and thus leads to greater financial development. Some research work postulate that economic growth is a causal factor for financial development. According to them, as the real sector grows, the increasing demand for financial services stimulates the financial sector. It is argued that financial deepening is merely a by-product or an outcome of growth in the real side of the economy, a contention recently revived by Ireland (1994) and Demetriades and Hussein (1996). According to this alternative view, any evolution in financial markets is simply a passive response to a growing economy.

Financial Sector Liberalization and Financial Deepening in Nigeria
Before the financial sector reform which stated in 1986, the Nigeria financial sector was highly repressed. Evidence of this results in interest rate controls, selective credit guidelines, ceilings on credit expansion and use of reserve requirements and other direct monetary control instruments. New entry to the banking sector was restricted while government owned banks dominated the industry. The liberalization entailed the removal of some of the allocative controls and the easing of the entry restrictions into the sector. To kick start the process of financial reform, a second-tier foreign exchange market (SFEM) was established in 1986. Bureau de change was allowed to operate from 1988. Following these, the monetary authority started the auction sales of foreign exchange to licensed dealers to restore appropriate exchange rates and correct the over-valuation of the domestic currency. The two foreign exchange markets were unified in 1987 with the establishment of single foreign exchange market (FEM).

The exchange rate was liberalized in 1987 by full deregulation of both deposit and loan rates. The liberalization of the interest rate was aimed at enhancing the ability of banks to charge market based loan rate to guarantee the efficient allocation of resources. In 1991, high level of interest rates led to the re-imposition of interest rate controls. A ceiling of 21 per cent and 13 per cent was placed on lending and deposit rates, respectively. But after a year of controls, market forces were permitted again to determine all interest rates in 1992 and 1993 while in 1994, the pre-reform policy of controls has been retained. In the same year, the conditions for licensing new banks were relaxed. In contrast with the average of two entrants per year in the preceding decade, 9 ventures were launched in 1987, 16 the following year, 15 in 1989 and 25 in 1990. Of which merchant banks comprised more than half of new operations, reflecting a shift in both industry composition and the concentration of assets. The ratio of assets in commercial and merchants narrowed from approximately 5:1 to 3:1 within four years (Lewis and Stein, 1997). However, the banking environment that emerged from the reform is a lot inefficient, undercapitalized and less liquid with low return on assets (Sobodu & Akiode, 1994). In 1988, banks were permitted to hold stock in nonfinancial enterprises and to engage in insurance brokerage. Nigerian Deposit Insurance Corporation (NDIC) was established in 1988 as an adjunct to Central Bank of Nigeria (CBN). NDIC augment CBN's resources

- i. Two foreign exchange markets established. 1987:
- ii. Interest rate controls completely removed.
- iii. Bank licensing liberalized.
- iv. Foreign exchange market unified. 1988:
- v. Foreign exchange bureaus established.
- vi. Bank portfolio restrictions relaxed.
- vii. Nigeria Deposit Insurance Corporation established. 1989:
- viii. Banks permitted to pay interest on demand deposits.
- ix. Auction markets for government securities introduced.
- x. Capital adequacy standards reviewed upward.
- xi. Extension of credit based on foreign exchange deposits banned.
 - a. 1990:
- xii. Risk-weighted capital standard introduced and banks' required paid-up capital increased.
- xiii. Uniform accounting standards introduced for banks.
- xiv. Stabilization securities to mop up excess liquidity introduced. 1991:
- xv. Bank licensing embargoed.
- xvi. Central Bank empowered to regulate and supervise all financial institutions.
- xvii. Interest rates re-administered. 1992:
- xviii. Interest rate controls removed once again.
- xix. Privatization of government-owned banks begun again.
- xx. Capital market deregulation commenced.
- xxi. Foreign exchange market reorganized.
- xxii. Credit controls dismantled. 1993:
- xxiii. Indirect monetary instruments introduced.
- xxiv. Five banks taken over for restructuring. 1994:
- xxv. Interest and exchange rate controls re-imposed. 1995:
- xxvi. Liberalization of capital flows.
- xxvii. Continuation of interest controls initiated fiscal reforms.
- xxviii. Exchange controls relaxed. Autonomous foreign exchange market introduced. 1996:
- xxix. Liberalization of capital market continues.
- xxx. Retention of interest controls continuation of fiscal reforms.
- xxxi. Official fixed foreign exchange market operated by government transactions continued operation of the autonomous foreign exchange market.

