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TRADE OPENESS, FINANCIAL OPENESS AND FINANCIAL DEVELOPMENT: EVIDENCE FROM SUB SECTOR

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ABSTRACT

Financial development has been propounded by theories and found by studies to be a major tool necessary for economic growth and development; hence there have been investigation on factors that may influence it. This study was carried out with the objective of analyzing one of such factors suggested in literature- economic openness. The study considered its general effect on financial development, and its sectoral influence if any. Data from 1981 to 2017 sourced from the World Bank indicators on Nigeria and Central Bank of Nigeria Statistical Bulletin were considered. The study analysed the relationship between financial development (general outlook- credit to private sector as percentage of Gross Domestic Prodict- GDP; and sectoral outlook- growth rate of credit to agriculture and forestry sector) and openness (trade openness- import and export to GDP, and financial openness- foreign direct investment to GDP). The study using measures under the classical linear regression analysis found that in the short and long run, financial development generally and by sector effort did not have any significant relationship with either forms of openness in Nigeria. Financial openness had a negative sign though, but it was insignificant. The long run test only revealed possibility of a long run relationship between openness and financial development through its sectoral effect. The Granger causality test also revealed no form of causal relationship existed between these variables considered within the period under study generally or by sector. The results also showed a weak form of causal relationship flowing from financial openness to trade openness. The study concluded that economic openness so far did not have a significant relationship with financial development in Nigeria, perhaps as a result of the absence of a well-developed institutional and regulatory framework. Also like several other developing countries, Nigeria constantly seeks to attract foreign investment to raise funds necessary to meet its capital intensive imports which it believes should jumpstart economic development. This activity can be inimical to its domestic financial development or independent as the case may be. The study recommended the introduction of policies which would encourage domestic financial institutions to take deliberate steps to influence and assist export driven initiatives, and support local producers.

Introduction

The world bank defined financial development as a process in which financial instruments, markets, and intermediaries work together to reduce costs of acquiring information, enforcing contracts, and executing transactions which result in the emergence of various kinds of financial contracts, intermediaries, and markets (World Bank, 2013). According to Saifullah and Tanimu (2015) it involves creating and expanding financial institutions, more efficient products and services in facility mobilization and channelling for investments to promote and sustain economic growth. The effect of financial development on economic growth stems from theses of authorities like Goldsmith, McKinon and Shaw, Schumpeters among others; either as supply leading (by creating investment opportunities) or demand following (supporting innovative investments that boost growth) (Weli, 2016). Having identified the importance of financial development and its potential in growing an economy, most developing countries like Nigeria have initiated policies and program to see to the development of this sector. For Nigeria it begun from 1986 with the liberalization policy, and has gone up to1993 deregulation, 2004 recapitalization among other efforts (Weli, 2016). Some studies have suggested a possible relationship between financial development and openness- trade and or financial.

In the field of economics and finance, openness as defined by Pham (2010) is the opening up of an economy to foreign capital flows (financial openness) and or to flow of foreign goods and services (trade openness) into the economy. Financial openness specifically includes official development assistance and investment flows (portfolio investments, foreign direct investments (FDI), trade credits and remittances). Trade openness on the other hand is likened to openness of the world economy, nations get linked together to allow free trade, movement of capital and financial activities (Osabuohien, 2007). Both types of openness are a platform for globalization; meaning any country that is yet to fully embrace trade openness would marginally participate in the world economy (Osabuohien, 2007). According to Pham (2007), for developing countries both financial and trade openness are perceived to be the most important source of economic growth. For these countries, FDI has been found a major factor necessary to promote international trade, create jobs, transfer technology and skills from more developed to under developed economies. Do and Levchenko in 2004 showed through their study that a country's openness to trade which affects its demand for external financing, besides affecting its economic growth status can also affect financial depth. They found that for wealthy countries international trade led to faster financial development; while in poor countries international trade led to slower financial development.

