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Effects of Financial Development on Economic Growth

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Abstract
In this study, the effect of Nigeria's financial sector development on economic growth is examined. Data was mostly gathered methodologically from the CBN statistical bulletin, 2021 edition, using a quantitative design. Market capitalization-GDP ratio (SMCY), broad money stock-GDP ratio (BM2Y), credit to private sector GDP ratio (CRPSY), insurance intermediation ratio (captured by total asset of insurance company divided by nominal gross domestic product), prime interest rate (IRS) (as control variable), and dummy were used to measure the financial sector's development. Real GDP was used to measure economic growth. The data were analyzed using descriptive and inferential statistics, including cointegration and the Error Correction Model (ECM), as well as Unit Root tests (Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) statistics). To ensure the robustness of findings, confirmatory tests such as multicollinearity test (using Correlation Diagnostic Test), heteroscedasticity test, and the test of serial correlation etc., were also conducted. First, it was found out that private sector credit and broad money supply have significant effect on the gross domestic product of Nigeria both in the short and long runs. However, it was revealed that Insurance intermediation and market capitalization has positive but insignificant impact on the gross domestic product in both periods. Consequently, it was recommended that Government should continue to develop (deepened) the financial sector, through effective regulations and institutions so as to ensure its meaningful contributions to the economic growth.
Keywords: Financial Sector Development, Economic Growth, Broad Money Supply, Market Capitalization, Insurance Intermediation, Private Sector Credit
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1.0 Introduction

There are increasing concerns on the relationship between finance and economic growth across economies (developed, developing and underdeveloped) However, economists are yet to reach any consensus on whether financial development causes economic growth or financial development is a consequence of economic growth and this has continued to be the subject of both theoretical and empirical analysis in economic literature for a long period of time (Odeleye & Olusoji, 2020). A number of theoretical and empirical analyses indicate that financial development leads to economic growth (that is, Supply-leading hypothesis) (Paudel & Acharya, 2020; Kallah, 2020; Evans, 2020). The conventional agreement among these studies is that, a sound financial sector is a prerequisite for investments, trade and business linkages and overall economy growth. This is because the financial sector mobilizes and efficiently (re)allocates resources needed for productive investments that consequentially drives economic growth (Evans, 2020).

However, till date, finance-economic literatures are still contending on whether finance leads the economy, or vice-versa. These debates have culminated into diverging finance-growth theories, most especially the demand-following and supply-led hypotheses, Cs. The demand-following theorists (led by Robinso, 1952) argue that economic growth necessitates the need for investors and producers (manufacturers) to demand for (more innovative) financial services to embark on more economic activities. Contrarily, the supply-leading theorists (led by McKinnon, 1973 and Shaw, 1973) argue that the efficient allocation of financial resources prompt economy to grow. However, another theory, the “stage of development”, was propounded by Patrick (1966), who argues that, it is neither the supply-leading nor demand-following hypotheses, but that the “stage of development” of a nation’s economy, determines which theory is relevant. Patrick (1966) stresses that, during an economy early development, the suppl-leading hypothesis becomes effective, but as an economy develops, the demand-leading hypothesis becomes more effective.

Noticeably, in the recent past, there has been empirical evidence that there exists a bi-directional relationship between economic growth and financial development (Nathaniel et al., 2020; Evans, 2020; Kallah, 2020). Also, arising from the finance-growth puzzle, there is still a ranging controversy over whether classifying the financial market into bank-based and market-based system has implication on the finance-growth relationship (Gerschenkron, 1962; Stiglitz, 1985; Levine, 2002), while it is well established that US and UK

market-based economy and Japan and Germany are bank-based economy such classification could not be out-rightly be done with respect to most developing economy (Araoye et al., 2018; Nathaniel et al., 2020; Ehigiamusoe & Samsurijan, 2020). Therefore, considering the puzzle, more rigorous empirical analyses are needed, especially, at the developing economy level, not only for the purpose of ascertaining the direction of causality between finance and growth, but also to examine which of this classification is most relevant in explaining economic growth process especially, in Nigeria.

The major problem that triggered this study is the current comatose state of the Nigeria's economy despite the series of financial developments (mostly in form of reforms) that have taken place since 1986 till date. Specifically, at 1986 Real GDP was 257.78bn, Broad Money Supply (BMS) was 23.81bn, Credit to Private Sectors (CPS) was 15.25bn and Market Capitalization (MC) was 6.8bn. By 2019, the Real GDP was 949.11bn (showing an increase of 26,819%), the Broad Money Supply was 17,680.52bn (showing an increase of 7,419,450%), the Credit to Private Sectors was 17,128.98bn (showing an increase of 11,222,118%) and Market Capitalization was 16,875.1bn (showing an increase of 24,806,324%). It is conspicuous from the foregoing that, though there has been appreciable rapid change in all the variables, however, on comparative terms, the financial sector development variable appeared to experienced tremendous increment but unfortunately; its effect has not been felt on substantially on the economic growth. To be explicit, economic statistics from the World Bank showed that the GDP has been dropping since 2005 with the worst performance in 2015, before recession crept-in. Ironically, Nigeria had an unprecedented financial development (in both the banking and non-banking sector) in the last two decades. Thus, it is worthy of empirical inquiry to examine how financial developments have impacted on economic growth in the Nigeria case.

However, in Nigeria, a close examination of the avalanche of extant empirical studies that focused on financial development and economic growth show mixed results (for instance while Niel et al. (2009) and Shittu (2012) findings supported finance-leads growth view, the findings of Odhiambo (2011), Odeniran and Udeaja (2010) contradicted this position. Noticeably, Kallah (2020) attributed contradictory findings to estimation methodology biases and data coverage used. Also, another notable plausible cause of conflicting empirical outcomes is the measure of financial sector used. For instance, using the capital market alone to measure the entire financial sector is inappropriate. This is because financial intermediation is performed by banks and non-banks as well (Nathaniel et al., 2020). In view of the foregoing, this study specifically reexamined the effect of financial development on growth in Nigeria.

