



Research Paper

## Financial Sector Development and Economic Growth in Nigeria: A Test of the Hugh's Hypothesis

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**Abstract:** This work aimed at determining the particular theorization of finance-growth relation in Nigeria used annual time series data from 1980 to 2018 to test the Hugh's Hypothesis. The proxies used include real GDP, the sum of the ratios of M2/GDP and CPS/GDP to capture Financial Sector Development, the growth rate of Money Supply, Credit to Private Sector, Domestic Savings, Trade Openness and Inflation. Stationarity tests were conducted using the Augmented Dicker Fuller (ADF) and Phillips-Perron test statistic. The Autoregressive Distributed Lag (ARDL) and Bounds test for co-integration was conducted. The Granger Causality technique was employed to test the Hugh's Hypothesis. The findings reveal that economic growth granger causes financial sector development. This agrees with the Demand Following Theory. Trade openness had a negative impact on financial sector development during the period of the study. Inflation had a negative impact on financial sector development in line with apriori expectation. It is recommended that trade policies take into account the economic volatility of the nation's resources and that monetary policy makers ensure all stakeholders adhere strictly to laid down goals to guarantee financial development. Government should implement policies that promote investment and economic growth which will result in financial sector development.

**Key Words:** Financial Sector Development, Hugh's Hypothesis, Trade Openness.

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### I. INTRODUCTION

There is a prevailing consensus among scholars that the attainment of sustainable economic growth and development in any economy depends among other factors on the existence of a well-developed, vibrant and functional financial sector. Also, there is a growing agreement among scholars that the growth and development of the financial system, upon which economic prosperity depends, is itself dependent on the degree of financial deepening and inclusion (financial sector development). As noted by Marashdeh and Al-Malkawi [27], one of the key ways of achieving sustained growth in the macro economy is through enhanced financial deepening and inclusion. This idea of financial development causing economic growth (supply leading hypothesis) is being alluded to by various scholars [1] and [20]. There are other studies that have claimed that economic growth promotes financial development-demand following hypothesis (Audu and Okumoku, 2013; Saboo, 2014). Other studies however are indifferent suggesting a bi-directional causality among the two concepts. And still, the neutral hypothesis is also recognized in various studies on this subject where findings result in no causal relationship between the two concepts [21] and [43].

Over the years, policymakers have promulgated policies that tend to support either the demand following hypothesis of financial development or the supply leading hypothesis. The aim is to meet monetary policy goals of economic growth and financial sector development amongst others. For instance, in 2005, the apex bank, the Central Bank of Nigeria (CBN) launched the Microfinance Policy, Regulatory and Supervisory Framework (MPSRF) for Nigeria. The MPSRF was birthed and inspired on the proposition that to truly enhance and promote financial sector development in Nigeria, it is imperative to extend beyond the formal/urban population to reach out to the growing informal/rural sector in the country. The introduction and implementation of this policy was to enhance the growth of microfinance institutions as a channel of reaching out to the teeming population in rural areas with a view to promoting financial inclusion and concomitant economic growth in Nigeria. The implementation of the MPSRF has resulted in the proliferation of microfinance banks in recent years. For instance, prior to 1992, there were only 334 microfinance institutions and 725 in 2005 (CBN, 2005). However, after the introduction and implementation of the MPSRF, microfinance institutions soared to 801 in

2010 and 883 in 2012. By 2014, the number of microfinance institutions had risen to 891 [4]. As at 2018, there were more than 1003 microfinance institutions in Nigeria. Credit accessibility and availability to private sector has also increased to an all-time peak of more than 214 billion naira in 2018 [7]. It is believed that this huge amount if channeled into productive ventures will promote economic growth.