They explained that the latter was so because they depended on importing financially intensive goods for economic development, hence needed huge financing which could only be sourced externally; and this would not allow for development of their own financial system. Going by this for poor countries, financial openness goes along with trade openness, but is a threat to financial development. On the other hand, authorities like Akyuz, and Erem (2017) believe that openness generally has the potential of enhancing development of the financial sector. According to them for financial openness it brings about improvement in functioning and services and raises efficiency of capital allocation; while trade openness contributes financial development by increasing the necessity of insurance and risk diversification through

financial institution. Similarly Rajan and Zingales (2003) and Baltagi, Demetriades and Law (2009) who conducted independent studies on this relationship concurred with this view. These suggest that trade and financial openness are rather a precondition for financial development as against Do and Levchenko (2004) assertions. They believe a country's domestic financial system can develop at a much faster rate even if it depended on financial and trade flows from more developed countries. Their only concern was the transmission of the effect of a financial crisis in the developed country unto the dependent country's economy, and therefore advocated deepening of the domestic financial system to face any future instability. In another study by Beck in 2002, evidence was provided that the level of financial development of an economy can influence the structure of the country's trade balance. This rather suggested a different type of relationship between these factors as against the propositions of Do and Levchenko (2004), Rajan and Zingales (2003) and Baltagi et al. (2009). According to him, where the country's comparative advantage is determined by the level of financial development, a reform in the financial sector is bound to affect the trade balance. He also explained that the level of financial development in a country can determine the ways in which trade reforms implemented influence trade balance level and structure. Nwinee and Olulu-Briggs (2016) support this view as they state that for successful international trade, a financially developed economy is a prerequisite.

For developing countries like Nigeria who since 1986 engaged in policies that encouraged trade openness through its liberalization policy; the effect of trade openness has been a source of debate. Drawing from an example on its engagement in the 1979 ECOWAS Trade Liberalization Scheme (ETLS) geared towards encouraging openness in the region, Nigeria has had a bad end of the stick. According to Okoye (2018), the program had so far impacted negatively on Nigeria's economic effort of diversification. According to him, growth of most economic sectors asides oil had been stalled as a result of product smuggling, issues of dumping and insecurity. More recently the African Union (AU) proposed another free trade zone agreement (Africa Free Trade Area- AfCFTA) with its member countries including Nigeria- another trade openness initiative. This has further re-awakened the need to re-assess the intrinsic benefits of engaging in international trade and trade openness. Asides the effect these arrangements might have on economic output or growth, what effect could these engagements have on the development of the financial sector of the country, which is its backbone for economic activities. With findings of Do and Levchenko (2004), Rajan and Zingales (2003) and Baltagi et al. (2009) it has become imperative to assess the nature of relationship between these factors in the case of Nigeria; and this is the crux of this study.

Literature

Among 29 developing countries in Asia, Pham (2010) studied the link between financial development, financial openness and trade openness, from 1994 – 2008. The study utilized secondary data on Financial openness (ratio of total FDI inflows to GDP, and Gross private capital to GDP ratio), Financial development (liquid liability to GDP ratio, and credit to private sector as ratio of GDP), Openness to trade (the ratio of the sum of imports and exports to GDP). Other control variables include International country risk guide, GDP growth rate, GDP per capita, real exchange rate of country, and financial crisis dummies (CRI). The data was sourced from Asian Development Bank and World Development Indicators. They were analysed with

the Pedroni co-integration technique. The results of the study showed a bi-directional causal relationship between financial development and trade openness; and financial openness and trade openness among the countries. The study concluded from its findings that trade openness and financial development go hand-in-glove; also the occurrence of trade openness leads to financial openness, vice versa.

