Financial Sector Development Indicators and Economic Growth: Evidence from Nigeria

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Abstract : *The fundamental objective of this study is to ascertain if any of the financial sector development indicators has affected the growth of the Nigerian economy from 1989 to 2018. Specifically, five (5) research hypotheses were formulated and then tested. The data were derived from the from the Central Bank of Nigeria (CBN) Statistical Bulletins, Nigerian Insurance Digest and World Development Indicators (WDI, 2018). Data for the study were subjected to preliminary tests. Accordingly, the ADF test reported that all the series are stationary at 1(1), the Johassen cointegration test reported that all the variables are co-integrated while the pairwise granger causality test reported that, uni-directional relationship runs through only banking sector credit (% of GDP) and economic growth proxy (RGDP); economic growth and broad money supply (% of GDP), & economic growth and private sector credit supply (% of GDP) while the rest reported no granger-causal relationship. Apparently, the ECM result reported that the model is rightly signed signposting that all variables converge after short run disequilibrium while the OLS regression output appears robust and fit for policy formulation. The post-diagnostic test also affirmed these assertions. Hence, we conclude that, short and long-run relationship exists between financial sector development and economic growth. Hence, the study recommends that the financial intermediation process should be strengthened. In the same wise, bank loans given to different sectors should be re-examined as well. Thus, the objectives of regulatory policies of government should be such that it enhances and encourage financial sector development.*

Keywords: Financial Sector Development, Indicators, Economic growth

Introduction

The concept of economic growth has long been viewed as a worthwhile economic policy with outstanding body scholarly research dedicated to explaining how this goal can be efficiently achieved. Moreover, it is well acknowledged that, the growth in every nation is dependent to a large extent on how developed her financial system is. This is because a well-developed financial sector improves resource allocation, boosts economic growth, stimulates domestic savings, identifies and fund good business opportunities, hedges against and diversifies risk, facilitates the transfer of goods and services which variably leads to various productive ventures in the local industries. Specifically, an effective and efficient banking system has the potential to channel foreign streams of inflows. Hence, the financial sector therefore provides the rudiments for income-growth and job creation (Adelakun, 2013).

Sequel the viewpoint raised above, the World bank in 2019 reported that, at low levels of economic growth, banks tend to control the financial system while at higher levels of economic growth, financial markets tend to become more active relative to banks. Thus, effective financial intermediation mechanism will necessitate the concerted efforts of the various sub-sectors of the financial system (World Bank Report, 2019).

Furthermore, given the key position of the Nigerian financial sector, the federal government has rigidly controlled every aspect of banking activities. For instance, for the banking sub-sector, the Central Bank of Nigeria regulates how much interest banks could charge on the loans that go to the different sectors and the total amount of loans banks could give (i.e. what proportion of their loan-portfolio) to different sectors. To further buttress this, Oriavwote and Eshenake (2014) revert that, various financial reforms enacted by the federal government of Nigeria were centered on building and fostering competitive and healthy financial systems that is devoid of financial repression. Consequently, prior to the financial reforms era the Nigerian financial sector was under-developed. Indeed, the financial sector reforms have affected the Nigerian financial system on the long run. On this note, this study therefore seeks to critically examine the effect of financial sector development on the Nigerian economy.
Puatwoe and Piabuo (2017) argue that the global financial crisis which resulted to global economic meltdown led to several bail out of the financial sector by the federal government of the affected countries with believe that once the financial sector is revitalized it will translate into stimulating the economy. However, this can only be possible if there the financial sector improves the economy. This motivated the need to further investigate the nexus between the financial sector development and economic growth.

Since 1990 when Nigeria returned democracy, the issue of financial sector development has remained one of the most recurring issue. On a general note, the underdevelopment in the financial markets has further dampened the level of economic growth in Nigeria despite the various achievement made by the Nigerian financial; market. Again, frequent policy reversals have resulted to disinvestment in the financial and real sectors which have impacted negatively on macroeconomic performance (Oriavwote & Eshenake, 2014).

More so, despite the overwhelming empirical evidence that financial sector development impact economic growth positively and significantly (Osisanwo, 2017; Ugbaje, & Ugbaje, 2014) yet conflicting results still exist. For example, Agbo, & Nwankwo, 2018; Puatwoe and Piabuo (2017) reported negative results. This suggests that the results are more or less country-specific and limited in scope. This therefore indicates the existence of a research gap. Again, most of them consider one component of the financial sector development. To fill this gap, this study considered five (5) financial sector development indicators covering banking industry's credits, capital market, insurance market, broad money supply, and foreign direct investment to the financial sector together in relation to economic growth. To this end, the main thrust of this paper is to examine the effect of financial sector development on the Nigerian economy. Specifically, the study sought to evaluate the effect of Banking Sector Credit (% of GDP), Stock Market Capitalization (% of GDP), Broad Money Supply (% of GDP), total Insurance Income (% of GDP), and Private Sector Credit (% of GDP) on economic growth of Nigeria.

On a significant note the study, the study would be significant to policy makers/analysts, government/regulatory agencies, and researchers. To the policy makers/analysts, it would articulate the need for a more consistent, persistent, transparent, and fair policy. It would also serve as a pointer to them as it would assist them in achieving their 2030 Financial Sector

Development Strategy (FSD). Put differently, its findings would aid help fasten policy making process in the areas of resource sharing and information dissemination between the development of the real sector and financial development which will in turn spurs them to set-up as well as prioritize essential macro-economic policies so as to put in place healthy competitive growth objectives. To the Nigerian government/regulatory agencies, it would assist them to tailor towards fiscal adjustment as well as enable them to adopt a more flexible and dynamic financing options. Finally, researchers/academicians were also not left out as it would serve as a resource material should they intend to replicate the study.

Summarily, the rest aspect of this paper deal extensively on the literature reviews, research methodology, discussion of results, conclusions drawn from findings, and policy recommendations.