For the purpose of this research, the work has been carefully organized and divided into five chapters to ensure clarity and easy comprehension. Chapter one considers the introduction. While Chapter two reviews relevant extant literature on Financial Development and Economic Growth. Chapter three is the research methodology. Chapter four present the data, analysis and interpretation. Chapter five is the summary of the study, conclusions and recommendations.

2.0 Literature Review

2.1 Concept of Financial Development

There is no single definition of financial development (DFID, 2004), besides, the theoretical and empirical articles reviewed in this study focus on different aspects and measures of FSD. In the view of Onipe et. al. (2015), Financial System Development (FSD) refers to the art of increasing the ratio of money supply relative to the gross domestic product or some other index such as interest rate, unemployment rate and poverty rate. It simply refers to liquid money, suggesting that the more liquid money is available in an economy, the more opportunities exist for continued economic performance (Nathaniel et al., 2020). Observably, Financial Sector Development thus occurs when financial instruments, markets, and intermediaries ease the effects of information, enforcement, and transactions costs and therefore do a correspondingly better job at providing the key functions of the financial sector in the economy (Kallah, 2020; Odeleye & Olusoji, 2020).

According to Paudel and Acharya (2020), Financial Development is a multi-faceted process that involves the interaction of a number of markets, instruments and stakeholders. Put it in simple terms, financial system development refers to a process in which institutions and financial markets: (i) facilitate goods and services exchange (ii) mobilize and pool savings of a large number of investors (iii) acquire and process information about the companies and the potential investment projects and therefore allocating public savings to the most productive uses, (iv) follow investments and exert corporate governance, and (v) diversify and reduce liquidity risk and inter-temporal risk (Evans, 2020; Okunlola et al., 2020). In other words, financial development can be understood as a process by which the range of products and players widens, deadlines extend and services play a role in risk coverage and diversification (Oluganna et al., 2020). Kallah (2020) noted that fundamentally, financial sector development is about overcoming "costs" incurred in the financial system. At a broader level, Aluko and Ibrahim (2020) posited that financial development can be defined as improvements in the quality of five key financial functions: (1) producing and processing information about possible investments and allocating capital based on these assessments; (2) monitoring individuals and firms and exerting corporate governance after

allocating capital; (3) facilitating the trading, diversification, and management of risk; (4) mobilizing and pooling savings; and (5) easing the exchange of goods, services, and financial instruments. Financial sector development implies financial institution's ability to effectively mobilize savings for investment purposes (Taiwo, 2020). It also presupposes active operations of financial institutions in the financial markets, which in turn entail the supply of quality (financial) instruments and financial services (Okpara et al., 2018).

Plethora of empirical studies agree that financial sector development plays is instrumental for (sustained) economic development. It promotes economic growth through capital accumulation and technological progress by increasing the savings rate, mobilizing and pooling savings, producing information about investment, facilitating and encouraging the inflows of foreign capital, as well as optimizing the allocation of capital (Melemi et al., 2020). Countries with better-developed financial systems tend to grow faster over long periods of time, and a large body of evidence suggests that this effect is causal: financial development is not simply an outcome of economic growth; it contributes to this growth (Evans, 2020). Additionally, it reduces poverty and inequality by broadening access to finance to the poor and vulnerable groups, facilitating risk management by reducing their vulnerability to shocks and increasing investment and productivity that result in higher income generation (Taiwo, 2020).

Financial sector development entails having robust policies for regulation and supervision of all the important entities (Acquah & Ibrahim, 2020). The global financial crisis underscored the disastrous consequences of weak financial sector policies (Okpara et al., 2018). Finance matters for development both when it functions well and when it malfunctions (Aluko & Ibrahim, 2020). It ensures continued and sustainable growth and supports the notion that development in the financial system leads to development of the economy as a whole (Ibrahim & Alagidede, 2018). Financial development has continued to assume increasing recognition across the globe among policy makers, scholars and development-oriented agencies as a necessary precondition for economic growth (Usman & Adeyemi, 2020).

2.2 Concept of Economic Growth

Economic growth means either the growth in a nation's real GDP (an increase in a nation's output of goods and services) or the physical expansion of the nation's economy (Ncanywa & Mabusela, 2019). If the economy is producing more, businesses are more profitable, and stock prices rise, this gives companies capital to invest and hire more employees (Otchere et al., 2017). As more jobs are created, incomes rise; this gives consumers more money to buy more products and services, driving more economic growth, for this reason, all countries want positive economic growth (Erdogan et al., 2020; Kallah, 2020).

Economic growth is measured by changes in the gross domestic product, or GDP, this measures a country's entire economic output for the past year (Qamruzzaman & Jianguo, 2018). The most desirable phase is expansion, when the economy is growing sustainably (Usman & Adeyemi, 2020). Ibrahim and Alagidede (2018) confirmed that economic growth is one of the macro-economic growths of government; since most governments work hard at growing their economies in order to stem unemployment, increase output and improve industrial capacity utilization. A good economic performance, therefore, should results in reduction in poverty, unemployment among others (Olayungbo & Quadri, 2019; Karimo & Ogbonna, 2017).

2.3 Theoretical Framework

This study adopts Mckinnon and Shaw hypothesis (Financial Repression theory). According to Mckinnon (1973), developments in the capital market promote economic growth through its effects on the growth rate of savings and investment. As he noted, repressed financial market in the form of low and administered interest rates, high reserve requirement, concessional credit practice and domestic credit control discourage savings, constrain investment, retard efficient allocation of resources and hence, constrain accelerated economic growth rate. Therefore, a well-developed capital market is a necessary condition for rapid economic growth. As Levine (1991) noted, the stock market is important for growth because savers do not like to abandon control of their savings for long period. While on the other hand, investment requires a long-run commitment to capital. Therefore, liquid equity market eases such tension by providing an asset to savers that they can quickly and easily sell. Simultaneously, firms have permanent access to capital raised through equity issues. Therefore, well-developed financial system promotes economic growth by engineering faster capital accumulation.