In Central and Eastern European Countries Bayar, Akyuz, and Erem (2017) studied Openness and Financial Development. The study considered 9 countries in the region from 1996 – 2014; for which secondary data was generated for financial development (domestic credit to private sector); trade openness (total trade volume); and financial openness (index of Chinn and Ito). Data were sourced from World Bank Data base and Chinn and Ito 2017 publication. It was analysed through the cointegration test of Westerlund and Edgerton and causality test of Dumitrescu and Hurlin. The study found that trade and financial openness both affected development of the financial sector positively in the long run, but in the short run it was insignificant and negative. The causality test showed that there was a uni-directional causality flowing from financial openness to financial development in the region. The study explains that the absence of a significant relationship in the short run among the variables points to insufficiency of institutional and regulatory development in the region.

Trade openness and financial openness

Saifullah and Tanimu (2015) studied the linkages between trade openness, financial openness and economic growth in Nigeria from 1980 to 2012. The study intended to determine how open the Nigerian economy was to international competitiveness as a means of achieving its developmental goals. The study analysed secondary data with the Johansen cointegration model, Vector Error Correction model (VECM) and Granger causality test. The model constituted of economic growth (proxy by RGDP) as the dependent variable and trade openness, financial openness, government expenditure and population as independent. The test results revealed a significant positive relationship between economic growth (real GDP) and trade openness. It also showed there was a negative relationship between economic growth and financial openness. In the long run the results indicated the presence of a relationship between the variables in question. The study also revealed that the growth rate of the Nigerian population undermined her economic growth. The study also found a positive relationship between economic growth and government expenditure. For the causality test, a unidirectional relationship was found, running from trade openness to economic growth. Also a unidirectional relationship was found running from trade openness to financial openness; and from population growth to government expenditure. The study concluded and recommended that outward – looking policies can be pursued but with caution as Nigeria doesn't seem to have benefited much from openness.

Financial development and trade openness

In 2016, Nwinee and Olulu-Briggs analysed the relationship between trade Openness, Financial Development, and the Nigerian Economy from 1981 – 2013. Data was sourced from the CBN statistical bulletin on economic growth (Growth Rate of the Gross Domestic Product); Trade (Exports + Imports) to GDP); Real Effective Exchange Rate to GDP; FDI to GDP; and Private Sector Credit to GDP. Data analysis involved the Unit root test, Johansen Co integration test,

Vector Error Correction Model, Granger Causality test, and the Impulse Response and Variance Decomposition test. The results of the Johansen Co integration test showed the existence of a long-run equilibrium relationship among the variables. The Vector Error Correction Model result had a 96% adjdustment speed or prior deviations from equilibrium. For the causality tests, there was found a bi-directional causal relationship between trade and exchange rate; uni-directional causal relationship flowing from GDP to trade, GDP to credit to the private sector, trade to FDI (trade openness and financial openness), trade to credit to the private sector (trade openness to financial development), and exchange rate to FDI. The study recommended encouragement of lending to the real sector through flexibility in interest rate and loan policies of financial institutions; further foreign policy reforms to attract FDI; and stricter regulation of financial sector to forestall bankruptcy and corruption.

In Argentina, Tsaurai (2017) investigated the relationship between financial development, trade openness and economic growth from 1994 to 2014. Secondary data were sourced on trade openness proxy- exports and imports as a ratio of GDP; financial development- stock market capitalization as a ratio of GDP; and economic growth- GDP per capita. Data was generated from World Bank Indicators (WDI), International Monetary Fund, nd the African Development Bank databases. The study used the Vector Error Correction Model to analyse the data. The results showed in the short run, as significant causal relationship flowing from financial development to economic growth and trade openness to economic grow. In the long run it found a significant uni-directional causal relationship flowing from financial development to economic growth, then from trade openness to financial development. It also revealed evidence of a weak uni-directional causality flowing from financial development to trade openness, trade openness to economic growth and economic growth to trade openness. The study recommended implementation of policies to enhance financial development and trade openness to achieve sustainable economic growth.