International trade is referred to as an engine of growth in the literature. Nigeria is an open economy that is involved in foreign trade relations both with developed and developing countries. Hence, the development of the financial sector is crucial to achieving ease of payments and other transactions amongst nations. Over the years, the Nigerian economy has had pro-liberal trade policies and has entered into international trade relations with other nations with a view to enhancing economic growth and financial development in the country. For this to be achieved however, the money and capital markets must be well-developed to enhance international financial transactions. Various authors have alluded to the positive impact of trade relations amongst developed nations. Many studies have concluded that trade liberalization (trade openness) is essential to economic growth and financial development [40] and [22]. Most of these studies use cross-sectional data among countries to draw this conclusion. Other works with specific reference to developing economies such as Nigeria have been contradictory. Some agree that trade openness promotes economic and financial sector development [2] and [14]. However, the effect of trade openness on the economic growth and financial development of developing countries is still debatable as a result of differing findings on the subject. Some studies reveal a negative relationship among the variables-trade openness, economic growth and financial development in developing countries including Nigeria [17] and [13]. Yet, other studies claim no relationship exists among these variables [11]. Based on the differing views above, one would expect that trade openness as theorized would through the necessary transmission mechanisms launch a developing economy onto the path of sustained economic and financial sector development. Sadly, this is not the case in most developing economies of which Nigeria is one. Studies have shown that Nigeria's foreign trade relations tend to be inimical to the country. Although Nigeria's trade volume has increased over the years, there is no corresponding upsurge in economic growth and financial sector development [23].

In view of the foregoing, there is need to examine and investigate the financial development-economic growth-trade openness nexus in the Nigerian economy and the causal relationship among the variables. What is the true and applicable finance-growth theorization in Nigeria? Does the Hugh's hypothesis work for Nigeria? What impact do monetary policy reforms such as enhancing/facilitating credit to private sector, price stability (inflation control) have on financial sector development? What is the relationship (short-run and long-run), if any, between financial sector development and economic growth in Nigeria? This study is divided into five (5) sections beginning with the introduction, section two deals with the review of related literature, section three focuses on the methodology and analytical tools for the study, section four deals with the presentation and interpretation of findings while section five focuses on the conclusion and recommendations.

## **II. REVIEW OF RELATED LITERATURE**

### **2.1.1 Theoretical framework**

The theoretical exposition for this work focuses on four major theories of financial development. They are: The Financial Repression Hypothesis, the Demand Following and Supply Leading Hypothesis (the Hugh's Hypothesis), the Structuralist Hypothesis and the Neutral Hypothesis. These theories embrace both the Classical and Keynesian views depending on their conceptualization and applicability to real life situations.

### **2.1.2 The Financial Repression Hypothesis**

This hypothesis was postulated by Mckinnon [28] and Shaw [41] in their works "Money and Capital Development" and "Financial Deepening in Economic Development" respectively. The core view of this hypothesis is the belief that "financial repression" which is analyzed as a substantial barrier to economic growth and development is caused by government involvement in financial activities such as pricing and allocation of loanable funds. This involvement is said to impede financial deepening by repressing interest rates and other substantial incentives offered in a free market economy. The theory opines that the financial market is driven by the forces of demand and supply effectively and efficiently, therefore, any involvement of the government tends to repress rather than improve financial deepening and economic progress. Barr [3] summarized the core reasons government should not be involved in the financial market based on the Mckinnon-Shaw hypothesis to include the fact that "through government policies like interest rate ceilings, capital flows, entry restrictions in the financial sector, public ownership of financial institutions, mandated credit allocation and so on, there is "financial repression" in developing countries and these constrain financial institutions from performing the intermediary function well and capital is not allocated efficiently." In view of this, Mckinnon and Shaw and other proponents of this view argue that to achieve financial sector development, the economy must operate based on the basic competitive model, and that financial deepening will only be achieved through adherence to

free market principles in the financial sector through the policy vehicle of financial liberalization. The above highlights a classical viewpoint.

### **2.1.3 The Structuralist Hypothesis**

This hypothesis was put forward by Alexander Gerschenkron in 1962 in his famous work, "Economic Backwardness in Historical Perspective." The thrust of this hypothesis is the belief that the performance of the financial system is dependent on the structures of the economy. The view is that the role of the financial system in economic progress depends on the particular stage of development of a country. Gerschenkron [15] defined three stages of growth of economies: the advanced, the moderately backward and the backward economies. He argued that the efficiency of the financial sector is determined by the state of an economy using the industrialization process of Britain, Germany and Russia in particular. Summarizing the cardinal ideas of the hypothesis, Eschenbach [12], stated that the most advanced economy (in this case, Britain) did not need an active financial sector because investment was small scale and needed little capital and specialized entrepreneurship. The moderately backward economy (in this case, Germany) will rely on the financial sector to provide both capital and entrepreneurship to drive the process of industrialization. Lastly, the backward economy (in this case, Russia) relied heavily on the financial sector for the provision of capital, the requisite financial services and specialized entrepreneurship. To achieve economic progress in a backward economy, [15] argued that the financial sector alone cannot meet this need; government intervention is *sine qua non*. The hypothesis is based on the historical perspective during the early stages of development in Europe. According to Barr [3], the Structuralist Hypothesis is typical of developing countries' economies including Nigeria.