2.4 Empirical Review

This section briefly reviews available and accessible empirical studies. Maduka and Onwuka, (2012) investigated the long-run and short-run relationship between financial structure and economic growth using time series data. The study applied Johansen and Juselius (1990) maximum likelihood procedure while the error correction model was used to estimate the short-run dynamic coefficients. According to the results, financial market structure strongly impacts economic growth of Nigeria negatively. Also, Oriavwote and Eshenake (2012) examined the implications of financial development on economic growth in Nigeria, using time-series data for

the period of 1990-2011. Evidence from the co integration/Error Correction Mechanism (ECM) revealed that financial sector development significantly impacts economic growth positively. This agrees with Nkoro and Uko (2013) findings using data from 1980-2019.

In another study, Abubakar and Gani (2013) assessed the long-run effect of financial development indicators on economic growth in Nigeria, with data spanning from 1970-2010. Using the Johansen and Juselius (1990) approach to cointegration and Vector Error Correction Modelling (VECM). The authors found that financial development indicators to impact economic growth positively and negatively. Similarly, Adekunle et al. (2014) used OLS regression method to test data collected from 1985 to 2010, on whether financial sector development drives economic growth in Nigeria. Findings revealed that an insignificant positive relationship exist between the two.

Further, Balago (2014) examines the relationship between Financial Sector Development and Economic Growth in Nigeria using time series data from 1990-2009 were fitted into the regression equation using various econometric techniques such as Augmented Dickey Fuller (ADF) test, Johansen Multivariate Co-integration Test, Ordinary Least Square Regression and Vector Error Correction Model (VEC). Findings indicate that financial sector indicators have significant positive effect on growth. In the same vein, Onwumere et al. (2012) tested data (1992-2008) using OLS regression method and reported that financial deepening variables (broad money velocity, money stock diversification, economic volatility, market capitalization and market liquidity) positively impact on economic growth (gross domestic product growth rate). Also, Idris (2012) examines the relationship between financial development and economic growth in Nigeria using data from 1981 to 2010. Evidence from the Johansen Cointegration test showed the existence of long-run relationship between financial development and economic growth.

Ohwofasa and Aiyedogbon (2013) examine the level of development of financial deepening in the banking sector and the extent it has impacted on economic growth over the last two decades. Vector autoregressive (VAR) methodology was used. The results of the VAR estimates revealed among other things that a one-year lag of economic growth, gross national saving as a ratio of GDP (lag 1) and exchange rate (lag 1) have significant positive impact on current economic growth while the impact of GCF (lag 1) on the current level of economic growth was negative and statistically significant. It was also empirically discovered that PSC/GDP (lag 2) and GNS/GDP (lag 2) happened to be key determinants of M2/GDP. Similarly, the key determinants of PSC/GDP include its year 1 and 2 lagged values and GNS/GDP (lag 2) with GNS/GDP (lag 2) and PSC/GDP (lag 2) exhibiting negative impact. Finally, on the current level of GNS/GDP, it is observed that M2/GDP (lag 1) and PSC/GDP (lag 2) exhibit significantly negative determining influence while PSC/GDP (lag 1) and the past value of GNS/GDP (lag 2) were also seen as its key determinant.

Aye (2015) used the bootstrap rolling window method to test data from 1961-2012, and reported zero-causality between financial deepening and economic growth in Nigeria. The study by Okwo, Eze and David (2013) examined the effect as well as the causal relationship between financial sector development and economic growth in Nigeria, with focus on two focal variables, depth of the financial sector (M2/GDP) ratio of broad money stock to GDP and level of financial intermediation ratio of private sector credit to the GDP PC/GDP. Data (1984-2010) were tested using OLS and granger causality technique. Findings showed that the existence of long-run relation and significant positive effect of financial sector development on economic growth.

Onipe, et. al. (2015) examined the link between financial system broadening and economic performance using varieties of econometric models. The authors used time series data (1960-2014) was collected from the CBN Statistical Bulletins. The result showed that financial system broadening (credit-to-private sector) has significant negative effect on economic performance, whereas, financial system broadening (money supply) has significant positive effect on economic performance in Nigeria. Contrarily, Chude and Chude (2016) using co-integration technique to test the data from 1986-2013, found that long-run relationship exist.

The results from the study by Odo et. al. (2016) who examined the causal relationship between financial development and economic growth in Nigeria and South Africa by employing co integration test, VECM and granger causality test using the data of annual time series for the period 1980 – 2014 revealed that there is a unidirectional causality running from financial development to economic growth in Nigeria and a bidirectional causality from financial development to economic growth in South Africa validating Supply leading hypothesis of financial development. Iheanacho (2017) empirically examines the relationship between financial intermediary development and economic growth in Nigeria over the period 1981–2011 using the auto-regressive distributed lag (ARDL) approach to co-integration analysis. Empirical evidence reveal that negatively insignificant long-run relationship exists. However, Okpara et al. (2018) explored the relationship between financial development and economic growth in Nigeria, using data from 1990 to 2015, and employing co integration and then the vector error correction model and Granger Causality test to test the data. They reported the existence of long-run relationship. They also found financial development to be weak in driving economic growth.

Usman and Adeyemi (2017) investigates the relationship between financial system development and

economic growth in Nigeria as well as the impact of financial system development indicators on the economy, using data from 1970 to 2013 and Johansen cointegration technique, Error Correction Model of Engle-Granger to test the data. Though the existence of long-run relationship was statistically established, financial development indicators were found to be statistically insignificantly. However, Farouq et al. (2020) analyzed the effect of economic growth as well as the interacting role of foreign direct investment and economic growth on the Nigerian Financial sector, using time-series data spanning from 1970-2018. The econometrics techniques of Gregory and Hansen (1996) co-integration, Non-linear ARDL as the elasticity estimator, and the Diks and Panchenko (2006) for the causality were deployed. Finding shows the existence of unidirectional causality, however, overall, the authors found that financial development drives economic growth.