Literature Review
This section focused extensively on the conceptual elucidations and linkages, theoretical frameworks, and extant empirical studies. The main reason behind this review is to examine what other researchers have done in retrospect so as to spot out as well as fill a perceived research in terms of variables, methodological, geographical, and time gaps.

Conceptual Elucidations and Linkages
Proper capturing of the financial sector development indicator is key determining factor in appraising the growth and development of every country. However, despite all attempts by subsequent researchers to conceptualize, modify and improve the existing indicators, financial proxies used are still far from satisfactory. This is because the construct is a multi-dimensional in nature.

Fundamentally, financial sector development entails ensuring that the financial system costs is minimized (Ogwumike & Salisu, 2018). In another direction, it is often described as the process of causing improvements in financial service delivery both in the capital and money markets (Oladele & Uzoma, 2018).

Puatwoe and Piabuo (2017) conceptualize financial sector development as the amassment of financial assets at a quicker rate than the amassment of non-financial assets. It is said to take place when various financial intermediaries, markets, and instruments correlate and operate together with the aim of reducing costs involved in providing information, enforcement, and transactions. However, it does not necessarily remove the transaction cost as well as cost associated with information implementation and dissemination. Thus, financial sector development involves enhancement in the (i) information relating to investments, (ii) investments monitoring (iii) execution of corporate governance mechanisms (iv) trading, portfolio diversification, risk management; (v) fund mobilization and accumulation, and (vi) exchange of goods and services. Each of these factors highlighted affect investment decisions which later culminated into economic growth.

According to World Bank Report (2019), financial sector development goes beyond just having financial intermediaries and infrastructure in place. It entails having robust regulatory policies in force. It is noteworthy to say that the global financial crisis underscored the catastrophic consequences of inefficient financial sector policies. Finance matters both in under-development and well developed. Various Proxies used to measure financial development in time past includes banking sector credit (% of GDP), stock market capitalization (% of GDP), broad money supply (% of GDP), total Insurance income (% of

GDP); private sector credit (% of GDP); narrow money to broad money ratio, narrow money (NM), and domestic credit (DC). However, we used banking sector credit (% of GDP), stock market capitalization (% of GDP), broad money supply (% of GDP), total Insurance income (% of GDP); private sector credit (% of GDP) to measure financial sector development (figure 2.1)

1. **Bank Sector Credit (% of GDP):** This is a measure of banking Sector development. This account for the total amounts of credit facilities deposit money banks gives to different sectors of the Nigerian economy as directed by the federal government in relation to the gross domestic product. It includes the net credit to various sectors of the economy excluding credit to the central government, measured on gross basis. It is therefore viewed that increase in bank Sector development improves economic growth.

2. **Stock Market Capitalization (% of GDP):** This ratio is also known as Buffet ratio. This is used to determine whether an aggregate market stock is either under or over-valued in comparison to a historical average. In other words, this ratio is used to capture the depth of the Nigerian capital market. As such, a developed capital market is expected to fasten the economic development process of Nigeria.

3. **Broad Money (% of GDP):** This is used to measure financial depth. This denotes a measure of money supply which includes not only all components of narrow money but further includes, all monies held in easily assessable accounts, checking accounts, savings accounts, time deposits and overnight loans held by deposit money banks. According to Osuji (2015), broad money (% of GDP) measures the degree of monetization in the economy. However, in emerging countries like Nigeria large shock of broad money are held outside the banking industry. As such, increase in broad money may not necessarily reflect increase in bank deposits. While increased broad money (% of GDP) is related to greater liquidity and financial depth, it may sometime decline instead of improving the financial system because the non-banking public tend to access more long-term less liquid financial instruments than short-term highly liquid financial instruments (World Bank Report, 2018).

4. **Total Insurance Income (% of GDP):** This account for the development or penetration of the insurance sub-sector in relation GDP. Specifically, the Nigeria insurance industry play significant role in economic growth by mitigating business risks occasioned by sudden and devastating occurrences in both advanced and less advanced countries. The sector provides risk management and risk adjustment services to other sectors of the economy such as industrial, transportation, agricultural, mining, petroleum, banking, etc. It also contributes to economic growth by acting as financial intermediary through capital formation and provides business funding for deficit sectors of the economy (Akinlo, 2015).

The development of insurance business is closely linked to the founding of British trading companies and the successive increase in inter-continental trade culminating increased shipping and banking activities. This created the need for some foreign investors to deal with business risks locally for some multinational establishments. In Nigeria, the first of such firms began in 1918 when the East and West African companies established the Royal Exchange Assurance Agency. Other firms include Liverpool, Patterson Zochonis, BEWAC's legal and General Assurance, London and Globe etc. (Etale, 2019).

1. **Private sector Credit (% of GDP)**: This simply defined as the loans, procurements of non-equity securities, credit facilities, and other receivables given to the private sector by commercial banks. Osui (2018) noted that, private sector to GDP is also interpreted as financial deepening. It therefore establishes claim for settlements. The study measures credit to the private sector as a share of GDP (IMF report, 2018). In other words, private sector credit is frequently used to evaluate the distribution of financial assets as it is directly correlated to investment, growth, and is a better measure of financial intermediation. Furthermore, it is also argued that private sector credits are severely and that the improved investment originating from financial intermediary's project viability is more significant for private sector credits.

**Theoretical Underpinning: Finance-Growth Relationship**

Patrick (1966) noted that, there are two (2) extreme financial sector possibilities both of which contradict each other. These two view theories are: finance-led and the growth-led hypothesis. The finance-led growth hypothesis is an off-shoot of Schumpeter (1912), Keynesian growth, McKinnon (1973), & Shaw (1973) models. This theory holds that, for an economy to attain sustainable economic growth and development, the financial sector must be first developed (Schumpeter, 1912; and Levine, Loayza, & Beck, 2000). In other words, financial development leads to economic growth and not growth spurs financial sector development. This is because, if there are effective and efficient means of directing scarce resources from copious sectors to deficit sectors, economic growth objective of that nation would be achieved (see figure 2.1). Alternatively, growth-led hypothesis argues that economic growth leads to financial development (figure 2.2). In light of this, growth brings about automatic growth of financial assets and liabilities and other related financial services. However, this study supports the finance-led hypothesis. This is because, we argued that, for an economy to attain its sustainable economic growth objective, its financial sector must be first developed.