### **2.1.4 The Hugh's Hypothesis**

The Demand Following and Supply-Leading Hypothesis was propounded by Hugh Patrick in 1966 in his work, "Financial Development and Economic Growth in Underdeveloped Countries [37]." According to Hugh (1966), there exists a bi-directional causality between financial sector development and economic growth. The process by which growth and development of the financial sector necessitates growth of the economy is referred to as the Supply-Leading (finance-led growth) hypothesis. According to Ndlovu [30], the hypothesis asserts that financial sector development has a positive effect on economic growth, therefore the effect runs from financial sector development to economic growth and it is caused by an improvement in the efficiency of capital accumulation or an increase in the rate of savings as well as the rate of investment. On the other hand, if the growth of the real sector necessitates the growth and development of the financial sector, the process is referred to as the Demand Following Hypothesis. The view is that financial sector development responds to changes in the real sector.

The Keynesians assert that financial deepening occurs due to an expansion in government expenditure. In order to reach full employment, the government injects money into the economy by increasing its expenditure which increases aggregate demand, and this in turn necessitates the demand for financial services. Thus, in this view, it is the improvements in the economy that drive higher demand for the use of money, which consequently promotes financial sector development. In other words, financial markets develop and progress as a result of increased demand for their services from the growing real sector. In this particular hypothesis, the causal relationship runs from economic growth to financial sector development, that is, an increase in economic growth causes a rise in demand for financial services and this result in the expansion of the financial sector. The summary is this: the development of the financial sector can depend on the growth of the real sector and vice versa. It is also established that the relationship is bi-directional and the strength of dominance of one above the other depend on the evolving stage of development of the society.

### **2.1.5 The Neutral Hypothesis**

On the other hand, empirical works which support a neutral position in the finance-growth relation exist. The Neutral Hypothesis results from empirical analyses not capturing any relationship or causality between financial sector development and economic growth. Some of such studies resulting in the conclusion of no relationship between the variables include [11] and [44].

## **2.2 Empirical Literature**

This section focuses on empirical studies on financial sector development together with the relationship amongst financial sector development and economic growth in Nigeria. This brief review of some empirical studies will document the different findings based on data.

Dudley and Karski [11] investigated whether the degree of openness and financial development affect economic growth using panel regression during a period of 20 years from 1969 – 1989 for ten developing countries. Their results showed that in 3 of the 10 countries, the degree of openness/financial development had a positive effect, on another 3 it had a negative effect and had no effect on the remaining 4. Kingsley and Peter

[23] in their work examined the impact of trade openness on Nigeria's long-run growth using the co-integration approach analysis. Using Johanson co-integration technique to test for the number of co-integrating relationship between LR GDP and LOPEN, they concluded that there is no significant relationship between openness and economic growth, and that unbridled openness could have deleterious consequences on the growth of local industries, the real sector (goods and services sector) and even government revenue.

Yanikkaya [44] also tested the relationship between trade openness and economic growth of over 100 developed and developing countries using panel data from 1970 to 1997. The results show trade openness does not have a simple/straightforward relationship with economic growth. Further, the results show that trade barriers were positively and, in most specifications, significantly associated with economic growth, particularly for developing countries and they were not consistent with the findings of theoretical economic growth. The study concluded that as opposed to theory, trade openness tends to be inimical to developing countries.