Melemi et al. (2020) examines the impact of financial sector development on economic growth in Nigeria using annual data from 1986 to 2018, using a Non-linear Autoregressive Distributed Lag (NARDL) model. The results suggest a positive asymmetric impact of financial deepening (in its one-period lag) on economic growth in the long run, but a negative impact in the short-run. More explicitly, In the short-run, the positive (negative) partial sum of changes of M2/GDP has a negative (negative) impact on GDPGR, while the positive (negative) partial sum of changes of M2/GDP(-1) has a positive (negative) impact on GDPGR. The partial sum of the policy variable suggests an inverse relationship with the dependent variable i.e. the positive (negative) partial sum of changes of M2/GDP has a negative (positive) impact on GDPGR, in the short-run. Furthermore, the control variable appears to be insignificant in examining its asymmetric relationship with the target variable.

Ohiomu and Oligbi (2020) examined the influence of financial sector development, financial deepening on economic growth: Empirical evidence from Nigeria (1981-2018). The study used ARDL model for the analysis. According to the results, economic growth exhibited long-run relationship with the financial development indicators. Recently, Albert et al. (2021) analyzed the effect of financial development on economic growth in Nigeria using time series data on annual growth rate of gross domestic product, real interest rate, the ratio of gross domestic savings to GDP, ratio of domestic credit to private sector to GDP over the period 1980 and 2019. The data were tested using multiple regression method. The authors reported that financial development (domestic credit to private sector) impacted economic growth positively, while financial development (interest rate and gross domestic savings) impacted economic growth negatively.

3.0 Methodology

3.1 Data

The CBN Statistical Bulletin (2021) was major source of data for this study. The historical time-series data set obtained from the secondary sources are Annual real gross domestic product is used as a proxy to economic growth (Real GDP). The financial sector development indicators were measured using market capitalization-GDP ratio (SMCY), broad money stock-GDP ratio (BM2Y), credit to private sector GDP ratio (CRPSY), insurance intermediation ratio (was measured using total asset of insurance company divided by nominal gross domestic product), while prime interest rate (IRS) (was introduced as control variable) and the Dummy (was introduced to capture instabilities caused by politics, civil unrest, coups and pandemic). The value of 1 was assigned when any or all of these occur, and 0 was assigned if otherwise.

3.2 Method of Data Analyses

The data collected were measured econometrically. Specifically, the data were first subjected to Unit-Root test, followed by Co-integration test, given the existence of non-stationarity among the variables. The co-integration test enables the study ascertain the existence or otherwise of long-run relationship, and based on the existence of long-run relationship, the Error Correction Model (ECM) was introduced, mainly to correct the possible short-term disequilibrium.

3.3 Model Specification

The structural form of the model one can be specified as follows:

$RGDPt = f(SMCY, BMSY, CRPSY, IIR, PIR, DUMMY)$----------(1)

Equation (1) was rewritten in a semi-log linear Econometric form as follows:

$LnRGDPt = \beta_0 + \beta_1 LnSMCY_t + \beta_2 LnBMSY_t + \beta_3 LnCRPSY_t + \beta_4 LnIIR_t + \beta_5 LnPIR_t + DUMMY_t + U_t$----------(2)

Building an error correction model, the model becomes:

$\Delta LnRGDP_t = \beta_0 + \Delta\beta_1 LnSMCY_t + \Delta\beta_2 LnBMSY_t + \Delta\beta_3 LnCRPSY_t + \Delta\beta_4 LnIIR_t + \Delta\beta_5 LnPIR_t + DUMMY_t + \alpha ECT_{t-1}$----------(3)

Where:

RGDP = Real Gross Domestic Product

SMCY = Market Capitalization-GDP ratio

BM2Y = Broad Money Stock-GDP ratio
CRPSY = Credit to Private Sector GDP ratio
IIRY = Insurance Intermediation Ratio
PIR = Prime Interest Rate
DUM = Dummy variable
Δ = is the difference operator
α = (estimate of ECT).
t= Time
ECT = Error Correction Term. It captures the short-run dynamics.
U = is a pure white noise error term
Ln represents the natural logarithm of variables,
Parameters β_1, β_2, β_3, β_4, β_5 are the long -run elasticities of RGDP with respect to SMCY, BM2Y, CRPSY, IIR and DUM respectively.
μ: the stochastic error term.

4.0 Data Analysis and Interpretation

4.1 Data Presentation

In order to econometrically analyze our data, we first perform a unit-root test (using both ADF and PP) tests, Single Equation and Johansen Co-integration Test as well as the OLS for both long and short-run.

4.2 Unit Root Test and Lag Length Selection Criteria

The Table 4.1 shows the variables (RGDP, BM2Y, SMCY CRPSY, IIRY and PIR) are stationary at first difference, even for both Augmented Dickey-Fuller test and Phillip-Perron test. Thus, performing co-integration test becomes justified.

Table 4.1 Unit-Root Test Analysis

Variable		at level	at first difference	at second difference	Equation Specification	Order of integration
RGDP	ADF	3.936969 (0.9999)	-3.026850 (0.0036)	-	None	I(1)
	PP	3.124330 (0.9992)	-2.962676 (0.0043)	-	None	I(1)
SMCY	ADF	-1.201332 (0.2056)	-5.965399 (0.0000)		None	I(1)
	PP	-1.113416 (0.2358)	-6.190826 (0.0000)	-	None	I(1)
BM2Y	ADF	-0.345207 (0.5532)	-5.475935 (0.0000)	-	None	I(1)
	PP	-0.025407 (0.6673)	-6.007399 (0.0000)	-	None	I(1)
CRPSY	ADF	-1.417683 (0.1428)	-4.561546 (0.0000)	-	None	I(1)
	PP	-1.495830 (0.1241)	-5.428760 (0.0000)	-	None	I(1)
IIRY	ADF	-0.981259 (0.2858)	-5.011339 (0.0000)	-	None	I(1)
	PP	-0.981259 (0.2858)	-5.029526 (0.0000)	-	None	I(1)
PIR	ADF	-0.901263 (0.3184)	-0.028019 (0.0000)	-	None	I(1)
	PP	-0.826880 (0.3503)	18.56495 (0.0000)	-	None	I(1)