Figure 2.1: Finance-Led Hypothesis
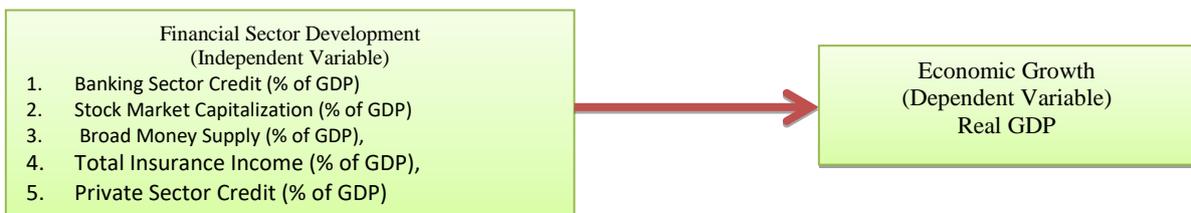
Source: Researcher's Model (2020)

Figure 2.2: Growth-Led Hypothesis
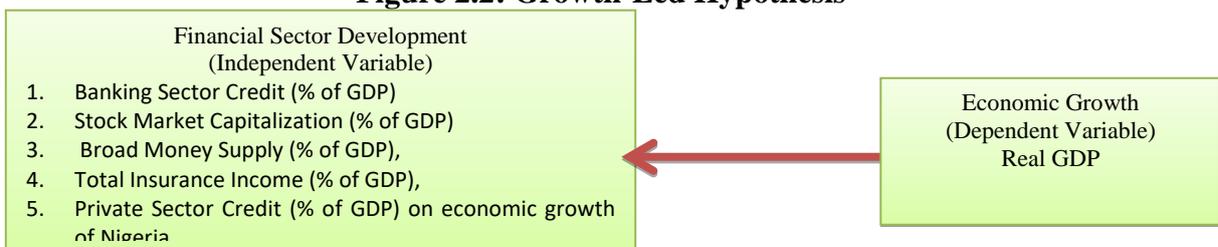
Source: Demand-Leading Hypothesis re-modified by the researcher (2020)

Empirical Studies

This section sought to review each of the independent variables against the dependent variable with a view to acquaint readers with various findings of scholars on the subject matter. They are reviewed below:

Banking Sector Credit (% of GDP) and Economic Growth

Using a quarterly data analysis which spanned from 2000 to 2015, Mohammed (2017) discovered that banking sector credits facilities impact on credits on Palestinian economy positively and significantly. However, interest rate, number of branches, customers' deposits exhibit positive but insignificant on the Palestinian economy.

In a similar research, Yeboah and Oppong (2017) examined the correlation between financial sector development and economic growth in Ghana from 1980-2014. The cointegration test reported that long economic growth and financial sector development while the granger causality test affirms that financial sector development spurs Ghanaian economy. As such, low lending rate should be encouraged.

Conversely, Prochniak and Wasiak (2017) analyzed the impact of financial system on economic growth using 28 EU and 34 OCED economies from 1993 to 2013. The researcher revalidates that, positive significant relationship exists between the banking system and economic growth. Moreover, Zhao (2017) investigated the impact of financial development of economic output using data from 286 Chinese cities from 2007 to 2014. The finding revealed that none of financial development indicators significantly and positively impacted on the Chinese economic growth.

Medjahed and Gherbi (2016) examined the impact of banking sector development on growth using 11 MENA countries from period 1980 to 2012. They found that financial development has an adverse effect on the economic growth of MENA countries both on the short and long-run. Similarly, Frikha and McMillan (2016) reported that a mix of both Islamic and conventional banking credits contributes significantly on domestic gross product growth rate.

$H0_1$: Banking sector credit (% of GDP) does not have significant effect on economic growth of Nigeria.

Stock Market Capitalization (% of GDP) and Economic Growth

Ogwumike and Salisu (2018) examined the nexus between financial development and the Nigerian economy. The study covered from 1975 to 2008. The Bound test revealed a long-run positive relationship exist between financial sector development indicators vis-à-vis credit to private sector, stock market and financial reforms and the Nigerian economy. Again, the VAR-Granger causality test reaffirmed the supply-leading hypothesis. Therefore, regulatory agencies should encourage macro-economic policies are tailored towards expanding and developing the Nigerian economy.

Ngogang (2015) studied the impact of financial development on the economic growth of 21 Sub-Saharan Africa countries. assed the test of statistical significance and the result affirmed that financial sector development is growth inducing.

Consistent with previous studies, Garba (2014) reported that financial sector development stock market capitalization, banking sector credits, and foreign direct investment positively affect economic growth (Real Gross Domestic Product).

Using the Vector Error Correction (VEC) model, Ugbaje, and Ugbaje (2014) discovered that financial development indicators (market capitalization, foreign direct investment, and banking credits) exert high statistically significant impact on the Nigerian economy. Hence, regulatory agencies should avoid shading dealings in the Nigerian capital market and that fair trading policy should be encouraged.

H0₂: Stock market capitalization (% of GDP) has no significant effect on economic growth of Nigeria.

Total Insurance income (% of GDP) and Economic Growth
Etale (2019) studied the linkage between insurance sector development and the Nigerian economy from 2001 to 2017. The explanatory variable in the study is insurance sector development measured by insurance investment, aggregate insurance premium, and aggregate insurance claims while the explained variable is economic growth measured by gross domestic product. The empirical results showed all insurance sector development significantly affect the Nigerian economy. To this end, regulatory authorities should put in place policies to enforce transparent and efficient management of funds by insurers. Conversely, Nwosa and Mustapha (2018) reported that, insurance development did not significantly affect the Nigerian economy over the years. Hence, he recommended that the Nigerian government should put in place sound policies and regulation to sustainable development in the insurance sector.