Source: Ikhide and Alawode (2001) and various CBN publications.

Measurement of Financial Sector Liberalization

Magaji and Musa (2023) developed new model for measuring financial liberalization based on graded scores rather than a binary dummy variables. In their model, they developed seven aggregates of the degree of financial liberalization. These are:

- i. Credit control (CC): directed credit towards favored sectors or industries, ceiling on credit toward other sectors, and excessively high reserve requirements;
- ii. Interest rate control (IRC): including cases where the government directly controls interest rates, or where floors, ceilings, or interest rate bands exist;

- iii. Entry barrier for bank (EB): including licensing requirements, limits to the participation of foreign banks, and restrictions relating to bank specialization or the establishment of universal banks;
- iv. bank regulations (BR): such as income recognition, asset classification and provisioning norms for loans in line with international best practices and capital adequacy norms on the lines of the Basel Accord;
- v. Privatization (PRIV): enabling banks to reduce Banks and Bank Systems, the majority of government shareholding in banks;
- vi. International financial transactions (IFT): including restrictions on capital and current account convertibility, and use of multiple exchange rates;
- vii. Securities market (SM): such as the establishment of debt and equity markets, and the openness of securities markets to foreign investors. In measuring these components, a set of coding rules are used:
 - viii. If fully repressed;
 - ix. If partially repressed;
 - x. If largely liberalized;
 - xi. If fully liberalized

Policy changes therefore denote shift in the country's score on this scale in a given year. In some cases, such as when all state-owned banks are privatized simultaneously, or when controls on all interest rates are simultaneously abolished, policy changes will correspond to jumps of more than one unit along that dimension. While reversals, such as the imposition of capital controls or interest rate controls, are recorded as shifts from a higher to a lower score. Given the detail construction of the financial liberalization index, the database allows a much more precise determination of the magnitude and timing of various events in the financial liberalization process.

Empirical Review

Omiye (2023) investigated the influence of financial sector development on the economic growth of Nigeria. It examines how financial access, financial depth, financial stability, and financial efficiency affect Nigeria's gross domestic product using annual series data from 1986 to 2021, and sourced from the Central Bank of Nigeria data bank. The descriptive, unit root, co-integration and Parsimonious error correction as well as the Granger Causality test were adopted at the 95% confidence level. From the analysis, all variables are integrated at order one; and presented of long run cointegration. The Parsimonious error correction model confirmed that financial access and its depth are both positive and significant to gross domestic product, whereas financial stability and efficiency are both positive but insignificant to gross domestic product. The Granger causality test demonstrated a one-way movement from to gross domestic product to financial access, and a two-way causality between financial depth and gross domestic product only. In conclusion, the expansion of Nigeria's financial industry has a substantial impact on the growth of her economy.

Nkamnebe Oladipo and Ezenwobi (2023) investigated the impact of financial development on economic growth in Nigeria utilising annual data from 1985 to 2022 sourced from the Central Bank of Nigeria Statistical Bulletins and World Bank indicators. The variables used in this study were real gross domestic product (RGDP), a proxy for economic growth as the dependent variable

while credit to the private sector, a proxy for financial deepening, all share index (ASI), nominal exchange rate (ER), gross savings (GS), remittances (REM) and financial technology (Fin-Tech_dum) were all used as financial development indicators which are the independent variables. The method of analysis employed was the Auto-regressive Distributed Lag (ARDL) and the pairwise granger casualty test. The ARDL long run results show that all share index, exchange rate and financial technology positively and significantly affects economic growth; credit to the private sector and gross savings positively but insignificantly impacts on economic growth. However, remittances reveal a negative and insignificant impact on economic growth in Nigeria. The Pairwise causality test shows that there are three unidirectional causality which runs from economic growth to credit to private sector, financial technology and gross savings in Nigeria. In conclusion, the findings of the study validate the demand-following theory in Nigeria.