P-values at 5% statistical significance
Source: Author's Computation using E-Views

4.3 Johansen Co-integration Test

Table 4.2: Johansen Co-integration Test Result

Date: 05/21/22 Time: 13:43
Sample (adjusted): 1994 2021
Included observations: 28 after adjustments
Trend assumption: Linear deterministic trend
Series: RGDP SMCY BM2Y CRPSY IIR PIR
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.950235	154.7615	95.75366	0.0000
At most 1	0.512904	55.74664	69.81889	0.3882
At most 2	0.396876	32.00997	47.85613	0.6116
At most 3	0.218107	15.32412	29.79707	0.7587
At most 4	0.184005	7.204884	15.49471	0.5540
At most 5	0.014871	0.494444	3.841466	0.4820

Trace test indicates 1 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: Author's Computation using E-Views

Specifically, the trace test statistics indicates the existence of one cointegrating equation, and likewise the maximum Eigenvalue statistics reveals the same at 1% level of significance in both cases. Therefore, it is therefore concluded that there is long-run relationship among the variables.

Table 4.3: Long-run Regression Estimate Result

Dependent Variable: RGDP
Method: Least Squares
Date: 05/21/22 Time: 13:59
Sample: 1992 2019
Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.049675	0.742752	2.759567	0.0101
SMCY	2.169347	2.361143	0.918770	0.3661
BM2Y	17.17716	6.608548	2.599234	0.0147
CRPSY	17.92374	5.525256	3.243966	0.0030
IIRY	149.8422	9.674832	0.148328	0.1405
PIR	-0.919244	0.026510	-4.725923	0.0039
DUM	-0.468030	0.327611	-1.428616	0.1642

R-squared	0.720980	Mean dependent var	2.460227
Adjusted R-squared	0.661190	S.D. dependent var	1.295214
S.E. of regression	0.753910	Akaike info criterion	2.449770
Sum squared resid	15.91466	Schwarz criterion	2.760839
Log likelihood	-35.87097	Hannan-Quinn criter.	2.557151
F-statistic	12.05854	Durbin-Watson stat	1.686870
Prob(F-statistic)	0.000001		

Source: Author's Computation using E-Views, 9.1

With respect to the estimated model specified, the long run relationship among the variables was examined. A cursory look at the OLS estimate presented in Table 4.5 revealed that the explanatory power of the model (R-Squared 84.1 per cent) is very high; this implies that the explanatory variables in the model explained about 84 per cent of the variations in economic growth while the remaining 15.9 per cent of variations in economic

growth is accounted for by other factors not included in the model. Thus, it can be said that the data are well fitted in the model.

With respect to the variables of interest, it was observed that among the proxies of financial development, only BM2Y and CRPSY had a very significant influence on economic growth given their p-value of 0.0147, 0.0030 and 0.0405 which all lesser that the 5% significance level. This result is in line with our a priori expectation. In contrast to the above, the contribution of other proxies (that is, SMCY and IIRY) was observed to be statistically insignificant. The DUM variable was negative but insignificant. The F-value is 12.05854, this value is significant because the Prob(F-statistic) value is 0.000001 which is less than the 0.000000. This result implies that the overall produced by the regression model is statistically significant. The Durbin Watson of 1.69 statistic indicates the absence of autocorrelation among the variables.

Table 4.4 Error Correction Model

Dependent Variable: RGDP
Method: Least Squares
Date: 05/21/22 Time: 14:22
Sample: 1993 2021
Included observations: 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.117610	0.048919	2.897563	0.0011
SMCY	2.467135	1.230071	2.005685	0.0546
BM2Y	8.387655	3.019714	2.777632	0.0097
CRPSY	15.86555	2.855098	5.556919	0.0000
IIRY	97.48168	35.00258	0.784986	0.0995
PIR	-0.068473	0.010227	-6.695577	0.0000
DUM	-0.728572	0.163603	-4.453285	0.0001
ECM	0.860104	0.098556	10.14652	0.0000

R-squared	0.924114	Mean dependent var	2.460227
Adjusted R-squared	0.907853	S.D. dependent var	1.295214
S.E. of regression	0.393171	Akaike info criterion	1.147713
Sum squared resid	4.328338	Schwarz criterion	1.458782
Log likelihood	-13.08497	Hannan-Quinn criter.	1.855094
F-statistic	10.87881	Durbin-Watson stat	
Prob(F-statistic)	0.002101		

Source: Author's Computation using E-Views

From the ECM results, a negative statistically insignificant coefficient value was found. This confirms a necessary condition for the variables to be co-integrated.

4.4 Granger Causality Test

For the result of the granger causality test, (see Appendix 1). The test indicates a unilateral causality between the proxies of financial development and economic growth. From the causality test results above, unidirectional causality was found between SMCY and RGDP, RGDP and CRPSY, RGDP and DUM, SMCY and BM2Y, SMCY and CRPSY, IIR and BM2Y, BM and PIR, IIR and CRPSY, CRPSY and PIR, DUM and CRPSY and DUM and PIR, no causality is reported between BM2Y and RGDP, IIR and RGDP, PIR and RGDP, IIR and SMCY, IIR and SMCY, PIR and SMCY, DUM and SMCY, CRPSY and BM2Y, DUM and BM2Y, PIR and IIR, DUM and IIR. Lastly, it is deducible from the causality results above that there is apparently no bi-directional causality between the variables.