Danlami et al (2018) investigated the effects of financial development-trade openness nexus on Nigeria's dynamic economic growth. Data was sourced from World Development Indicators 1980 to 2016 on: growth (real gross domestic product), gross capital formation as a percentage of GDP, trade openness (composition of exports and imports as a percentage of GDP), financial development (money supply as a ratio of GDP and the financial stability index (based on the Domestic Credit to Private Sector series as a percentage of GDP)). The study used the Autoregressive Distributed Lag (ARDL) model, and the non-Granger causality to analyse data. The findings showed that financial instability retarded growth significantly within the period of study. It also showed that financial liberalization had a positive yet insignificant impact on growth. The causality test showed that gross capital formation caused growth; capital formation also caused trade openness. For financial development neither financial instability nor money supply caused economic growth nor did the latter cause the former; similarly, trade openness and financial development neither had a causal relationship. The study recommended that deliberate steps must be taken to enhance productivity level, encourage savings and promote capital accumulation.

Financial development and financial openness

Beji (2007) studied financial openness and financial development among South Mediterranean Sea Countries. The study adopts the use of an econometric panel error-

correction model with non-overlapping data for the period 1980-2005, linking financial development indicators to institutional and legal indicators. The model specified the dependent variable as financial development (bank liquidity ratio, bank domestic credit to GDP, domestic credit to private sector to GDP, and stock market capitalization of listed companies to GDP); and explanatory variables as financial openness (Chinn- Ito index- KAOPEN), legal institutional development (control of corruption, rule of law and voice and accountability- CONCOR, RUL and VOA) and economic control variables (GDP per capita, inflation rate, trade liberalization- total trade as ratio of GDP). Data where adapted from Kaufmann. D, Kraay. A and Mastruzzi. M (2006), Ito (2005). The results showed that financial openness can influence financial development, but this is dependent on the development level of the legal institutions. The study further revealed that financial openness was detrimental to all countries under study given their legal and institutional quality. In the test of reversal causality, no causal relationship was found; meaning financial liberalization (financial development) did not arise as a result of financial openness; neither did financial openness arise as a result of financial development.

In Turkey Imre in 2011 analysed the impact of financial openness on financial development, growth and output volatility. Data was sourced from World Bank indicators from 1980 – 2008 on financial openness (FDI net inflows and outflows and net portfolio investments to GDP); financial development (M2 to GDP). For data analysis they employed the Augmented Dickey & Fuller (ADF) and Phillips & Perron (PP) unit root tests, Autoregressive Distributed Lag (ARDL) modelling, and the Granger causality tests under the vector autoregressive (VAR) model. The results of the study showed that there exists a long run .equilibrium relationship between the variables. The causality test results revealed a one-way relationship from financial development to financial openness; and from financial openness to output volatility. The study recommended further financial development efforts and policies to encourage financial openness in the country.

From the literature reviewed above, it is evident that the nature of relationship between openness- trade or and financial and financial development is far from settled. Also with a view of studies carried out on this subject matter in Nigeria, most studies tend to tilt towards either trade or financial openness. Where both are considered they interpret their effect on economic growth, and not really looking at the relationship between these three factors independently. This gap in literature this study seeks to fill.

Methodology

This study considers the nature of relationship that exists between trade openness, financial openness and financial development in Nigeria. For this, a time line of 36 years from 1981- 2017 is considered and data is sourced from the Central Bank of Nigeria statistical bulletin and World Bank Indicator database. This study adopts the model of Bayar, Akyuz, and Erem (2017) with slight modification to the proxy for financial openness and number of years analysed. The study develops two models, the first on general financial development and openness, the second on sectoral financial development- with reference to the agricultural sector and openness. In model 1: The data include proxy for trade openness (total export + total import as a percentage of GDP); financial openness (Foreign direct investment as a percentage of GDP); and financial development (credit to the private sector as a percentage of GDP). In model 2: The data include proxy for trade openness (total export + total import as a

percentage of GDP); financial openness (Foreign direct investment as a percentage of GDP); and financial development (credit- loans and advances to agricultural sector from commercial banks). This study analyses the nature of relationship by employing the ordinary least square regression model to test short- run relationships; the Augumented Dicey Fuller Unit root test for stationarity; the Johansen Cointegration test for long run relationship; and the Granger causality test to determine the nature of causal relationship. All these tests will be applied through the E-views 9.0 econometric tool.