Albert et al. (2022) studied the impact of financial development on economic growth in Nigeria (1980-2019) using Ordinary Least Squares. They explored four equations with GDP as the dependent variable. Results showed positive relations between economic growth and paired variables (real interest rate, gross domestic savings), (real interest rate, private sector credit), and (savings, private sector credit). However, combining all 3 variables, real interest rate and savings had an insignificant negative impact, while private sector credit had a significant positive impact on Nigeria's growth.

Okafor et al (2021) examined financial deepening and economic growth in Nigeria The study employed the Johanssen Cointegration, error correction and granger causality as estimation techniques to determine the nexus between financial deepening and economic growth. The variables contained in the model include the ratio of credit to the private sector to gross domestic product which proxy bank-based financial deepening, the proportion of market capitalization to gross domestic product which proxy for stock market development. The result of the analysis revealed that the Nigerian economic growth is influenced by financial deepening positively and significantly, especially the bank-based financial depth. Umar et al. (2021) explored the impact of financial development on economic growth in Nigeria from 1980 to 2019. Using nonlinear autoregressive distributed lag analysis, they identified a lasting connection amid asymmetries. Results showed positive financial development shocks negatively impacted both short and long-term growth, with negative shocks having a similar effect. Inflation had a significant positive impact, while uncertain financial globalization exhibited no meaningful connection to Nigerian economic growth.

Akintola et al. (2020) studied the impact of financial sector development on economic growth in Nigeria using quarterly data between 2000Q1 and 2019Q4 using the Autoregressive Distributed Lag technique. The results indicated that while financial deepening, banking system liquidity and all share index had positive and significant impact on the growth of real output in the long run, the behaviour of exchange rate spread was consistent with falling levels of real output growth. Alenoghena et al. (2020) studied the impact of financial development on economic growth from 1980 to 2018. They used the NARDL approach to analyze their connection, finding a U-shaped asymmetrical relationship. The research determined that the financial development variables and economic growth are cointegrated in the long run. Threshold regression indicated that when broad money falls below 17.73% of GDP or credit to the private sector drops below 6.03% of GDP, Nigeria's economic growth declines.

Chen et al. (2020) examined the asymmetric influence of financial development on economic growth in Kenya from 1972 to 2017 using Non-linear Autoregressive Distributed Lag (NARDL). The results posit that positive shocks in financial development in the short run and its negative shocks in the long run increase and decrease economic growth respectively. Regarding inflation, its positive (negative) shocks in both runs, respectively, reduce (increase) economic growth. In comparison, positive shocks in financial development that spur growth in the short run and negative shocks in financial development (government expenditure) that increase (reduce) growth are the most domineering effects as the rest of the shocks insignificantly affect growth. Okunlola et al. (2020) investigated the causal relationship between financial development indicators and economic growth using the Toda and Yamamoto approach for the period 1985 to 2015. The Toda and Yamamoto approach is based on an augmented VAR modeling and the findings include that a bi-directional causality was found between financial markets indicators and economic growth while unilateral causality running from stock market indicators to GDP was established. Ebere, Obarafo and Adewole (2020) adopted commercial banks loan and advances as the dependent variable while money supply, interest rate, monetary policy rate, liquidity ratio of commercial banks, inflation rate and exchange rate are the independent variables to analyzed the effect of monetary policy on allocation of loan and advances to small and medium scale enterprises in Nigeria with secondary data covering 1992 to 2017, with the help of ordinary least square regression method, and discovered that monetary policy rate and exchange rate were positively related to commercial bank loans and advances to small and medium scale enterprises. However, money supply, liquidity ratio and inflation rate negatively affect commercial banks loans and advances to SMEs in Nigeria. Based on their findings, suggested that effort should be made by government to reduce monetary policy rate thereby making commercial banks loan and advances accessible by small and medium scale enterprises in Nigeria. John (2020) theoretical examined the impact of restructuring macroeconomic policy for sustainable development in Nigeria, by looking at the various efforts aimed at restructuring macroeconomics policy in Nigeria from 1986 to 2016, and discovered that; the economy showed signs of growth and development. Okpara et al. (2018) studied the econometric analysis of financial development's impact on Nigeria's economic growth is explored using vector error correction and Granger Causality tests. The study establishes a lasting link between financial development and economic growth. Various financial development indicators foster economic growth. Shortterm causalities are identified: capital market liquidity (VST/GDP) and economic growth display mutual influence, as does economic volatility (CPS/GDP). Market Capitalization ratio (MKTCAP/GDP), Broad money velocity (M2/GDP), and banking system's role in economic financing (DD/M1) unidirectionally propel economic growth. This highlights the role of financial development indicators in driving immediate economic growth. Echekeba and Ubesie (2018) did an assessment of financial deepening on the growth of Nigerian -economy 1990-2016 using ordinary least square regression (OLS). The main objective of this study is to evaluate the effect of private sector credit, money supply and market capitalization on economic growth in Nigeria. Findings showed that the three independent variables of the study all have significant effect on Nigerian financial deepening. It was therefore recommended that policies aimed to reduce the high incidence of non-performing credits to ensure that private sector credits are channel to the real sector of the economy. The monetary authorities should implement policies that increase the flow of investible funds and