Table 4.6: Pairwise Granger Causality Tests Results

Date: 05/21/22 Time: 15:27			
Sample: 1993 2021			
Lags: 2			
Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**
SMCY does not Granger Cause RGDP	28	3.42218	0.0468
RGDP does not Granger Cause SMCY		2.44916	0.1047
BM2Y does not Granger Cause RGDP	28	0.00133	0.9987
RGDP does not Granger Cause BM2Y		3.01415	0.0652
CRPSY does not Granger Cause RGDP	28	0.41762	0.6626
RGDP does not Granger Cause CRPSY		4.11263	0.0272
IIRY does not Granger Cause RGDP	28	1.04844	0.3638
RGDP does not Granger Cause IIRY		3.30304	0.0515
PIR does not Granger Cause RGDP	28	0.57482	0.5693
RGDP does not Granger Cause PIR		1.88072	0.1712
DUM does not Granger Cause RGDP	28	0.15160	0.8600
RGDP does not Granger Cause DUM		5.04158	0.0135

Source: Author's Computation using E-Views

Note: The decision rule of a causality test states that if the probability value of the estimate is higher than the 5% (0.05) level of significance, we accept the null hypothesis, and vice versa.

4.5 Validating the Research Hypotheses

Empirical results from the regression and causality analyses are used to determine the following hypotheses:

H_{01}: Private sector credit has no effect on economic growth.

From the regression results, both from the short and long run indicate that CRPSY has 15.865 and 17.923 coefficient values with p-values of 0.0000 and 0.0030 respectively suggesting the significance of the results. This indicates that, a unit rise in CRPSY, leaving all other variables at constant will lead to 15.9 and 17.9 unit rise in the RGDP in both the short and long runs. Sequel to these results, the null hypothesis, thus fails to be accepted.

H_{02}: Insurance intermediation ratio has no effect on economic growth.

Also, using the regression results above, IIRY coefficient values, both from the short and long runs showed that has 97.48 and 149.84 coefficient values with p-values of 0.0995 and 0.1405 respectively depicting the insignificance of the results. This indicates that, a unit rise in IIRY, leaving all other variables at constant will lead to 97.5 and 149.8 unit rise in the RGDP in both the short and long runs. Sequel to these results, the null hypothesis, thus fails to be accepted.

H_{03}: Broad money supply does not affect economic growth.

Econometric evidence from the short and long run regression results, revealed that BM2Y has 8.387 and 17.177 coefficient values with p-values of 0.0097 and 0.0147 respectively suggesting the significance of the results. This means that, a unit rise in BM2Y, leaving all other variables at constant will lead to 8.4 and 17.2 unit rise in the RGDP in both the short and long runs. Consequent upon these results, the null hypothesis, thus fails to be accepted.

H_{04}: Market capitalizations does not affect economic growth.

Using the short and long runs regression results presented above, it is discovered that SMCY has 2.467 and 2.169 coefficient values with p-values of 0.0546 and 0. 3661respectively suggesting the insignificance of the results. This indicates that, a unit rise in SMCY, leaving all other variables at constant will lead to 2.6 and 2.2 unit rise in the RGDP in both the short and long runs. Sequel to these results, the null hypothesis, thus fails to be rejected.

4.6 Interpretation of Findings

The findings of this study are based on the hypotheses. First, it was discovered that Private sector credit has significant effect on the economic growth of Nigeria both in the short and long runs. This reinforces the findings

of previous works (Oluganna et al., 2020; Okunlola et al., 2020; Odeleye & Olusoji, 2020; Evans, 2020; Albert et al., 2021) on the fact that the provision of private sector credit to major sectors of the economy holds great potential for promoting economic growth in Nigeria. Ohiomu and Oligbi (2020) noted that the banking sector, which is the main source of credit to the private sector, is an important channel of financial intermediation through which financial resources can be mobilized for productive investment. Also, it was found out that there is insurance intermediation ratio has positive but insignificant effect on the Nigerian economic performance. This result is confirmed by some previous studies. For instance, Albert et al. (2021) discovered that insurance companies in Nigeria got over 95% of income on yearly basis from premium and accumulated large sum of funds after expenditures on claims but invest less than 1% of such funds. As such, insurance firms were not making any significant influence on economic development in the country as evidenced in the marginal growth rates of gross domestic products and capacity utilization, among others (Taiwo, 2020). According to Aluko and Ibrahim (2020), there is a positive but not significant relationship between the premium generation potential of insurance companies in Nigeria and the growth in the GDP of the country. Similar discoveries were made by Kallah (2020), Ehigiamusoe and Samsurijan (2020), Nathaniel et al. (2020).

Also, econometric evidence from the regression results revealed that broad money supply significantly impacted positively on the Nigeria economic growth. This finding is supported by many previous studies Farouq et al. (2020), Acquah and Ibrahim (2020), Melemi et al. (2020), Okpara et al. (2018), Ibrahim and Alagidede (2018), Asaleye et al. (2018), Odo et al. (2017), Karimo and Ogbonna (2017). Furthermore, quantitative evidence revealed that market capitalizations have insignificant but positive effect on economic growth in Nigeria. This finding shows that notwithstanding expanded activities recorded by the Nigerian capital market over decades, these have not translated into remarkable impact on the real sectors of the economy. This result is equally supported by Okoye et al (2017), Okpara et al. (2018), Usman and Adeyemi (2020), Nwafor (2018), Okunlola et al. (2020), Oluganna et al. (2020), Albert et al. (2021).

5.0 Conclusion and Recommendations

The results of this study have made it crystal-clear that Financial Developments and Economic Growth are symbiotically linked; quantitative evidence from this study have shown that not all the proxies of financial development have positively impacted on the economic growth. Specifically, only the private sector credits and broad money supply were found to be statistically significant while the Insurance intermediation and market capitalization were found to be positively insignificant. The econometric evidence found suggested that only uni-causality, which flows from the financial development to the economic growth existed in Nigeria. This affirms the supply-leading hypothesis of finance-growth nexus. It confirms that the existence of a sound financial sector is indeed a necessary prerequisite for sustained economic growth in Nigeria. Again, the findings of this study, especially the directional relationship of the causality, informs us that the government development of the financial sector is a step in the right direction.

This study recommendations that the monetary authorities, especially the CBN, should increase the level of private-sector credits in Nigeria, specifically to support meaningful investments and economic growth. Every effort should be made to encourage the insurance companies to increase their investments in order to boost economic growth. This can be by way of deliberate policy by the government through NAICOM interventions. It can also be by way of corporate action on the part of the insurance to boost their profitability.

