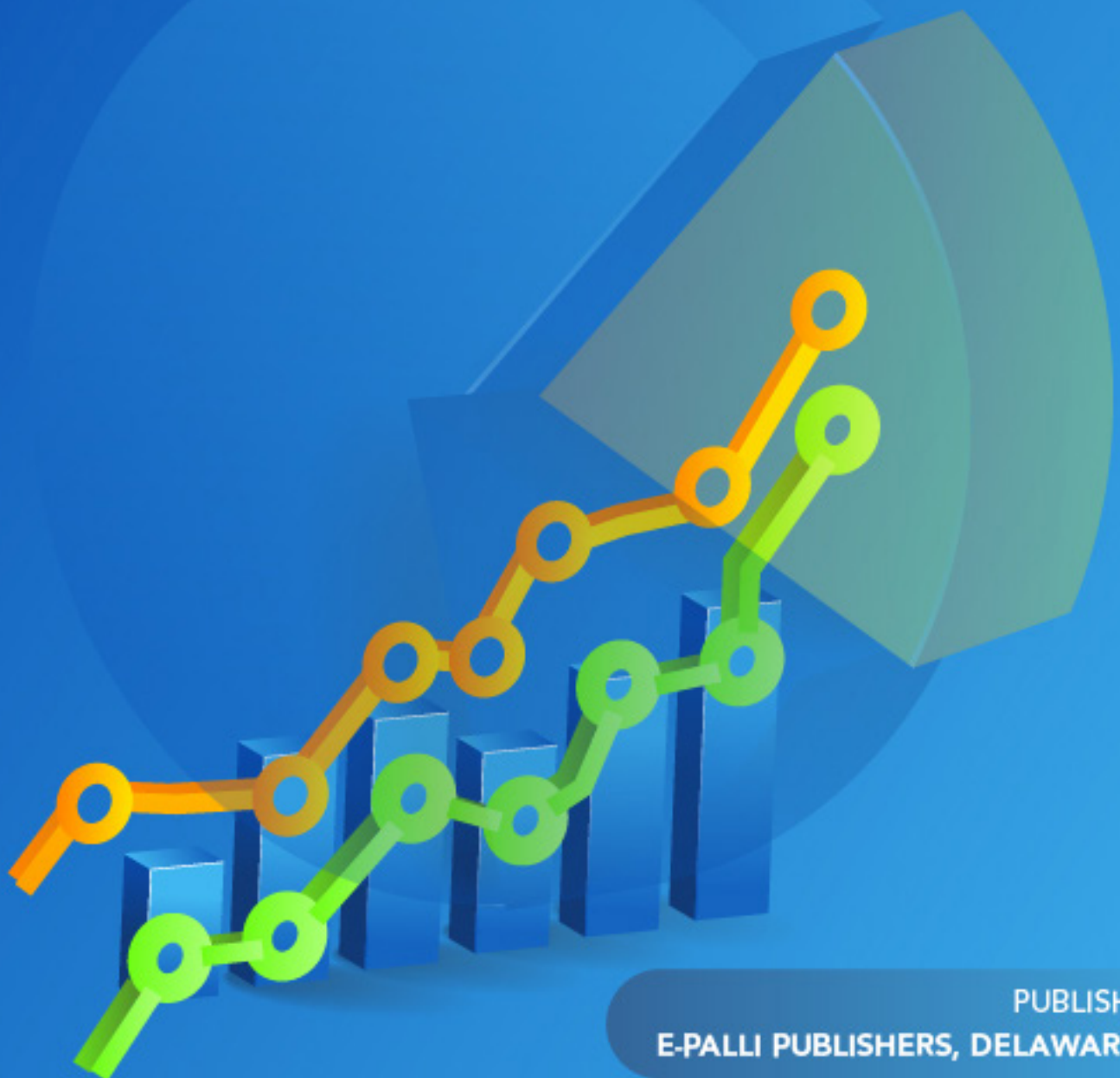




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Does Financial Development Promote Export Diversification in Nigeria: An Empirical Analysis