improves the capacity of banks to extend credit to the economy as this will make broad money supply and private sector, to significantly impact on economic growth in Nigeria.

Bist (2018) analyzed the long-run effect of financial development on economic growth on 16 low-income countries from 1995 to 2014. Using fully modified OLS and a Pedroni panel cointegration analyses, the result showed that financial development has a positive effect on economic growth. Ibrahim and Alagidede (2018) examined the growth effect that will result if a country experiences growth in its financial and real sector using data of 29 sub-Saharan African countries, and the system generalized methods of moments (GMM). From the analysis, financial development support growth but this depends on the real-time growth from both the real and financial sectors. Fagbemi and Ajibike (2018) analyzed the short and long-run effect of institutional quality on financial development in Nigeria from 1984 to 2015 using the ARDL approach. The result showed that institutional quality does not affect financial development both in the short and long run. Prowd (2018) studied the relationship between financial development and economic growth in Liberia from 1960 to 2016 using ARDL and ECM techniques

Karimo and Ogbonna (2017) examined the direction of causality between financial deepening and economic growth in Nigeria for the period 1970–2013. They adopted the Toda–Yamamoto augmented Granger causality test and results revealed that the growth-financial deepening nexus in Nigeria follows the supply-leading hypothesis. This implies that financial deepening leads to growth and not growth leading financial deepening. Waliu (2017) examined financial development and economic growth. GDP growth rate, money stock to GDP foreign direct investment, export-GDP ratio interest rate, Granger causality test and ordinary least square (OLS). The result showed that a unidirectional causal relationship flow from financial development to economic growth. Karimo and Ogbonna (2017) examined the relationship between financial deepening and economic growth in Nigeria between 1970 and 2013. The study, which used the Toda Yamamoto augmented Granger causality test method, found that financial deepening promotes growth and consequently advised that policy efforts be focused on removing obstacles that weaken the growth of credit to the private sector as well as on restoring the public's confidence in stock market activities through suitable formulating suitable policies

Paul (2017) used secondary data encompassing the years 1986 to 2015 to assess the effect of financial deepening on economic growth in Nigeria. The OLS approach, cointegration, and error correction model (ECM) were used as estimation tools. The study demonstrated that the financial depth indexes had a long-term impact on economic growth in Nigeria. The study also demonstrated a favourable and significant relationship between financial deepening and economic growth. In order to increase savings, the report advised financial inclusion, financial reforms, infrastructure development, and an effective payment system. It also suggested boosting public confidence in the currency and stock markets to encourage investment and efficient resource allocation to stimulate investment and efficient resource allocation.