In another study, Fadun and Shoyemi (2018) examined the contribution of insurance investment funds to economic growth in Nigeria from 2000 to 2015. The study adopted total insurance investment and gross domestic product (economic growth proxy) as the independent and dependent variables. Data analysis techniques employed include the Pearson correlation coefficient and OLS. The results revealed strong positive relationship between the study variables.

Fashagba (2018) examined the relationship between insurance and economic growth in Nigeria from 2007 to 2016. Data analysis techniques employed include the Pearson correlation coefficient and OLS. The results showed that total insurance and non-life insurance premium had insignificant positive link with economic growth, while life insurance premium had inverse and insignificant effect on economic growth.

Ouedraogo, Guerineau and Sawadogo (2018) investigated the association between life insurance sector development and economic growth in 86 developing countries spanning 1996 to 2011. The study sourced data from World Bank data bank. The researchers used total life insurance premium as the explanatory variable and GDP being economic growth proxy as the response variable. The researcher used generalized moments method (GMM) to analyze the data. The results indicated that insurance sector development had positive effect on economic growth but differs based tends to differ based structural and regulatory framework in place in different countries.

H0₃: Total Insurance income (% of GDP) has no significant effect on economic growth of Nigeria.

Broad money supply (% of GDP) and Economic Growth
Puatwoe and Piabuo (2017) investigated the impact of financial development on Economic growth using time series data in Cameroon. This study was carried out using three (3) financial development indicators (broad money, deposit/GDP, and domestic credit to private sector). The Auto Regressive-Distributive Lag (ARDL) reported a short-run positive

relationship between financial development indicators (monetary mass (M2), and government expenditure) and economic growth. However, on the long run, it tends to be negatively insignificant. Hence, the financial reforms should be directed towards developing the financial sector.

However, Ofri-Apah (2016) reported financial development indicators (private sector credit, narrow money) contribute significantly to the Nigerian economy both on the long and short-run. The study recommends that, the Nigerian regulatory makers should put in place policies that encourage accessibility and affordability of private sector credit to infant industries.

Using the VEC model, Osuji (2015) provided stable positive long run relationship between financial development indicators (private sector credit and bank deposit liabilities, money to income ratio, and domestic credit ratios) and economic growth from 1960 to 2014.

H0₄: Broad money supply (% of GDP) has no significant effect on economic growth of Nigeria.

Credit to Private Sector (% of GDP) and Economic Growth

Agbo, and Nwankwo (2018) explored the effect of financial sector development on the economic growth of Nigeria from 1981 to 2013. Specifically, the result reported credit to the private sector credit ratio as a measure of financial sector development exerts negative and insignificant effect on economic growth. Based on the result, the study advocated for a pro-financial development policy.

Osisanwo (2017) investigated the impact of financial development on economic growth in Nigeria using annual time series data between 1980 and 2014. Specifically, the result reported credit to the private sector credit ratio as a measure of financial sector development exerts positive significant impact on Nigerian economy. Based on the result, the study advocated for adoption of an investor focused lending rate policies.

Effiong (2016) investigated the impact of financial development on the Nigerian economy from 1986 to 2010 covering 21 Sub-Sahara Africa countries. The study used credit to private sector ratio and GDP as both the explanatory and explained variables, respectively. The study finds that, financial sector development has failed to contribute significantly to growth pattern of SSA countries over time. However, wherein there are efficient institutions quality economic growth becomes inevitable.

Mba (2015) investigates the impact of financial liberalization on economic growth in Nigeria between the periods of 1986 and 2011. The regression output reported that Private sector credit (% of GDP) negatively impact on output growth in Nigeria. Based on the result, the study advocated for customer need assessment before given out loans. Meanwhile, Ebiringa and Duruibe (2015) reported that financial system development indicator (Private sector credit (% of GDP) does not granger cause growth.

H0₅: Private sector credit (% of GDP) has no significant effect on economic growth of Nigeria.

Research Gap

The existing studies reviewed shows that studies conducted on the nexus of a country's financial sector development indicators and economic growth cuts across both developed and developing such as, Ghana, Malaysia, Kenya, Nigeria, and Sierra Leone among many others. However, the findings from the empirical studies carried out in the past tend to suggest a lack of consensus among them on the direction, and at what level, of statistical significance that each financial sector variable affects economic growth. The regression results are more or

less country- specific and limited in scope. This therefore indicates the existence of a research gap. Therefore, this study on the link between financial sector development indicators and economic growth in Nigeria was aimed at contributing to that gap in literature.

Research Methodology

Research Design, Population, and Method of Data Collection

The data for the study were sourced from the World Bank data bank, Central Bank of Nigeria (CBN) Statistical Bulletins, and the Nigerian Insurance Digest. These sources were considered the most reliable data sources for this type of study. The time series data for the study variables covered the period 1989 to 2018. The period covered was considered long enough to draw informed conclusions.

Techniques and Model Specification

The statistical package used in this study is Econometric Views version 9.0. This is due to its global acceptability, and robustness. The estimation techniques are Stationarity test, Co-integration test to test for long-run relationship, granger causality test for casualty, Error correction test; OLS test for short-run statistical significance. The model adopted in this study follows the findings of Mckinnon (1973), Fry (1995) and King and Levine (1993) that financial sector development spurs economic growth. The functional relationship is expressed as:

$$RGDP = f\left(\frac{BSC}{GDP} + \frac{SMC}{GDP} + \frac{BMS}{GDP} + \frac{T\,IY}{GDP} + \frac{PSC}{GDP}\right) \text{------eqn1}$$

The mathematical (exact) form of equation (1) above is expressed as:

$$RGDP = \beta o + \beta 1 \frac{BSC}{GDP} + \beta 2 \frac{SMC}{GDP} + \beta 3 \frac{BMS}{GDP} + \beta 4 \frac{T\,IY}{GDP} + \beta_5 \frac{PSC}{GDP} + \varepsilon it \text{------eqn2}$$

Where:

RGDP	=	Gross Domestic Product Growth per Capital
$\frac{BSC}{GDP}$	=	Banking Sector Credit (% of GDP)
$\frac{SMC}{GDP}$	=	Stock Market Capitalization (% of GDP)
$\frac{BMS}{GDP}$	=	Broad Money Supply (% of GDP)
$\frac{TIY}{GDP}$	=	Total Insurance Income (% of GDP)
$\frac{PSC}{GDP}$	=	Private Sector Credit (% of GDP)
βo	=	Intercept or Constant coefficients (the constant term)
$\beta_1 - \beta_5$	=	Coefficients of the parameter estimates of the independent variable.
εit	=	Scholastic, disturbance error term (noisy variable)..