Nzotta and Okereke [32] embarked upon a study of the relationship between financial deepening and economic growth in Nigeria using time series data for a 21-year period from 1986 to 2007. The Two Stage Least Squares (2SLS) analytical framework was employed in the study. Eight variables were used: financial deepening (M2/GDP), Financial Savings/GDP ratio (FS/DGP), Private Sector Credit/GDP (PSC/GDP), and value of Checks Cleared to GDP ratio (CHQ/GDP), value of Checks Cleared to Money Supply (CHQ/MS2), the Rate of Inflation (INFLA), Prime lending rates (P LRA), and the intermediation ratio. It was found that the financial system had not sustained an effective financial intermediation, especially credit allocation and a high level of monetization of the economy and thus, financial deepening has remained low in Nigeria over the years. This finding tends to corroborate the Neutral Hypothesis theory of the relationship between financial development and economic growth.

Adelakun [1] also empirically examined the relationship between financial sector development and economic growth using the annual growth of gross domestic product (GY), real interest rate (R), the ratio of gross domestic savings to GDP (S), the ratio of domestic credit to private sector to GDP (P), ratio of liquidity liabilities to GDP (M), the ratio of gross fixed capital formation to GDP (I), and trade openness (T). The perceived relationship between financial development and economic growth was estimated using the Ordinary Least Squares Estimation Method (OLSEM). The results showed that there is a substantial positive effect of financial sector development on economic growth in Nigeria. The Granger causality test showed that financial development promotes economic growth, but there is evidence of causality from economic growth to the development of financial intermediaries. This finding tends to allude to the bi-directional causality between financial development and economic growth.

In a related study, Osuji and Chigbu [35] investigated the impact of financial sector development variables on economic growth in Nigeria using three variables: gross domestic product (GDP), money supply (M2), and credit to the private sector (CPS). Granger causality testing and the Error Correction Method (ECM) were employed on time series data from 1960 to 2008 and the results revealed that Money Supply (MS) and Credit to Private Sector (CPS) are positively related to economic growth of Nigeria. The Johansen and Granger tests show that Money Supply and Credit to private Sector (CPS) are co-integrated with GDP in Nigeria within the study period and the Granger tests indicated that all the exogenous variables Granger-cause GDP and GDP Granger-causes other variables in Nigeria. The finding here supports the bi-directional causality between the variables.

Chimobi [8] investigated the causal relationship among financial sector development, trade openness and economic growth in Nigeria and discovered that trade openness and financial developments have causal impact on economic growth in Nigeria. Conversely, growth has causal impact on trade and financial development, implying support for growth-led trade but no support for trade-led growth. This too is strictly not consistent with theory.

Odeniran and Udejaja [33] empirically examined the financial sector development-economic growth nexus in Nigeria using data from 1980 to 2009. The study employed the Co-integration/Error Correction Model (ECM); five variables, namely ratios of broad money stock to GDP, private sector credit to GDP, market capitalization-GDP, banks deposit liability to GDP, and Prime interest rate were used to proxy financial sector development and real gross domestic product growth was used to proxy economic growth. The empirical results showed that there was a positive effect of financial sector development on economic growth. The study recommended that to sustain and enhance the existing relationship between financial sector development and economic growth in Nigeria, there is a need to adequately deepen the financial system through innovation, adequate and effective regulation and supervision, a sound and efficient legal system, efficient mobilization of funds, and making such funds available for productive investment and improved services.

In another study, Marshdeh and Al-Malkawi [27] investigated the relationship between financial deepening and economic growth in Saudi Arabia using time series data from 1970 to 2009. The study employed the Autoregressive Distributed Lag (ARDL) approach for co-integration analysis. The result showed a positive



relationship between financial deepening as measured by the monetization ratio (M2/GDP) and economic growth as measured by GDP per capita growth. There was no evidence of short run dynamic bidirectional relationship between the variables. This result supported the Supply-Leading hypothesis that financial deepening spurs economic growth in Saudi Arabia.

In a related study, Onuonga [34] investigated the empirical relationship between economic growth and financial development in Kenya using data from 1980-2011. The long run and the short run parameters were estimated using the Autoregressive Distributed Lag (ARDL) approach for testing co-integration analysis. The direction of causality was obtained using the Granger Causality analysis. It was discovered that there exists a stable long run relationship among financial development, trade openness and economic growth in Kenya and that there exists a positive relationship between financial development and economic growth. In another study, Osuji [36] examined the causal relationship financial development and economic growth in Nigeria from 1960-2014 using dynamic time series model. The Vector Error Correction Model (VECM) and the Granger Causality test were employed and four different measures of financial development were used. These were ratio of broad money supply to income, the ratio of total bank deposit liabilities to nominal GDP, the ratio of private sector credit to GDP and the ratio of domestic/bank credit to GDP. The empirical findings revealed that there exists a stable positive long run relationship between financial development and economic growth.