Model 1:

For the ordinary least square regression model this study is specified thus:

Financial development = f (trade openness, financial openness) …….. (1)

FD = f (TO; FO) …… (2)

This implies that the level of financial development (FD) in the country is a function of openness of the economy- trade openness (TO) and financial openness (FO).

This could be further presented mathematically as:

$FD_{it} = \alpha + \beta_1 TO_{it} + \beta_2 FO_{it}$ …… (3)

The model above assumes an absolute relationship, which does not really hold among economic variables in reality. Thus an econometric model is generated:

$FD_{it} = \alpha + \beta_1 TO_{it} + \beta_2 FO_{it} + \varepsilon_{it}$; $\beta_1 > 0$, $\beta_2 > 0$ …… (4)

Where:

α = intercept;

β_1 - β_2 = coefficient of the explanatory variables - (Trade openness –TO; and Financial openness- FO)

ε = stochastic error term which is a surrogate or proxy for all the omitted or neglected variables that may affect the dependent variable (Financial Openness- FO), but are not or cannot be included in the regression model.

i = cross-sectional variable from 1, 2, 3 … nth.

t = time series variable from 1, 2, 3...nth.

A priori Expectation = $\beta_1 > 0$, $\beta_2 > 0$.

From this model, the *coefficient of determination (r^2)* which tells how well the regression model explains variations in financial development will be estimated. As expressed by the equation, theory suggests that the "net" effect of a unit change in the measure of openness- trade and financial openness, on the mean value of financial development should be greater than 0. This suggests a significant and positive relationship. This forms the a priori expectations of the study- $\beta_1 > 0$, $\beta_2 > 0$.

Model 2:

Basically the model is the same, and a priori expectations the same; only that the variable on financial development focuses on a sector- agriculture and forestry.

CA = f (TO; FO) …… (5)

$CA_{it} = \alpha + \beta_1 TO_{it} + \beta_2 FO_{it}$ …… (6)

$CA_{it} = \alpha + \beta_1 TO_{it} + \beta_2 FO_{it} + \varepsilon_{it}$; $\beta_1 > 0$, $\beta_2 > 0$ …… (7)

All other factors remain the same, only CA represents growth rate of credit- Loans and advances - by commercial banks to the agriculture and forestry sector.

Results and Discussions

Table 2a: Model 1: Financial development - Short run relationship test- Regression analysis

Dependent Variable: FD
Method: Least Squares
Date: 10/03/19 Time: 01:49
Sample: 1981 2017
Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7.143992	1.983389	3.601912	0.0010
TO	0.095249	0.063075	1.510084	0.1403
FO	-0.345404	0.641326	-0.538578	0.5937

R-squared	0.063296	Mean dependent var	9.594774
Adjusted R-squared	0.008196	S.D. dependent var	4.358985
S.E. of regression	4.341085	Akaike info criterion	5.851731
Sum squared resid	640.7307	Schwarz criterion	5.982346
Log likelihood	-105.2570	Hannan-Quinn criter.	5.897778
F-statistic	1.148749	Durbin-Watson stat	0.365228
Prob(F-statistic)	0.329032		

The regression result above reveals no significant relationship between financial development and both types of openness in the short run, as shown in the graph above. Variations in both types of openness only account for less than 1% variations in financial development in Nigeria in terms of credit allocation as represented by the adjusted R-Square of 0.008. This is contrary to our expectation. This means foreign inflows- finance and goods and outflow in terms of export do not have any real effect on the functioning of the Nigerian financial sector in the short run. Akyuz, and Erem (2017) in their study found a similar relationship. Literature explains that this could be as a result of insufficient institutional and regulatory development in the region. Also the results showed that financial openness had a negative impact on financial development although insignificant. This confirms the findings of Do and Levchenko (2004), who emphasized that openness, could hurt financial development efforts of an economy. Hence in the case of Nigeria as they explained about developing countries, because they depend heavily on importing financially intensive goods for economic development, needing huge financing which could only be sourced externally; development of the domestic financial system is stalled.