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ABSTRACT

The study seeks to answer the question whether financial development promotes export diversification in Nigeria using secondary data sourced from the Central Bank of Nigeria and the United Nations Conference on Trade and Development from 1995 to 2023. The specific objectives were to examine the effects of financial development on export diversification and determine the direction of causality between financial development and export diversification in Nigeria. To achieve the stated objectives, the study employed the short-run autoregressive distributive lag technique to examine the relationship between the dependent variable and the independent variables. Findings show that financial development has a negative and significant effect on export diversification in Nigeria, while investment has a positive and insignificant relationship with export diversification in Nigeria. The study recommends that the government should reform financial sector policies to ensure that financial development supports a wider range of sectors, especially non-oil export sectors. This may include incentivizing financial institutions to provide credit and financial services to small and medium enterprises (SMEs) in manufacturing and agriculture, which are key to diversification and focus on improving the quality of investments by promoting infrastructure development, especially in sectors with high export potential like agriculture, manufacturing, and technology.

INTRODUCTION

Export diversification is a phenomenon that has been recognized as a key instrument for fast-tracking economic growth in emerging economies (Orebiyi and Effiong 2023). Export diversification has been a contentious issue in Nigeria since independence, due to the lopsided nature of the export structure, characterised by the dominance of oil exports over the years. To reduce this dominance of oil through export diversification, the Nigerian government has over the years, implemented various trade policies such as the export promotion strategy in 1981; trade liberalization policy in 1986; exchange rate liberalization in 1986; establishment of the Nigerian Export-Import Bank (NEXIM) in 1991; Nigeria Export Promotion Council established in 1976 and other bilateral and multilateral trade agreements (Nwosa, 2018). The implementations of the above trade policies were expected to enhance economic growth and diversify the export structure through improved market access to international trade, as experienced by other emerging countries (Martincus and Gomez, 2009).

Nigeria's reliance on crude oil exportation as the major source of income exposes the nation to fluctuations of global oil prices, which indirectly affect economic growth (Ajakaiye, 2017). This reliance on oil revenue underscores the need for export diversification, which involves expanding the range of goods and services a country exports to reduce vulnerability and foster economic resilience (IMF, 2020). Financial development, encompassing the growth and efficiency of financial

institutions and markets, is often posited as a crucial enabler of export diversification by facilitating access to credit, promoting investment in new industries, and enhancing technological innovation (Levine, 2005).

The relationship between financial development and export diversification is a critical research area, especially for resource-dependent economies like Nigeria. A developed financial sector can support export diversification by providing the necessary financing for firms to innovate, expand, and access new markets (Beck, 2002). This can help reduce dependence on traditional export commodities, such as oil in Nigeria, and promote growth in other sectors like manufacturing and agriculture. In Nigeria, the nexus between financial development and export diversification is particularly pertinent given the country's heavy reliance on oil exports, which exposes the economy to volatile global oil prices (Otu and Ujunwa, 2019). Enhanced financial systems can facilitate access to credit for non-oil sectors, encourage small and medium enterprises (SMEs), and improve the overall business environment, all of which are conducive to diversification efforts.

Theoretically, a well-developed financial system can lower the costs of trade, provide risk management tools, and support the development of non-traditional export sectors (Rajan and Zingales, 2003). However, the empirical evidence on the relationship between financial development and export diversification is mixed, with some studies finding a positive association while others report weak or insignificant effects, particularly in

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developing countries (de la Torre, *et al.*, 2016). In the context of Nigeria, the financial sector has undergone significant reforms in recent decades, yet the country's export structure remains highly concentrated in oil (CBN, 2019). This raises questions about the effectiveness of financial development in promoting export diversification in Nigeria, given the specific institutional and economic context.