The Behavioral assumptions are: $\beta 1, \beta 2, \beta 3, \beta 4$ and $\beta 5 > 0$

Discussion of Regression Result and Policy Implications

This section takes into consideration the Preliminary analysis, Regression result, discussion of regression result alongside its policy implications, and the post-diagnostic analysis.

Preliminary Test

In bid to ensure that, the regression result is not spurious, various preliminary test were conducted before the regression result proper. These preliminary tests include Pearson Correlation test for testing for degree of association, unit root test for Stationarity, cointegration test for long-run, and granger causality test for causality.

Table 4.1: Pearson Correlation Test

	LOG__RGDP_	D(BSC_GDP)	SMC_GDP	D(BMS_GDP)	TIY_GDP	PSC_GDP
LOG__RGDP_	1.000000					
BSC_GDP	-0.322851	1.000000				
SMC_GDP	0.709621	0.106450	1.000000			
BMS_GDP	-0.018381	0.513171	0.229122	1.000000		
TIY_GDP	-0.137633	0.313091	0.384692	0.287425	1.000000	-0.056562
PSC_GDP	0.919966	-0.278353	0.639534	0.093534	-0.056562	1.000000

Source: Econometric Views Version 9.0 Output (2020)

The Pearson correlation coefficient above reported that the ratio of Stock Market Capitalization (% of GDP), and Private Sector Credit (% of GDP) are positively correlated with economic growth throughout the period of study while the rest three (3) independent variables (Banking Sector Credit (% of GDP), Broad Money Supply (% of GDP), and Total Insurance Income (% of GDP) are negatively correlated with economic growth throughout the study period. Again, only ratio of Stock Market Capitalization (% of GDP), and Private Sector Credit (% of GDP). However, when seen from the correlation between the independent variables none of them are collinear suggesting the possible absence of multi-collinearity. Hence, there is need for further check to detect if multi-collinearity is presence in the regression or not.

Unit Root Test

Ordinarily, economic variables tend to exhibit some form of Stationarity (stability). However, there is need to examine if these economic variables (data series) are stationary or not. The best technique researchers used to test for whether a data series is stationary is unit root test through the instrumentality of Augmented Dicker Fuller (ADF) Test. The ADF test is therefore summarized thus:

Table 4.2: Augmented Dicker Fuller (ADF) Test

Data Series	ADF Test Statistics	Test Critical Values at 5% Significant Level	Prob.*	Conclusions
TIY_GDP	-4.217586	-2.971853	0.0028	Stationary
LOG__RGDP_	-3.217702	-2.971853	0.0295	Stationary
BMS_GDP	-5.069226	-2.971853	0.0003	Stationary
BSC_GDP	-4.101759	-2.971853	0.0037	Stationary
PSC_GDP	-4.312773	-2.971853	0.0022	Stationary
TIY_GDP	-4.217586	-2.971853	0.0028	Stationary

Source: Econometric Views Version 9.0 Output (2020)

Table 4.2 above gives a clear description of the order of integration (Stationarity) of all the data series. The ADF test therefore revealed that, all the data series attained Stationarity after differencing (1(1)). This is because, at first differencing the ADF test reported that ADF Test Statistics for all the data series are greater than the Test Critical Values at 5% (0.05) Significant Level. To further buttress this, at first differencing their corresponding p-values were also less than 5% Significant Level. This therefore justify the need to ascertain the long run properties of the series since they are all stable at difference (1(1)).

Cointegration Test

Once all variables under study are stable at difference 1(1), the next stage is to test their long-run equilibrium relationship using Johassen Cointegration test. The awesome result is therefore presented below:

Table 4.3: Johassen Cointegration test Output

Unrestricted Cointegration Rank Test (Trace)					Unrestricted Cointegration Rank Test (Maximum Eigenvalue)		
Hypothesized		Trace	0.05			Max-Eigen	0.05
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**	Eigenvalue	Statistic	Critical Value
None *	0.965770	196.7167	95.75366	0.0000	91.11545	40.07757	0.0000
At most 1 *	0.738479	105.6012	69.81889	0.0000	36.21354	33.87687	0.0258
At most 2 *	0.665257	69.38766	47.85613	0.0002	29.54861	27.58434	0.0276
At most 3 *	0.556991	39.83905	29.79707	0.0025	21.98245	21.13162	0.0379
At most 4 *	0.440478	17.85661	15.49471	0.0216	15.67815	14.26460	0.0297
At most 5	0.077515	2.178458	3.841466	0.1400	2.178458	3.841466	0.1400
Trace test indicates 5 cointegrating eqn(s) at the 0.05 level					Max-eigenvalue test indicates 5 co-integrating eqn(s) at the 0.05 level		
* denotes rejection of the hypothesis at the 0.05 level							
**MacKinnon-Haug-Michelis (1999) p-values							

Source: Econometric Views Version 9.0 Output (2020)

Table 4.3 above gives a clear-cut description of the Co-integration test. Apparently, the result reported a there is a long-run equilibrium relationship between the independent variable (financial sector development indicators) and economic growth throughout the period of study such that, at 5% significant level both the Trace test and Max-eigenvalue test indicated 5 co-integrating equations alongside their p-values less than 5% significant level.