Furthermore, since all the operations jointly associates with growth of the economy, it is suggested that efforts should be made to improve all the intermediation activities to reap the benefits of scale of operation. The governments, through the financial policies formulator should endeavor to increase the broad money supply to boost investments capacity to enhance economic growth. It is high-time that policies that can increase the level and size of market capitalization are introduced. This will surely increase fund availability for desired investments, which will therefore increase economic growth productivity.

6.0 REFERENCES

Adeyefa, F. A. & Obamuyi, T. M. (2018). Financial deepening and the performance of manufacturing firms in Nigeria. *Canadian Social Science*, 14(6), 87-96.

Agu, C. C. & Chukwu, J. O. (2008). Toda and yamamoto causality tests between “bank-based” financial deepening and economic growth in Nigeria. *European Journal of Social Sciences,* 7(2), 23-38.

Akinmulegun, S. O. & Akinde, J. A. (2019). Financial deepening and manufacturing sector performance in Nigeria (1981-2017). *Journal of Economics and Finance,* 10(4),18-27.

Akpaniwo, M. G. & Akpan, B. L. (2019). Financial sector development and economic growth in Nigeria (1980-2017). *East African Scholars Journal of Economics, Business and Management*, 2(9), 553-560.

Alabi, M. O., Tella, S. A., Odusanya, I. A. & Yinusa, O. G. (2018). Financial deepening, foreign direct investment and output performance in Nigeria. *Scientific Annals of Economics and Business*, 65 (2), 193-204.

Alenoghena, R. O., Enakali-Osoba, C. & Mesagan, P. E. (2014). Financial deepening and performance of the Nigerian capital market: Empirical evidence. *G.J.C.M.P.,* 3(4), 61-74.

Amadi, C. O., Ugorji, E. P. N., Ugo, E. K. & Ngarakwe, R. O. (2019). Financial deepening and the Nigerian economic development. *International Academy Journal of Africa Development,* 7(2), 23-35.

Amaefula, C. G. (2019). Does financial deepening enhance economic growth? Evidence from Nigeria using ARDL model and pooled addictive predictor. *Global Scientific Journals*, 7(1), 938-949.

Aye G. C. (2015). Causality between financial deepening and economic growth in Nigeria: Evidence from a bootstrap rolling window approach. *Journal of Economics, Business and Management*, 3(8), 795-801.

Azu-Nwangolo & Ogechi, B. (2018). Financial deepening and deposit mobilization of commercial banks in Nigeria: A time-variant model. *Indian Journal of Finance and Banking,* 2(2), 1-14.

Bakare, H. R. and Chmalwa, H. A. (2016). A vector autoregressive (var) cointegration and vector error correction model (vecm) approach for financial deepening indicators and economic growth in Nigeria. *American Journal of Mathematical Analysis,* 4(1), 1-6.

Balago, Garba Salisu, (2014). Financial sector development and economic growth in Nigeria: An empirical investigation. *International Journal of Finance and Accounting*, 3(4), 253 – 265.

Echekoba, F. N. & Ubesie, M. C. (2018). Assessment of financial deepening on the growth of Nigerian economy, 1990-2016.*International Journal of Academic Management Science Research,* 2(11), 70-82.

Echekoba, F. N., Adigwe, P. K. and Amakor, I. (2015). Inflation and growth in developing countries: The Nigerian Experience. *IOSR Journal of Business and Management (IOSR-JBM), 17(2).*

Edoka, P. R. & Anyanwaokoro, M. (2019). Electronic payment system and financial deepening in Nigeria, 2009-2017. *South Asian Journal of Social Studies and Economics*, *4*(1), 1-14.

Efanga, U. O., Ogochukwu, C. O. & Ugwuanyi, G. O. (2020). The impact of financial deepening on the economy of Nigeria (1981-2018). *Asian Journal of Economics, Business and Accounting,* 15(1), 12-21.

Ehigiamusoe, K. U., Lean, H. H. and Badeed, R. A. (2017). Finance-Growth Nexus in Cote D'Ivoire and Nigeria: Does the Proxy of Financial Development Matter? *Pertanika J. Soc. Sci. & Hum.*, 25 (1), 99-111.

Hammilton, O.I. & Godwin (2013). Does financial deepening follow supply leading or demand following hypothesis? A critical look at the Nigerian evidence. *Journal of Science and Technology*, 5(2), 10-15.

Ibrahim, T.M. & Shuaibu, M.I. (2016). Financial development: A fillip or impediment to Nigeria's economic growth. *Int. J. Econ. Financ. Issues,* 3(5), 305–318.

Ifeanyi, O. N. & Chinyere, F. C. (2016). The effect of financial deepening on economic growth in Nigeria (1985 -2014). *IOSR Journal of Economics and Finance (IOSR-JEF)*, 7(4), 34-46.

Igwe, A., Edeh, C. E. & Ukpere, W. I. (2014). Financial deepening and economic growth In Nigeria (1981-2012): A managerial economic perspective. *Risk Governance & Control: Financial Market and Institutions*, 4 (4), 104-119.

Igwebuike, C. E., Udeh, S. N. & Okonkwo, O. M. (2019) *Effects of financial deepening on economic growth of Nigeria (1981-2016). International Academy Journal of Business Administration Annals,*7(1), 54-67.

Jaisinghani, D. (2018). Empirical analysis of cointegration of Indian financial markets with other markets. *Zenith International Journal of Multidisciplinary Research,* 8(5), 109-115.

Juselius, K. (2017). Recent developments in cointegration. *Econometrics,* 6(1), 1-5.

Kalina, J. & Tichavsky, J. (2020). On robust estimation of error variance in (highly) robust regression. *Measurement Science Review,* 20(1), 6-14.

Kalu, E. U., Nkwor, N. & Onwumere, J. U. J. (2015). Measuring the dynamics of financial deepening and economic growth in Nigeria, 1981-2013: Using engel-granger residual based approach. *IOSR Journal of Economics and Finance (IOSR-JEF),* 6(6), 111-125.