It is clear from the foregoing literature on financial sector development, economic growth and trade openness that there are varying empirical results concerning their relationship and their impacts. Some findings show that there exists a positive correlation between financial sector development (financial deepening and inclusion) and economic growth both in the short run and in the long run. Some findings show a negative relationship while others reveal no relationship at all. Empirical findings also show that trade openness, financial sector development and economic growth have differing effects on general economic performance - positive, negative or neutral. This is verified by the empirical studies discussed in this section. The issue of causality is still debatable. The financial sector development and economic growth nexus based on empirical findings are also different depending on the methodologies and proxies used as explanatory variables for the measurement of the dependent variable. Hence the relationship that exists (if any) between financial sector development and economic growth has remained inconclusive based on empirical data analyzed by various authors. However, from the literature review and to the best of our knowledge there still exist a wide gap in the study of the relationship between financial sector development (financial deepening and inclusion) and economic growth. To aid successful monetary policy formulation and implementation, there is need to examine and ascertain financial sector development theorization using Hugh's hypothesis by employing causality techniques. There is also need to investigate the effects of trade openness and economic growth on financial sector development in Nigeria. These are the goals of this study.

### **III. RESEARCH METHODS**

#### **3.1 Basic Research Design**

The study employed statistical and econometric techniques in estimating the relationship existing among financial sector development, trade openness and economic growth nexus in Nigeria. The study seeks to examine the particular theorization of the finance-growth relation in Nigeria. The Augmented Dicker Fuller (ADF) and the Phillips Perron (PP) tests were adopted to test for non-stationarity in the time series data used in the analysis. This helps to eliminate the chances of having a spurious regression which results when time series data do not exhibit stationarity over time, (Koutsoyiannis, 2001). Based on the stationarity results, the ARDL model was used and the long-run Bounds Test was conducted to ascertain if there is any co-integration among the variables in the model. The Bounds test is more effective to detect any co-integration among variables with differences in stationarity results, especially those integrated at level  $I(0)$  and first difference  $I(1)$ . The Granger Causality test was done to ascertain the direction of causality between the dependent and independent variable in the model with a view to specifying the correct theorization of the Financial Sector Development in Nigeria. The analytical methodology used is the Ordinary Least Squares (OLS) estimation technique to estimate the annual time series data on macroeconomic variables captured in the model below with a view to examining the nature of correlation among the variables and their individual effects.

#### **3.2 Model Specification**

The empirical model for this study is based on the classical theoretical underpinnings of authors such as McKinnon and Shaw [28] and a modification of the model used by Jin [21] and Yanikkaya [44] to estimate the impact of trade openness and economic growth on financial sector development in South Africa. The following proxies were adopted: Money Supply (MS) growth rate (in %), Credit to Private Sector (CPS) (% of GDP), Savings (SAV) growth rate, Real GDP (RGDP) growth rate, Inflation rate (INF), and the sum of the ratios of exports and imports for Trade Openness (OPN). The model is represented below:

$$FD = f(RGDP, MS, SAV, CPS, INF, OPN) \dots\dots\dots (1)$$

Where:

- FD = financial sector development (sum of CPS/GDP and MS/GDP)
- CPS = credit to private sector (% of GDP)
- SAV = domestic savings growth rate
- RGDP = real gross domestic product in Nigeria growth rate
- INF = inflation rate in Nigeria
- MS = broad money supply growth rate
- OPN = trade openness, measured by sum of imports/GDP + exports/GDP

The econometric model is specified in the equation below:

$$FD = \beta_0 + \beta_1RGDP_t + \beta_2CPS_t + \beta_3OPN_t + \beta_4SAV_t + \beta_5MS_t + \beta_6INF_t + U_t\dots\dots\dots (2)$$

The theoretical expectations about the coefficients of parameters are as follows:  
 $\beta_0 - \beta_5 > 0$  that is positive, while  $\beta_6 < 0$  that is expected to be negative. The values of the coefficient of the parameters in the model show that real GDP, Credit to Private Sector CPS, Trade Openness OPN, Domestic Savings SAV and Broad Money Supply MS should have a positive effect on Financial Sector Development FD; while Inflation INF should have a negative impact on Financial Sector Development FD.