Assuming the relationship between financial development and openness are not linear as assumed by our model, a log linear form is adopted below.

Table 2b: Model 1: *log form for Financial development - Short run relationship test- Regression analysis*

Dependent Variable: LOG(FD)

Method: Least Squares
Date: 10/03/19 Time: 07:37
Sample: 1981 2017
Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.030602	0.641498	1.606555	0.1174
LOG(TO)	0.348836	0.198883	1.753977	0.0884
LOG(FO)	-0.089096	0.129191	-0.689646	0.4951

R-squared	0.107049	Mean dependent var	2.176574
Adjusted R-squared	0.054522	S.D. dependent var	0.402031
S.E. of regression	0.390918	Akaike info criterion	1.036966
Sum squared resid	5.195767	Schwarz criterion	1.167581
Log likelihood	-16.18386	Hannan-Quinn criter.	1.083013
F-statistic	2.037988	Durbin-Watson stat	0.359093
Prob(F-statistic)	0.145906		

The result of the test in table 2b is similar to that in table 2a. There is still no significant relationship between financial development proxied by credit to private sector, and trade or financial openness at 5% level of significance. Although at 10% trade openness might have a significant positive effect, but for the current study, there is no significant relationship. Financial openness still holds a negative sign and is still insignificant. The ability for openness to predict financial development still remains low at adjusted R-Square of 0.05.

Table 2c: Model 2: *Sectoral Short run relationship test- Regression analysis in log-linear form*
Dependent Variable: CA
Method: Least Squares
Date: 10/21/19 Time: 22:12
Sample: 1981 2017
Included observations: 37

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.142156	0.189670	0.749489	0.4587
TO	-0.000203	0.006032	-0.033720	0.9733
FO	0.059819	0.061330	0.975363	0.3363

R-squared	0.032419	Mean dependent var	0.242945
Adjusted R-squared	-0.024497	S.D. dependent var	0.410142
S.E. of regression	0.415135	Akaike info criterion	1.157178
Sum squared resid	5.859458	Schwarz criterion	1.287793
Log likelihood	-18.40780	Hannan-Quinn criter.	1.203226
F-statistic	0.569589	Durbin-Watson stat	2.416733

Prob(F-statistic)	0.571063

Table 2c above confirms the results from model 1 regression analysis. Both type of openness in the short run did not significantly influence the effect of financial development in the sector. This means that growth rate of credit issued to the agricultural and forestry sector in the short run was not determined by financial openness or trade openness. This is evident in the value of R-Square which is less than 5%. This means that over 95% growth in sectoral credit issuing is influenced by other factors. This is contrary to our a priori expectation.

Table 3: Test of Stationarity- Augmented Dickey Fuller Unit Root Test

Variable	ADF test statistic	Critical values		Decision
Financial development FD- I(1)	-5.672422	1%	-3.646342	Stationary at all critical levels - I(1)
		5%	-2.954021	
		10%	-2.615817	
Credit to Agriculture CA – I (1)	10.73733	1%	-3.632900	Stationary at all critical levels - I(1)
		5%	-2.948404	
		10%	-2.612874	
Trade openess TO – I(1)	-7.376449	1%	-3.632900	Stationary at all critical levels - I(1)
		5%	-2.948404	
		10%	-2.612874	
Financial openess FO	-8.312824	1%	-3.632900	Stationary at all critical levels - I(1)
		5%	-2.948404	
		10%	-2.612874	

Table 3 shows the results of the unit root test used to check the order of integration of the variables. Based on the test statistic, it was found that all series were stationary after first (1^{st}) differencing [I(1)]. Therefore, the tests yielded a conclusion that after 1^{st} differencing, all series are stationary at I(1).