Karimo, T. M. & Ogbonna, O. E. (2017). Financial deepening and economic growth nexus in Nigeria: Supply-Leading or Demand-Following? *Economies*, 5(4), 418-432.

King R. G. & Levine, R. (1993b). Finance, entrepreneurship, and growth: Theory and evidence. *Journal of Monetary Economics*, 32(7), 513-542.

King R.G and R. Levine, (1993). Finance and growth: Schumpeter might be right. *Quarterly Journal of Economics*, 108(7), 715-735

Kolawole, K. D., Ijaiya, M. A., Sanni, M. & Aina, T. J. (2019). Impact of financial deepening on economic growth in Nigeria. *Fountain University Osogbo Journal of Management (FUOJM)*, 4(2), 57 – 73.

Kromtit and Tsenkwo (2014). Recent trend of financial deepening and economic growth: Empirical evidence from Nigeria's Data. *Economy & Business Journal of International Scientific Publications*, 8(2), 211-224.

Maduka, A. C. & Onwuka, Kevin O. (2013). Financial market structure and economic growth: Evidence from Nigeria data. *Asian Economic and Financial Review*, 3(1), 71-83.

Mathiesun, D.J. (1980). Financial reform and stabilization policy in a developing economy. *Journal of Development Economics*, 7(6), 359-395.

McKmnon, R.I. (1973). *Money and capital in economic development*. The Brookings Institution, Washington DC.

Nwakobi, P. C., Oleka, D. C. & Ananwude, A. C. (2019). Effect of financial deepening on economic growth in Nigeria: A time series appraisal (1986-2018). *Asian Journal of Advanced Research and Reports*, 7(3), 1-9.

Odo, S. I., Ogbonna, B. C., Agbi, P. E. & Anoke, C. I. (2016). Investigating the causal relationship between financial development and economic growth in Nigeria and South Africa. *IOSR Journal of Economics and Finance (IOSR-JEF), 7(2)*, 298-311.

Ogbodo, J. C. & Ojide, M. G. (2015). Reassessing growth impact of financial deepening in emerging economies: Evidence from Nigeria. *The International Journal of Humanities & Social Studies*, 3(8), 151-167.

Ogbuagu, A & Ewubare, F. (2017). Financial deepening implications for macro-economic volatility and economic growth in Nigeria, A multivariate approach. *International Journal of Economics, Finance and Management Sciences*, 5(1), 66-80.

Ohwofasa, B. O. & Aiyedogbon, J. O. (2013). Financial deepening and economic growth in Nigeria, 1986-2011: An empirical investigation. *Journal of Economics and Development Studies, 1(1)*, 21-35.

Okafor, I. G., Onwumere, J. U. J. & Ezeaku, H. C. (2016). Financial deepening indicators and economic growth in Nigeria: A causality and impact analysis. *Asian Journal of Economics, Business and Accounting,* 1(2), 1-11

Olawumi, S. O., Lateef, L. A. & Oladeji, E. O. (2017). Financial deepening and bank performance: A case study of selected commercial banks in Nigeria. *Journal of Mathematical Finance,* 7(3), 1-19.

Osinsanwo, B.G. (2013). The macroeconomic effect of financial development on economic growth in Nigeria: A long-run analysis, 1970-2011. *Journal of African Macroeconomic Review*, 4(6), 227-245.

Osunkwo, F. O. C. (2020). Financial deepening and economic growth of Nigeria (1981-2018). *SSRG International Journal of Economics and Management Studies* 7(2), 61-66.

Osunkwo, F. O. C. (2020). Financial deepening and economic growth of Nigeria (1981-2018). *SSRG International Journal of Economics and Management Studies (SSRG-IJEMS), 7(2), 61-66.*

Paul, N. (2017). Empirical analysis of the impact of financial deepening on economic growth in emerging economies: Nigeria in focus. *Journal of Finance, Banking and Investment*, 4(1), 51-74.

Sharma, S. (2019). Experimental and ex-post facto designs. Retrieved (05/19/2020) from

Shaw, E. (1973). *Financial deepening and economic development.* London: Oxford University Press.

Shittu, A. I. (2012). Financial intermediation and economic growth in Nigeria. *British Journal of Arts and Social Sciences,* 4(2), 224-237.

Sulaiman, L.A., Oke, M.O. & Azeez, B.A. (2012). Effect of financial liberalization on economic growth of developing countries: The Nigerian experience. *International Journal of Economics and Management Sciences,* 1(12), 16-28.

Torruam, J. T., Chiawa, M. A. & Abur, C. C. (2013). Financial deepening and economic growth in Nigeria: An application of cointegration and causality analysis. 3rd International Conference on Intelligent Computational Systems (ICICS'2013) April 29-30.

Udoh, E. & Ogbuagu, U. R. (2012). Financial sector development and industrial production in Nigeria (1970-2009): An ARDL cointegration approach. *Journal of Applied Finance & Banking*, 2(4).

Ugbaje, D. O. & Ugbaje, H. E. (2014). Empirical study of financial sector development on economic growth in Nigeria (1990-2010). *International Journal of Public Administration and Management Research (IJPAMR),* 2(3), 61-72.

Uwakaeme (2015). Economic growth in Nigeria: An empirical investigation of determinants and causal relationship (1980 – 2012). *American Journal of Economics*, 5(1), 101-114.

Uzoh, A. B., Nwachukwu, A. C. & Uzoma, K. P. (2019). International remittances, financial deepening and economic growth in Nigeria. *Global Journal of Applied, Management and Social Sciences*, 17(5), 15-31.

Uzokwe, G. O. (2019). Financial Deepening, Financial Intermediation and Nigerian Economic Growth: Time Variant Analysis. *American International Journal of Business and Management Studies*, 1(1), 60-73.

Werigbelegha, A. P. & Igbodika, M. A. N. (2015). A causality analysis of financial deepening and performance of Nigerian economy (1990-2013). *Research Journal of Finance and Accounting*, 6(11), 42-59.