Granger Causality Test
This is used to examine if the independents variable granger causes the dependent variable using their respective p-values. Basically, this test is used for prediction; it therefore stipulates that the past occurrence is used to predict the future. The result is therefore presented in table 4.5 below:

Table 4.5: Pairwise Granger Causality Tests

Date: 06/07/20 Time: 20:34			
Sample: 1989 2018			
Lags: 1			
Null Hypothesis:	**Obs**	**F-Statistic**	**Prob.**
BSC_GDP does not Granger Cause LOG__RGDP_	29	17.4910	0.0003
LOG__RGDP_ does not Granger Cause BSC_GDP		1.42711	0.2430
SMC_GDP does not Granger Cause LOG__RGDP_	29	3.51012	0.0723
LOG__RGDP_ does not Granger Cause SMC_GDP		2.42774	0.1313
BMS_GDP does not Granger Cause LOG__RGDP_	29	2.65770	0.1151
LOG__RGDP_ does not Granger Cause BMS_GDP		4.59303	0.0416
TIY_GDP does not Granger Cause LOG__RGDP_	29	2.62615	0.1172
LOG__RGDP_ does not Granger Cause TIY_GDP		1.72859	0.2001
PSC_GDP does not Granger Cause LOG__RGDP_	29	0.08041	0.7790
LOG__RGDP_ does not Granger Cause PSC_GDP		4.84276	0.0368

Source: Econometric Views Version 9.0 Output (2020)

The Pairwise Granger Causality Tests above revealed that a uni-directional relationship runs through only Banking Sector Credit (% of GDP) and economic growth proxy (RGDP); economic growth and Broad Money Supply (% of GDP) , & economic growth and Private Sector Credit (% of GDP) while the rest reported no granger-causal relationship.

Regression Result

This section covers two main regression results namely Error Correction Model and Ordinary Least Square Regression Estimate. The main Justification for the adoption of the Error Correction Model is when two time-series are co-integrated (long run relationship) there is every chance that they may likely deviate from equilibrium. However, when in the researcher proceed to Ordinary Least Square (OLS) immediately; it may result to spurious result. Thus, the error correction model has been specified to capture the short run properties of the variables as well as their speed of convergence after disequilibrium. Meanwhile, OLS regression estimate is used to examine the short-run statistically significant relationship between the independent and dependent variable under study. Accordingly, both the ECM results and OLS regression estimates are presented below:

Table 4.6: Error Correction Model: Short-run Dynamics

Dependent Variable: D(LOG__RGDP_)				
Method: Least Squares (Gauss-Newton / Marquardt steps)				
Date: 06/07/20 Time: 20:36				
Sample (adjusted): 1992 2018				
Included observations: 27 after adjustments				
	Coefficient	Std. Error	t-Statistic	Prob.
ECM (-1)	-0.331140	0.091508	-3.618684	0.0031
D(LOG__RGDP_(-1))	-0.871997	0.597741	-1.458820	0.1684
D(LOG__RGDP_(-2))	-1.332367	0.504003	-2.643568	0.0203
D(BMS_GDP(-1))	-955.7383	373.6022	-2.558171	0.0238
D(BMS_GDP(-2))	-865.1026	342.3580	-2.526894	0.0253
D(BSC_GDP(-1))	-396.6525	197.4765	-2.008606	0.0658
D(BSC_GDP(-2))	-290.4684	171.6246	-1.692464	0.1144
D(PSC_GDP(-1))	-212.2028	196.9539	-1.077424	0.3009
D(PSC_GDP(-2))	-14.05899	220.1939	-0.063848	0.9501
D(SMC_GDP(-1))	-656.4659	202.3838	-3.243669	0.0064
D(SMC_GDP(-2))	-314.4838	104.9048	-2.997801	0.0103
D(TIY_GDP(-1))	1003.402	381.4582	2.630439	0.0208
D(TIY_GDP(-2))	445.9090	266.3995	1.673836	0.1180
C	7528.408	1859.133	4.049418	0.0014
R-squared	0.749182	Mean dependent var		2055.368
Adjusted R-squared	0.498364	S.D. dependent var		1707.638
S.E. of regression	1209.456	Akaike info criterion		17.33988
Sum squared resid	19016203	Schwarz criterion		18.01179
Log likelihood	-220.0884	Hannan-Quinn criter.		17.53967
F-statistic	2.986954	Durbin-Watson stat		1.870230
Prob(F-statistic)	0.029327			

Source: Econometric Views Version 9.0 Output (2020)

The error correction term (ECM) result above met the required criteria since it reported a negative (-0.331140). Again, the result further reported a statistically significant between financial sector development and economic growth in Nigeria. This indicates that all the variables converge after short run disequilibrium. The result further indicates that 33% of past deviation is corrected in the current period.

Table 4.7: Ordinary Least Square Regression Output

Dependent Variable: LOG__RGDP_				
Method: Least Squares				
Date: 06/07/20 Time: 21:03				
Sample: 1989 2018				
Included observations: 30				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.542137	0.190935	44.73853	0.0000
BSC_GDP	-0.011491	0.006257	-1.836550	0.0787
SMC_GDP	0.451707	0.053881	8.383398	0.0000
BMS_GDP	0.033438	0.020588	1.624158	0.1174
TIY_GDP	-0.131394	0.058955	-2.228717	0.0355
PSC_GDP	0.256987	0.186420	1.378539	0.1808
R-squared	0.958803	Mean dependent var		10.44671
Adjusted R-squared	0.950221	S.D. dependent var		0.503184
S.E. of regression	0.112267	Akaike info criterion		-1.359020
Sum squared resid	0.302492	Schwarz criterion		-1.078780
Log likelihood	26.38530	Hannan-Quinn criter.		-1.269369
F-statistic	111.7142	Durbin-Watson stat		1.719209
Prob(F-statistic)	0.000000			

Source: Econometric Views Version 9.0 Output (2020)