Table 4a: *Model 1 Long Run Relationship Test- Johansen Cointegration*

Date: 10/21/19 Time: 22:25
Sample (adjusted): 1983 2017
Included observations: 35 after adjustments
Trend assumption: Linear deterministic trend
Series: FD TO FO
Lags interval (in first differences): 1 to 1
Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None	0.372219	24.28874	29.79707	0.1885
At most 1	0.118671	7.994024	15.49471	0.4661
At most 2	0.097039	3.572658	3.841466	0.0587

Trace test indicates no cointegration at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

The Johansen Cointegration test in table 4a above reveals the absence of a long run equilibrium relationship between the measure of financial development- credit to the private sector and openness- trade/ finance. This is also contrary to the study's expectations. This result only goes ahead to confirm the findings of the short run test.

Table 4b: Model 2 Long run relationship test- Johansen Cointegration
Date: 10/21/19 Time: 22:27
Sample (adjusted): 1983 2017
Included observations: 35 after adjustments
Trend assumption: Linear deterministic trend
Series: CA TO FO
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.557263	42.48060	29.79707	0.0011
At most 1	0.255475	13.96331	15.49471	0.0840
At most 2	0.098723	3.637996	3.841466	0.0565

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

The second model long run test above considering financial development effort by sector (agriculture and forestry – CA) reveals one Cointegrating equation. This indicates the possibility of a long run equilibrium relationship between the measure of financial development- credit to agricultural sector and openness- trade/ finance. This is supports the study's expectations.

Table 5: Causal Relationship- Granger Causality Test
Pairwise Granger Causality Tests
Date: 10/21/19 Time: 22:32
Sample: 1981 2017
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
CA does not Granger Cause FD	35	0.15667	0.8557

FD does not Granger Cause CA		1.34555	0.2757
TO does not Granger Cause FD	35	0.90423	0.4156
FD does not Granger Cause TO		0.54373	0.5862
FO does not Granger Cause FD	35	0.12428	0.8836
FD does not Granger Cause FO		0.25041	0.7801
TO does not Granger Cause CA	35	1.33612	0.2781
CA does not Granger Cause TO		0.17234	0.8425
FO does not Granger Cause CA	35	0.78193	0.4666
CA does not Granger Cause FO		0.49102	0.6168
FO does not Granger Cause TO	35	2.55989	0.0941
TO does not Granger Cause FO		0.36218	0.6992

The granger causality test result above shows that so far in Nigeria, neither trade openness (TO) nor financial openness (FO) have been able to cause financial development generally (FD) or by sector (CA). Also neither has financial development caused any form of openness. This contradicts Nwinee and Olulu-Briggs 2016 findings in Nigeria; but confirms findings of Danlami et al (2018) in Nigeria, and that of Beji (2007). This means as stated by Beji contrary to Rajan and Zingales in the case of Nigeria, financial development (financial liberalization) did not arise as a result of financial openness; neither did financial openness arise as a result of financial development. The result also reveals at 10% level of significance (which is quite weak), a uni-directional causality flowing from financial openness to trade openness. For most studies like Nwinee and Olulu-Briggs, Saifullah and Tanimu the reverse was the case; but Danlami et al found something similar. This could explain the source of finance for the massive importations into the country. Also Nigeria like other developing countries hopes to jumpstart its development process by engaging in capital intensive importation of technologies and materials rather than develop its own; hence policies and strategies are developed to attract foreign investments to feed this need which the country cannot afford at the moment.