Tari and Oliver (2017) investigated financial deepening and economic growth nexus in Nigeria. Supply are leading and demand following. The study examined the direction of causality between financial deepening and economic growth in Nigeria for the period 1970–2013. The study adopted

the Toda–Yamamoto augmented Granger causality test and results showed that, the growth-financial deepening nexus in Nigeria follows the supply-leading hypothesis. This means it is financial deepening that leads to growth and not growth leading financial deepening. Among other things, the study recommended that policy efforts should be geared towards removing obstacles that undermine the growth of credit to the private sector, and must restore investors' confidence in the stock market operations. Nwafor, Aremu, Isreal (2017) examined economic impact of financial deepening in Nigeria. This research work focused on the economic impact of financial deepening in Nigeria. Obtained data spanning from 1997 to 2016 was presented and analyzed in a line chart and with two-staged least squares regression method respectively. After subjecting the hypothesis under testing, result showed that financial deepening has significant impact on economic growth. Observations from data presentation also revealed that financial deepening has been increasing marginally.

Philip (2016) employed secondary data ranging from 1980 to 2013 and examined the effect of macroeconomic policies on unemployment and poverty rates in Nigeria, the ordinary least square (OLS) technique was employed, and the findings revealed that exchange rate significantly influenced unemployment rate while only fiscal policy significantly influenced and poverty rate. This implies that present macroeconomic policies in Nigeria do not guarantee the attainment of inclusive growth in Nigeria, therefore suggested that, in order to achieve inclusive growth that guarantees high employment and reduced poverty rate, there is the need for a reexamination of macroeconomic policy management in Nigeria. Babatunde and Kehinde (2016) employed variables such as consumer price index (CPI) is used as a proxy for general price level, which is the explained variable, exchange rate and money supply were used as explanatory variables with secondary data covering from 1970 to 2014 to analyzed the impact of monetary policy on price stability in Nigeria with the use of ordinary least square regression (OLS) model, unit root test and Johansen co-integration test and discovered that exchange rate and money supply actually influenced price stability in Nigeria both in the short-run and long-run, their findings was supported with the statistical values 90% coefficient of determination and F-Statistics of 168.30 which is higher than the tabulated F-Statistics.

Judith and Chijindu (2016) examined the relationship between financial development and economic growth in Nigeria between 1987 and 2014 using the error correction and granger causality test to assess the finance-growth link. The findings indicate that financial development and economic growth move along together in the long run. It was revealed that credit to the private sector, stock market capitalization and inflation have negative and impact on the economy, while broad money supply, trade openness and foreign direct investment exert positive influence on the economy. The error correction term in the model availed us the correctional influence in the speed of adjustment which indicated that errors of divergence from equilibrium was corrected at the speed of 86% each year. The Granger causality tests show that gross domestic product was granger causal for foreign direct investment, without a feedback system. Oshota and Badejo (2015) empirically investigated the impact of remittances on economic growth in Nigeria, covering the period of 1981 to 2011. The method of analysis employed was error correction model and the result revealed that remittances positively impacted economic growth in Nigeria.

Kibet and Agbelenko (2015) evaluated the relationship between financial development and economic growth in the West African Economic and Monetary Union using time series data from 1981–2010 while applying the General Moment Method (GMM). They came to the conclusion that there is a bidirectional causal relationship between financial development and economic growth that is positive and statistically significant. They recommended pursuing policies that would manage inflation and promote trade openness while luring foreign direct investments. Drambi, Adzu, Samson and Ugu (2015) examined the effect of financial deepening on economic development in Nigeria for the period of 1981-2013; the study employs the Cointegration technique vector error correction model. They found a negative relationship between financial deepening and economic development Ghildiyal, Pokhriyal, & Mohan (2015) impact of financial deepening on economic growth. Demand leading hypothesis. Granger error correction model the findings suggest that there exist an equilibrium relationship in long- run between financial deepening and economic development. Ghildiyal, et al., (2015) investigated the causal effect of financial deepening on Indian economic growth using the Autoregressive Distributed Lag (ARDL) Bound testing strategy and the Granger Error Correction Model (ECM) technique. The study found that there is a long-term relationship between financial development and economic growth. Additionally, the study demonstrated that financial deepening promotes economic growth both in the long run and the short run, and suggested improvement in the financial deepening. While the findings of the above studies are well established, the studies failed to integrated relevant measures of financial sector deepening which this study included in the model.