One of the primary objectives of this study is to test the Hugh's hypothesis in order to ascertain its relevance in the Nigerian economy. The Granger Causality is modelled to test Hugh's Hypothesis below using the variables for this study.

$$FD_t = \sum_{t=1}^n \beta_1 FD_{t-1} + \sum_{t=1}^n \beta_2 RGDP_{t-1} + \mu_t \dots\dots\dots (3)$$

$$RGDP_t = \sum_{t=1}^n \beta_1 RGDP_{t-1} + \sum_{t=1}^n \beta_2 FD_{t-1} + \mu_t \dots\dots\dots (4)$$

Where

- $FD_t$  = Financial Sector Development at time t
- $RGDP_t$  = growth rate of real GDP at time t
- $FD_{t-1}$  = Lagged Value of Financial Sector Development
- $RGDP_{t-1}$  = Lagged of real GDP

#### IV. DISCUSSION OF EMPIRICAL RESULTS

The first step in estimating the model in Equation (2) was to conduct stationarity tests for all the variables in the model to ensure that they are either integrated at order one or at first difference or both. This is because the ADRL procedure for co-integration is valid for a mixture of I(0) and I(1) thus, the test statistic will be invalid if variables are integrated at second difference [38]. To ascertain the suitability of the variables for the model, a stationarity test was carried out using the Augmented Dicker Fuller test with Akaike Info Criterion (AIC) and the Phillip-Perron (PP) test statistic. The results reveal that the variables for this study are all integrated at I(0) and I(1) and therefore suitable for the analysis. The results are shown in the tables below.

**Table 1 Unit Root Test: Augmented Dicker Fuller (ADF) Test**

Variables	Coefficient	Std. Error	t-Statistic	Prob.
SAV(-1)	-0.728183	0.163659	-4.449406	0.0001
D(OPN(-1))	-1.397296	0.158089	-8.838662	0.0000
MS(-1)	-0.460289	0.146791	-3.135678	0.0035
INF(-1)	-0.513358	0.147606	-3.477894	0.0015
D(GDP(-1))	-1.124306	0.158656	-7.086437	0.0000
D(FD(-1))	-0.824232	0.171501	-4.805991	0.0000
CPS(-1)	-0.476156	0.143948	-3.307833	0.0023

**Table 1.1 Unit Root Test: Phillips-Perron Test**

Variables	Coefficient	Std. Error	t-Statistic	Prob.
D(OPN(-1))	-1.397296	0.158089	-8.838662	0.0000
SAV(-1)	-0.728183	0.163659	-4.449406	0.0001
MS(-1)	-0.460289	0.146791	-3.135678	0.0035
INF(-1)	-0.393617	0.136561	-2.882341	0.0068
D(GDP(-1))	-1.124306	0.158656	-7.086437	0.0000
D(FD(-1))	-0.824232	0.171501	-4.805991	0.0000
CPS(-1)	-0.366617	0.132745	-2.761802	0.0092

*Author's computation using Eviews 10*

From the tables above, the stationarity of the variables in the model has been established based on the significant t-statistics critical values and p-values of less than 0.05 in each case. Based on the results of both the ADF and PP tests we can see that three (3) of the variables- OPN, GDP, and FD are integrated of order one I(1) - while SAV, MS, and INF are integrated at level. The results show that the variables are fit for the analysis.

The next step was to estimate the ARDL and the Bounds test, and then using the F-statistic to estimate if there exists a long-run relationship between the variables. The decision rule is to reject the null hypothesis of no co-integration if the calculated F-statistic is lower than the I(0) and I(1) bound in the Bounds tests result for co-integration. The opposite is the case if the F-statistic is higher than the I(0) and I(1) bound in the result. The ARDL and Bounds test were necessary for this study because the variables are integrated of order zero and at first difference [39]. The test will help to find an empirical answer to the question: What is the relationship (short-run and long-run), if any, among the variables – financial sector development, economic growth and trade openness and other variables in the model? Below is the result of the Bounds test for long-run co-integration.