The OLS regression output appears robust and fit for policy formulation as indicated by Durbin- R-squared, Adjusted R-squared, F-statistic value, and the Durbin-Watson statistics value. The coefficient of determination which is measured as R-square is found to be very high (0.958803) indicating a very high explanatory power. The R-square revealed that the explanatory power jointly explains 96% variations in the dependent variable (RGDP) while the remaining 4% accounts for the stochastic (disturbance) term. The Adjusted R-square also indicates a very high explanatory power. The F-statistics shows that the relationship between the dependent variable and independent variable is linear therefore one can proceed with using the OLS technique since one basic assumption of the classical OLS is that the relationship must be linear. The Statistics is reported to be high and its probability value within acceptable level of significance, therefore the relationship between variables can be considered to be linear. Diagnostic also indicates the absence of serial-autocorrelation as reported by the Durbin Watson statistics (1.7). Given that our model passes the diagnostic test we can now proceed to interpret the individual relationship between variables under study.

Away further, the constant term denoted by C in table 4.7 above reported a positive beta coefficient value and significant p-value. This implies that, if all the independent variables are held constant, the dependent variable would be 8.542137. Again, various interesting transmission patterns are found between financial sector development indicators and economic growth. All financial development indicators are found to have a positive relationship with economic growth except Total Insurance Income (% of GDP) and Banking Sector Credit (% of GDP). This is premised on the fact Stock Market Capitalization (% of GDP), Broad Money Supply (% of GDP), and Private Sector Credit (% of GDP) all reported positive beta coefficient value estimated at 0.0.451707, 0.033438, and 0.256987, respectively. To further substantiate this, their respective t-values estimated at 7. 8.383398, 1.624158, and 1.378539 were also positive.

Discussion of Research Findings and Policy Implication
The study examined the short-run and long-run relationship between the financial sector development and economic growth in Nigeria. Specifically, five (5) hypotheses were

postulated in the earlier section. The first hypothesis states that, banking sector credit (% of GDP) does not have significant effect on economic growth of Nigeria. Accordingly, the OLS result reaffirmed that, there is no need to reject the first null hypothesis. This is because banking sector credit (% of GDP) has low t-statistics of -1.836550 and a p-value that is higher than 5% significant level but less than 95% confidence level. On the other hand, the result also reported a negative beta coefficient value of -0.011491. The negative result therefore connotes that, a unit increase in banking sector credit (% of GDP) leads to a corresponding decrease in economic growth in Nigeria which conforms to the aprioiri expectation of this study. The policy implication here is that aggregate credit facilities given to different sectors of the country over the years were did not contribute meaningfully to the Nigerian economy. This finding further supports the findings of Agbo, & Nwankwo (2018), Zhao (2017), Medjahed and Gherbi (2016) but contradicts the findings of Mohammed (2017), Yeboah and Oppong (2017), Prochniak and Wasiak (2017).

Again, the OLS result refuted the submissions of the second null hypothesis but accepted the submissions of the alternative hypothesis instead. This is because the ratio of Stock Market Capitalization (% of GDP) exerts positive significant effect on economic growth which confirm to the aprioiri expectation of this study since it has a positive beta coefficient value of 0.451707 and positive t-statistics value of 8.383398. This connotes that, 1% increase in market capitalization will increase economic growth by 0.451707 (i.e.45.17%). Put differently, 1% decrease in stock market capitalization (% of GDP) will decrease economic growth by 0.451707 (i.e.45.17%). This is an indication that activities in the stock market subsector stimulate growth in the Nigerian economy. As such, regulatory agencies should put in place sound institutional framework put up policy measures that stem investors' confidence while emphasizing investors' sustainability needs. This is result is in line with the results of Ogwumike and Salisu (2018), Ngogang (2015), Garba (2014), & Ugbaje, and Ugbaje (2014).

In another light, the OLS result reaffirmed that, there is need to reject the third null hypothesis. This is because the broad money supply (% of GDP) exerted negative and insignificant impact on the Nigerian economy given its t-value of -1.836550 with the probability of 0.0787 which is greater than 5% (0.05) level. This suggests that though the level of financial intermediation has impacted positively on the Nigerian economy yet its effect on the Nigerian economy is not statistically significant as such has not contributed meaningfully to Nigeria. However, it has would contribute meaningfully to the Nigerian economy in the near future if there is efficient policy in place that supports this claim. The positive result is in line with the aprioiri expectation of this study. To further buttress, Puatwoe and Piabuo (2017), Ofri-Apah (2016) and Osuji (2015) discovered same result. The reason behind the direct result is not unbelievable in that, lower borrowing cost is likely to encourage some desired level of credit growth which in turn boosts investment activities. Even though this action may be inflationary at the initial stage, but it would be beneficial in the near future.

In another light, the OLS result refuted the submissions of the fourth null hypothesis but accepted the submissions of the alternative hypothesis instead. This is because of total insurance income (% of GDP) had negatively significant given its t-value of -2.228717 and its probability value of 0.0355 which is less than 5% (0.05). The negative sign contradicts the theoretical expectation of this study. This is an indication that activities in the insurance subsector stimulate growth in the Nigerian economy negatively such that increase in the insurance sub-sector's development leads to a corresponding significant effect on the growth

of the Nigerian economy. This result further conforms to the findings of Oladele and Uzoma (2018) but contradict the findings of Etale (2019), Fadun and Shoyemi (2018) Fashagba (2018), and Ouedraogo, Guerineau and Sawadogo (2018).

Lastly, the OLS result reaffirmed the submissions of the fifth null hypothesis but rejected the submissions of the alternative hypothesis. This is because the the result revealed that a percentage (%) rise in private sector credit (% of GDP) resulted in 0.256987 increases in the Nigerian economy. The positive sign confirms the a priori expectation of the study. In addition, it has a p-value of 0.1808 which is greater than 5% significant level which is less than 95% confidence level. This means that private sector credit ratio to GDP has an insignificant effect on the Nigerian economy. This means that, though Private Sector Credit ratio to GDP contributes to the Nigerian economy but it is not significant. This is because the private sector is weak and lack human capital to meet the yearning demands of banking industry. The implication of this result is that the bank must make sure that bank loans are available to domestic industrial investors at an affordable lending rate. This finding further supports the works of Agbo, & Nwankwo (2018) and Ebiringa and Duruibe (2015) but contradict the findings of Effiong (2016), Osisanwo (2017) &Mba (2015).