METHODOLOGY

The research plan adopted for this study is descriptive research method. In designing this research, the type of data to be collected, nature of variables and technique of analysis were considered. The study relied on historical time series for its secondary data which formed the entire source for the study. Time series data collected from secondary sources were purely used. An initial investigation of the time series properties of the data is followed by examination of the existence of the possible long-run relationship between financial sector development and economic growth, by applying the multivariate co-integration methodology suggested by Johansen (1995). Documentary evidence constitutes the instrument of data collection as the study is based on secondary data. The data is time series collected from the Central Bank of Nigeria statistical bulletin. The data for the study is the aggregate of banking sector credits, market capitalization and foreign direct investment to financial sector and real GDP from 1990 to 2023. This period is regarded as period of financial liberalization and control.

Techniques of Data Analysis

The variables for aggregate banking sector credits, market capitalization, foreign direct investment to financial sector and real GDP met the requirement for the quantitative data available for the study periods of 1990 to 2013. Based on this, the hypothesis was tested using vector error correction model. This study is interested in the long run predictive effect of financial sector development on economic growth. The advances in econometric techniques however, enable recent researchers to use techniques such as stationarity tests (i.e. unit root test), co- integration test and causality test in their analysis to reanalyze the traditional regression applied in earlier studies. The steps used in this analysis are discussed

Model specification

$$RGDP = f(CPS, NS, CAPM, INTR) \quad (1)$$

Transforming eqn(1) to empirical model

$$RGDP = \beta_0 + \beta_1 M2 + \beta_2 CPS + \beta_3 NS + \beta_4 CAPM + INTR + \mu \quad (2)$$

Where

RGDP = Nigerian Real Gross Domestic Product

M2 = Broad Money Supply

CPS = Credit to Private Sector

NS = National Savings

CAPM = Capital Market Performance

INTR = Interest Rate

β_0 = Regression Intercept

$\beta_1 - \beta_5$ = Coefficient of the independent variables to the
Dependent variable

Stationarity (Unit Root) Tests

We investigate the stationarity properties of the time series data using the Augmented Dickey Fuller (ADF) test. According to Nelson and Plosser (1982), Chowdhury (1994) there exist a unit root in most macroeconomic time series. While dealing with time series, it is necessary to analyze whether the series are stationary or not. Since regression of nonstationary series on other non-stationary series leads to what is known as spurious (bogus) regression causing inconsistency of parameter estimate. The Null hypothesis of a unit root is rejected against the one sided alternative if the t-statistics is less than the critical value. Otherwise, the test fails to reject the null hypothesis as a unit root at 5% significance level.

Co-integration Test

Next, we employ Johansen Multivariate Co-integration Test.

Co-integration is the existence of a long run equilibrium relationship among time series variables. Johansen (1988, 1991) pointed out that a linear combination of two or more nonstationary time series may be stationary. If such a stationary linear combination of two or more non-stationary time series exists, the non-stationary time series are said to be cointegrated and may be interpreted as long-run relationship among the variables. The lag length is one and is based on the Akaike (1969) information criterion (AIC). The lag is taken into account at Mckinnon critical values at 5% level. If the residuals from the regression are 1(1) or 2(2), i.e stationary, then variables are said to be co-integrated and hence interrelated with each other in the long run.

Vector Error Correction (VEC) Technique

We investigate the direction of causality for the hypotheses using Vector Error Correction (VEC) model based causality technique. The presence of co-integrating relationship forms the basis of the use of Vector Error Correction Model. E-views econometric software used for data analysis, implement vector Auto-regression (VAR)- based co-integration tests using the

methodology developed by Johansen (1991,1995). The non-standard critical values are taken from Osterward Lenun (1992).