Sample: 5 38  
 Included observations: 35  
 Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	0.539355	6

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.12	3.23
5%	2.45	3.61
2.5%	2.75	3.99
1%	3.15	4.43

*Author's computation using Eviews 2018*

**Author's computation using Eviews10**

Based on the decision rule of rejecting the null hypothesis of no co-integration if the F-statistic is higher than the I(0) or I(1) bound, from the finding we accept the null hypothesis that there exist no long-run relationship between financial sector development, economic growth and trade openness in Nigeria based on data. This finding is in line with other empirical studies such as those of [23] and [8]. We proceed further to conduct the Granger Causality test to determine the causal relationship among the variables in the model with a view to identifying the true financial sector theorization that holds sway in the Nigerian economy. The result for the Pairwise Granger Causality Test is depicted below:

**Table 4**

**Pairwise Granger Causality Tests**

Sample: 1 38  
 Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.
GDP does not Granger Cause FD FD does not Granger Cause GDP	36	3.56117 1.68905	0.0080 0.2027
OPN does not Granger Cause FD FD does not Granger Cause OPN	36	0.01152 1.18499	0.9152 0.2842
OPN does not Granger Cause GDP GDP does not Granger Cause OPN	36	1.25408 0.72424	0.2709 0.4009

*Author's computation using Eviews 10*

The decision rule is to reject the null hypothesis if the F-statistic is higher than the critical value and vice versa. Based on this rule we can safely conclude that in the short-run economic growth (GDP) granger causes financial development (FD). This agrees with the demand following hypothesis of financial development where economic growth causes financial sector development. The direction of causality is unidirectional from GDP to FD. The result shows that financial sector development does not granger causes economic growth. This finding answers the question: What is the true and applicable finance-growth theorization in Nigeria? The finding shows that it is the Demand Following Hypothesis. The results also show that neither trade openness nor financial development granger causes each other. Neither economic growth nor trade openness granger causes



each other. These findings corroborate the empirical works of Dudley and Karski [11], Jin [21], and Sinha and Sinha, [43].

The OLS model was used to analyze the relationship that exists between the dependent variable and the explanatory variable. The question to be answered is: What impact does monetary policy reforms such as enhancing/facilitating credit to private sector, price stability (inflation) have on financial sector development? The result of the OLS estimate is below:

**Table 5**

Dependent Variable: FD  
Method: Least Squares

Sample: 1 38  
Included observations: 38

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.15527	4.347111	3.946361	0.0004
RGDP	3.88E-05	3.29E-06	11.79850	0.0000
OPN	-0.199244	0.050600	-3.937629	0.0005
CPS	0.085033	0.137860	0.616807	0.5420
SAV	0.031877	0.098089	0.324984	0.7474
INF	-0.074233	0.049186	-1.509243	0.1417
MS	0.101453	0.067347	1.506417	0.1424
R-squared	0.864353	Mean dependent var	26.78000	
Adjusted R-squared	0.837224	S.D. dependent var	10.71634	
S.E. of regression	4.323562	Akaike info criterion	5.934694	
Sum squared resid	560.7958	Schwarz criterion	6.239463	
Log likelihood	-102.7918	Hannan-Quinn criter.	6.042139	
F-statistic	31.86049	Durbin-Watson stat	1.306189	
Prob(F-statistic)	0.000000			

**Author's computation using Eviews 10**

The result in the table shows a positive intercept of 17.155 suggesting that if all the explanatory variables are held constant there will be an increase in financial sector development by 17.12%. Based on the theoretical expectations outlined in section three (3), the coefficient of economic growth (RGDP) is positive (that is 3.88) suggesting that all things being equal, a 1% increase in economic growth (RGDP) will result in a 3.88% increase in financial deepening and inclusion (financial sector development). This shows a positive influence between economic growth (RGDP) and financial sector development. This agrees with the empirical work of Osuji and Chigbu [35]. Credit to Private Sector (CPS), Savings (SAV) and Money Supply (MS) all agree to theoretical underpinnings of positive correlation between them and financial sector development. However, the percentages contribution of these variables-CPS, MS and SAV are rather low, that is 8% 10% and 3% respectively. This could be caused by the dearth of functional credit channel system and the use of credit for unproductive purposes. Poor implementation of monetary policy goals of financial inclusion could adversely affect the banking attitude of people especially in rural areas. This accounts for the insignificant effect of CPS to financial sector development.