Post-Diagnostic Test

This section further tests if the series are Homoscedastic (equal mean and variance), and stable. The essence of this is to reaffirms the classical assumptions of OLS. The results are presented in table 4.8 and figure 4.1and 4.2 below:

Table 4.8: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.272493	Prob. F (5,24)	0.3080
Obs*R-squared	6.286509	Prob. Chi-Square (5)	0.2793
Scaled explained SS	2.532593	Prob. Chi-Square (5)	0.7716

Source: Econometric Views Version 9.0 Output (2020)

The heteroscedasticity test above revealed that, the model is homoskedasticity since the p-value of the f-statistics of the Heteroskedasticity test is more than 5% significant level. Hence, this result can be relied upon for prediction.

Figure 4.1: Normality Test: CUSUM of Squares Test
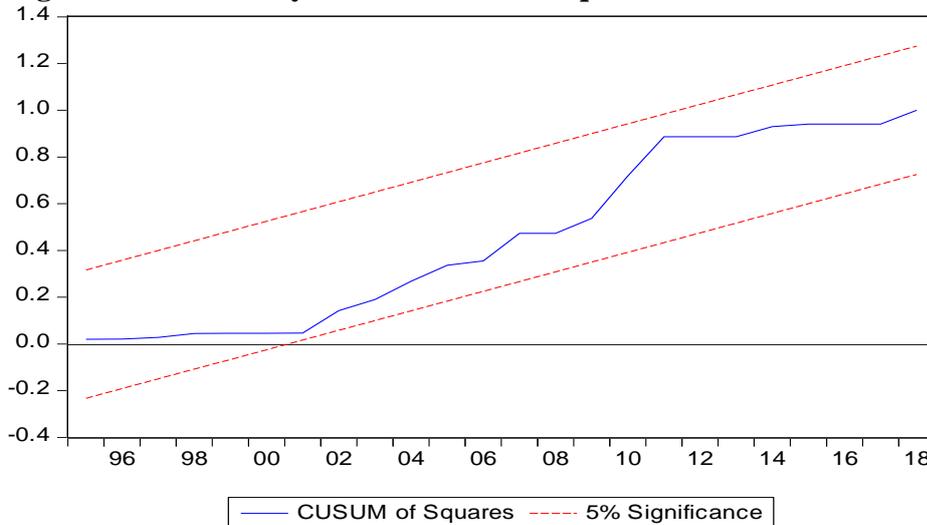
Source: Econometric Views Version 9.0 Output (2020)

From the above, it is found that the CUSUM of Squares line fell within the significance level and therefore we can conclude that the overall estimation is significant and thus we can rely on the accuracy of the estimates.

Summary, Conclusions and Recommendations
In time past, some scholars have argued that countries with organized financial markets tend to foster economic growth more than other countries with more developed financial institutions. To this end, this study was therefore carried out to ascertain if financial sector development has affected the growth of the Nigerian economy from 1989 to 2018 with a view to contribute to existing knowledge and suggestions that would enhance economic development of Nigeria. Specifically, five (5) researcher hypotheses were formulated and then tested. Meanwhile, the preliminary test reported that all the data series are stationary at first difference based on the ADF test output; are co-integrated based on the Johassen cointegration test output while the pairwise granger causality test reported that, uni-directional relationship runs through only banking sector credit (% of GDP) and economic growth proxy (RGDP); economic growth and Broad Money Supply (% of GDP), and economic growth and private sector credit (% of GDP) while the rest reported no granger-causal relationship. Apparently, the ECM result reported that the model is rightly signed signposting that all variables converge after short run disequilibrium while the OLS regression output appears robust and fit for policy formulation as indicated by Durbin- R-squared, Adjusted R-squared, F-statistic value, and the Durbin-Watson statistics value. The post-diagnostic test also affirmed these assertions. Thus, the study therefore concludes that to achieve a steady economic growth, the financial intermediation should be strengthened through expansion in the stock market, increase in broad money supply, and improvement in the insurance sector. In the same wise, the loans given to different sectors should be re-examined as well. Thus, the objectives of regulatory policies of government should be such that enhances and encourage financial sector development.

The following recommendations are therefore, made for policy purpose:
1. The Nigerian government should continue with her expansionary monetary policy by further increasing the level of money supply. If the increased money supply is used efficiently, it will help to ensure that the desired level of economic growth is achieved.
2. Nigerian government should consider encouraging public sectors first rather than give undue attention to the private sector since it has impacted negatively and insignificantly on Nigeria's economic growth during the period of this study.
3. Banking Sector Credit given to different sectors should be managed with caution as their wrong or reckless handling might engender 'wrong signs' which can elicit some negative effect on economic growth.
4. The federal government should re-examine the activities of the insurance sub-sector since it has been found to have detrimental effect on the Nigerian economy.
5. Regulatory authorities should improve the accessibility of affordable credit by the private sector, including small and medium scale enterprises should be enforced since the ratio of private sector to GDP was found to have positive effect on the Nigerian economy though not significant.

Suggestion for Further Studies
1. Further research should be carried out on this topic by introducing other relevant explanatory variables like size and liquidity of the financial sector for the purpose of generalization.
2. In addition, investigation should be carried out to unravel the reasons why some of the variables introduced in this study have negative effect on economic growth and produce 'wrong signs'.

Contribution to Knowledge
1. This study contributed immensely to existing studies in the field of finance.
2. The study tried to answer various contradictory issues which revolve around the subject matter.
3. The study provided a more robust, comprehensive, and timely findings that subsequent studies.

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