ANALYSES AND DISCUSSIONS

Table 1: OLS RESULTS

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	12700.76	1692.484	7.504211	0.0000
M2	4.333063	0.830968	5.214474	0.0000
CPS	1.081742	0.797931	1.355683	0.1869
NS	-1394.199	140.6354	-9.913570	0.0000
CAPM	-0.000619	0.001449	-0.427139	0.6728
INTR	-149.6007	88.60707	-1.688360	0.1033
R-squared	0.990808	Mean dependent var		13623.61
Adjusted R-squared	0.989040	S.D. dependent var		22098.76
S.E. of regression	2313.500	Akaike info criterion		18.49827
Sum squared resid	1.39E+08	Schwarz criterion		18.77310
Log likelihood	-289.9723	Hannan-Quinn criter.		18.58937
F-statistic	560.5031	Durbin-Watson stat		1.038689
Prob(F-statistic)	0.000000			

Estimation Command:

LS RGDP C M2 CPS NS CAPM INTR

Estimation Equation:

$RGDP = C(1) + C(2)*M2 + C(3)*CPS + C(4)*NS + C(5)*CAPM + C(6)*INTR$

Substituted Coefficients:

$RGDP = 12700.7550104 + 4.3330628385*M2 + 1.08174170734*CPS - 1394.19917237*NS - 0.000619087869528*CAPM - 149.60067444*INTR$

Interpretation of Regression Result

The summary of the relationship between financial deepening using multiple regressions using the Ordinary Least Square analysis is as shown in the table above. The coefficient of R^2 and adjusted R^2 measures the explanatory power of the multiple regression models. From the results there is a high coefficient of determination of 0.990808 R^2 and 0.98040 adjusted R^2 (99.0% and 98%). This implies that the variables in the equation are useful for explaining the level of economic growth to the power of 99.0% and 98.0% between 1980- 2013. The standard error of the estimate also known as the residual standard deviation has values stable for the analysis of the results. The F-statistics is found to 560.5031 with probability of 0.000000 implies that the model is significant at the 5% level, the Durbin Watson (DW) statistics of 1.038689 shows that there is no problem of serial correlation in the regression models. This is a case of positive serial correlation. This also indicates that the multi-colenarity which other presents in cross-sectional data seems to be non-existence in the models. The estimation results from the regression model indicate that Broad money supply; credit to private sector has positive relationship with Nigerian Real Gross Domestic Product while

national savings, capital market and interest rate have negative effect on Nigerian Real Gross Domestic Product.

Table 2: Stationarity Test (ADF Difference)

VARIABLE	ADF Statistics	Mackinnon Critical Value 1%	5%	10%	Order of Integration
RGDP	-4.641147	-3.679322	-2.967767	-2.622989	1(1)
M2	-3.392431	-3.679322	-2.967767	-2.622989	1(1)
CPS	4.737006	-3.679322	-2.967767	-2.622989	1(1)
NS	7.353168	-3.679322	-2.967767	-2.622989	1(1)
CAPM	-5.937106	-3.679322	-2.967767	-2.622989	1(1)
INTR	-3.093153	-3.679322	-2.967767	-2.622989	1(1)

Source: Computed by Researcher from E-view 7.0

The stationarity test shows that the variables are stationary; this implies that the null hypothesis of non stationarity is rejected and alternate accepted.

Table 3: Johansen's Co-Integration Test

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.927383	182.5713	95.75366	0.0000
At most 1 *	0.782402	111.7624	69.81889	0.0000
At most 2 *	0.750892	70.58449	47.85613	0.0001
At most 3 *	0.509753	33.05808	29.79707	0.0203
At most 4	0.304525	13.81126	15.49471	0.0883
At most 5 *	0.137886	4.005928	3.841466	0.0453
Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.927383	70.80897	40.07757	0.0000
At most 1 *	0.782402	41.17789	33.87687	0.0057
At most 2 *	0.750892	37.52641	27.58434	0.0019
At most 3	0.509753	19.24681	21.13162	0.0899
At most 4	0.304525	9.805333	14.26460	0.2250
At most 5 *	0.137886	4.005928	3.841466	0.0453

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The unrestricted co-integration test using the maximum Eigen value reveals three cointegrating equation in the model.