Also bureaucratic bottlenecks and other obstacles ranging from corruption to insecurity could affect the accessibility of funds for investment purposes. In line with theoretical assumptions, inflation rate is negative with a coefficient of -0.07 suggesting that a 1% increase in inflation reduces the financial sector development indices by 7%. Inflationary pressure is deleterious to the economy and adversely affects financial development. Inflation which is the general rise in the price level could result in high cost of factor inputs and if firms could no longer maintain their workforce, unemployment ensues as a result of mass lay off of workers and thus reducing economic growth which in turn reduces the level of financial sector development. However, the contribution of trade openness (OPN) as seen in the correlation result defies the classical theoretical exposition that OPN has a positive impact on economic growth and financial sector development. From the table we see that the coefficient of trade openness (OPN) is -0.199, that's approximately -20%. This shows that a 1% increase in openness will result in about 20% decrease in the level of financial sector development. This is in

agreement with the work of Kingsley and Peter [23]. The reason for this is not farfetched. As agreed by various scholars, foreign trade between developed and developing countries tend to benefit the developed country the more. This could be as a result of low level of development, export of mainly raw materials by developing countries, poor level of technology and even exploitation by the superpowers. Most developing countries like Nigeria export mostly raw materials such as crude oil which costs as many times lower than the cost of importing the refined product as a result of the value-added. These and many other factors possibly accounts for the negative impact of trade openness on financial sector development. The correlation R-squared and the adjusted R-squared value of 0.864 and 0.837 reveal a strong positive correlation or relationship among the variables suggesting that more than 80% of the variations in dependent variable is explained by variations in the independent variables. The values also show that the data model is fit for use in explaining the relationships [16].

## V. CONCLUSION AND RECOMMENDATION

The study was based on the examination of the finance-growth sector theorization using annual time series data from 1980 to 2018 to test the Hugh's hypothesis. From the empirical findings, trade openness has a significant negative impact on financial sector development and economic growth, inflation has a significant negative impact on financial sector development, while economic growth (GDP) on the other hand had a significant positive impact on financial sector development. Savings, credit to private sector and money supply has a positive impact on financial sector development albeit not very strong as it should be. The true theorization of financial sector development in Nigeria is the Demand-following hypothesis.

Based on the conclusion above, it is recommended that foreign trade policies are made that will result in more economic advantage for the country. There is need to ensure that every trade relation takes into consideration the economic volatility of the nation's resources by encouraging the export of globally competitive goods and services. The fact that Nigeria exports primary goods mostly raw materials that have no real value-added is one of the reasons the country has not gained meaningfully from trade openness over the years. Thus, to benefit from trade openness, there is need to enhance the export potential of the country by ensuring the production of globally competitive goods and services. The activities of multinational companies should be monitored to ensure strict adherence to the rule of operation. Nigeria should diversify her economy and minimize the exports of raw materials/primary goods in preference to finished goods.

Monetary policy instruments should be effectively harnessed for efficient performance of the macro economy. Inflation is inimical to the economy, therefore there is need to promote price stability and reasonable exchange/interest rate policies that will help reduce imported inflation and promote investment. Monetary policy makers should ensure that there is easier accessibility to credit and ensure that such funds are used for the intended purposes. There is need to reach out to the teeming rural population to impart the banking habit thus making loanable funds available for investment purposes through increased domestic savings. Credit channels must not be marred by corruption, hiccups, and bureaucratic bottlenecks in order to ensure that funds get to the right user for the right purpose. The activities of Deposit Money and Microfinance banks should be adequately monitored to ensure strict adherence to the dictates of the apex bank, the CBN. The problem of insecurity should be tackled as well because some areas in the country have suffered great economic setbacks as a result of the activities of insurgents. These will engender economic growth and financial sector development.

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