Conclusion and Recommendation

Financial development has been found by several studies to be a major factor that contributes to economic growth and therefore development; little wonders the series of reforms and updates in the Nigerian financial sector. Due to its celebrated potential, several authorities have gone into researching factors that may influence or stall financial development of an economy. One of such factors suggested from literature is economic openness which includes trade openness and financial openness. This study is therefore embarked upon to ascertain the nature of relationship that might ensue between Nigeria's financial development and openness and providing evidence from a sector. The study uses data for 36 years from 1981 to 2017 sourced from the World Bank Indicator, on financial development (credit to private sector as percentage of GDP), trade openness (import + export as percentage of GDP), and financial openness (Foreign Direct Investment as a percentage of GDP); and financial

development effect by sector (growth rate of credit to agriculture and forestry) from CBN statistical Bulletine. Two models were developed to analyse the general relationship between openness and financial development, and the second on effect of openness in financial development effort by sector. The ordinary least square method was employed to analyse the data. From the findings the study concludes that in the case of Nigeria there is no significant short run or long run relationship between financial development and openness generally. On the other hand, with regards to sectoral financial development, no significant relationship in the short run, yet in the long run a relationship does exist. It also concludes that there is no causal relationship for now between openness and financial development either generally or by sector in Nigeria. From the study, financial openness although insignificant has a negative influence on financial development generally; and can cause trade openness.

The study recommends that policies need to be formed and matched with deliberate steps to develop domestic technologies to improve output. Financial institutions must be made to take deliberate steps to influence and assist export driven initiatives, by supporting local producers. It also recommends deliberate steps be taken towards developing better institutional and regulatory frameworks, eradication of corruption, and enforcing justice.

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Appendix

Appendix 1: Study data:

YEAR	FD	TO	FO	CA
1981	5.802075	18.17173	0.329732	0.2
1982	6.450602	13.77983	0.301613	0.3
1983	6.208623	10.04497	0.375338	0.29
1984	6.266046	9.380541	0.257422	0.12
1985	6.039751	10.39198	0.658453	0.2476
1986	7.574985	9.135846	0.352544	0.3969
1987	6.602986	19.49534	1.15907	0.32787
1988	6.066024	16.94061	0.762696	0.2634
1989	5.090333	34.18262	4.282088	0.17303
1990	4.957522	30.92474	1.087951	0.2161
1991	5.241096	37.0216	1.450318	0.1872
1992	8.234514	38.22739	1.876018	0.3932
1993	7.007718	33.71975	4.84779	0.5512
1994	8.037288	23.05924	5.790847	0.6521
1995	6.508711	39.52838	2.449413	0.4706
1996	6.174444	40.25773	3.119792	0.32
1997	7.03059	51.46101	2.826858	-0.1818
1998	7.619452	39.27861	1.925363	0.0272
1999	8.168808	34.45783	1.692559	0.1481
2000	8.248989	48.9956	1.641739	0.3226
2001	9.880807	49.6805	1.608284	0.3415
2002	8.084343	40.03517	1.964727	0.0727
2003	8.909485	49.33496	1.911463	0.0508
2004	8.461664	31.89587	1.374086	0.0806
2005	8.435095	33.05946	2.82883	-0.2835
2006	8.12036	42.56657	2.056024	0.0208
2007	15.24784	39.33693	2.189934	2.0408
2008	20.83583	40.79684	2.431643	-0.2886
2009	22.2893	36.05871	2.930908	0.2736
2010	15.66359	43.32076	1.658475	-0.05019
2011	12.59066	53.27796	2.154611	0.9922
2012	11.8444	44.53237	1.53903	0.2392
2013	12.59411	31.04886	1.08024	0.08545
2014	14.60898	30.88519	0.818201	0.3936
2015	14.20933	21.44693	0.634336	-0.6067
2016	15.6796	20.72252	1.098507	0.159
2017	14.22068	26.3476	0.930745	0.0424