Discussion of Findings

The achievement of economic growth has been one of the major policy thrust of Nigerian government since 1960, this is because economic growth signify the wellbeing of the economy and the people. Government recognizes that financial sector can facilitate and enhance the realization of the policy through efficient and effective functioning of the financial market. From the findings of this study, financial deepening in Nigeria has significant effect on the growth of

Nigerian economy, represented by Nigerian Real Gross Domestic Product. Findings reveal that the positive value of 4.433063 as parameter for money supply and 1.081742 as parameter for credit to private sector reveal that an increase of 1% in the variables will lead to increase in Real Gross Domestic Product by 4.3% and 1.08%, this finding is expected in the result as theories such as financial intermediation theories has noted that an effective and efficient financial sector is required to achieve economic growth. The finding is also expected because of the various reforms Nigerian government has put in place over the years to increase the operational functioning of the financial market such as the financial sector reforms. The findings consolidate the opinions that finance granger cause economic as oppose to the opinion that economic growth granger cause finance. It also validates the demand leading hypotheses as opposed to the supply leading hypotheses. However, findings reveal that with negative coefficient of -1394.199 as parameter for national savings, the negative value of 0.000619 as parameter for capital market development and negative coefficient of 149.6007 as parameter for capital market development indicates that an increase of 1% will lead to decrease in Nigeria Real Gross Domestic Product by 1394%, 149% and 001%, this finding is contrary to the expectation of the result as the variables are expected to add positively to the growth of Nigerian economy. The negative effect of the variables can be traced to the marginal performance of the financial sector such as the financial dualism that contrast deposit mobilization of the formal financial market. It can also be blamed on the financial sector crises within the period of this study, for instance the banking sector crises within the period have the capacity of affecting negatively the economic growth of the country. It can also be traced to monetary and macroeconomic instability within the period of this study.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study examined the effect of financial deepening and economic growth in Nigeria. Broad Money Supply was found to have positive and significant effect on the growth of Nigeria economy. Credit to private sector has positive but insignificant effect on the growth of Nigerian economy. National savings have negative and significant effect on the growth of Nigerian economy. Capital market development has negative and insignificant and interest rate has negative and insignificant effect on the growth of Nigerian economy.

From the findings in the study, the following conclusions were drawn;

1. There is positive and significant relationship between Broad Money Supply and the growth of Nigerian economy. This finding confirms the A-priori expectation.
2. There is positive but insignificant effect between credit to private sector and the growth of Nigerian economy.
3. National savings have negative and significant relationship with the growth of Nigerian economy, this findings is the expectation of the results.
4. Capital market development proxy by All Share Price Index has negative but insignificant relationship with Nigerian economic growth. This finding is contrary to the study expectation.
5. Interest rate have negative but insignificant relationship with the growth of Nigerian economy, the findings is contrary to the expectation of the results.
6. That 99.0% and 98% variation in Nigerian Real Gross Domestic Product can be explained by variation in the independent variables in the model.

Recommendations

From the conclusions above, the study makes the following recommendations:

- i. There should be structured monetary and macroeconomic policies that will enhance the performance of the financial system to achieve economic growth. Policies that antagonize the operational efficiency of the financial system should be abolished to enhance the performance of the financial market.
- ii. The monetary authorities and operators in the financial market should come up with policies that will enhance the operational performance of the financial system for economic growth. The financial institutions such as the banking should effectively perform its financial intermediation function to enhance economic growth.
- iii. There should be expansionary monetary policy with guided deregulation to enhance availability of investment fund for economic growth. There should be policies to manage the interest rate structure to avert the negative effect of investment borrowings in Nigeria.

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