Empirical studies support the positive connection between financial development and export diversification. For example, Adeleke and Ayadi (2019) found that improvements in Nigeria's financial sector are significantly associated with increased diversification in exports, as financial depth and efficiency enable enterprises to explore and penetrate new markets. However, challenges such as limited financial access, inadequate financial infrastructure, and regulatory bottlenecks hinder this linkage (Olamakinde and Olusola, 2018). Addressing these issues through policy reforms could accelerate financial sector development and, consequently, promote a more diversified export structure. Therefore, this study aims to investigate whether financial development promotes export diversification in Nigeria, taking into account the role of financial sector development in the economy.

By examining the impact of financial development, specifically the ratio of broad money supply to GDP, on export diversification, this study aims to provide insights into the role of finance in promoting a more diversified and resilient export base for Nigeria. The findings of this study would have important implications for policymakers seeking to promote sustainable economic growth and reduce the country's vulnerability to external shocks.

LITERATURE REVIEW

Financial Development

Financial development refers to the process by which a country's financial systems, including markets, institutions, and instruments, become more efficient, stable, and accessible. The concept emphasizes the evolving capability of the financial sector to mobilize savings, facilitate capital allocation, manage risk, and support economic activities. According to the World Bank (2016), financial development is the advancement of financial institutions, markets, and legal frameworks, which together reduce costs associated with acquiring information, enforcing contracts, and transacting. The five core functions are: producing information about prospective investments, monitoring and governing investments, facilitating trading and risk diversification, mobilizing savings, and easing the exchange of goods and services. Financial systems that perform these functions well enhance economic development by fostering capital accumulation and technological progress.

Financial development refers to the process by which financial institutions, markets, and instruments grow in size, efficiency, and sophistication, ultimately supporting economic growth and stability (Levine, 2005). It involves

expanding the depth of financial systems—which includes the volume of financial assets and transactions—and improving their accessibility and efficiency, enabling more individuals and businesses to access financial services (King and Levine, 1993).

Levine (2005) emphasizes that financial development enhances economic outcomes by improving the allocation of resources, reducing transaction costs, and reducing information asymmetries. He highlights that a well-developed financial system facilitates mobilization of savings and investments, which are critical for growth. Similarly, King and Levine (1993) associate financial development with increased productivity and economic performance, asserting that countries with more advanced financial systems generally experience higher growth rates.

Nigeria has introduced several financial development initiatives specifically designed to expand non-oil exports and promote export diversification. These programmes mainly provide concessionary loans, credit guarantees, export finance, and targeted funding for export-oriented sectors. Initiatives include the Non-Oil Export Stimulation Facility introduced by the Central Bank of Nigeria (CBN), to increase access to affordable finance for non-oil exporters, the Export Development Fund, which provides low-interest financing, especially to SMEs, to stimulate non-oil exports and improve export competitiveness and supports industrial upgrades, export capacity expansion, and diversification into new export products.

Diversification Index

The Diversification Index (DI) measures the extent to which resources, assets, or activities are spread across various sectors, markets, or products. This index is crucial in finance and economics for evaluating risk exposure and potential for growth (Levine, 2005). A higher DI indicates a broader distribution, often associated with reduced risk and increased stability. Fink *et al.* (2014) view diversification as a mechanism for enhancing economic resilience. According to their study, economies with diversified financial systems are better equipped to withstand economic shocks. This is because losses in one sector can be offset by gains in another, thus stabilizing overall economic performance. Das and Ghosh (2016) emphasize the importance of regulatory frameworks in promoting effective diversification. They argue that appropriate regulations can encourage financial institutions to diversify their portfolios, thereby reducing systemic risk and improving the overall stability of the financial system.

Export Diversification

The diversification of export goods is crucial in gaining a diverse source of foreign exchange. It is expected that as the country's exportable goods increase, economic growth will increase (Orebiyi and Effiong 2023). The export concentration index is used to measure how diverse the

export bundle of a country is. The Export Concentration Index (ECI) measures how much a country's exports are dominated by a few products. It is usually computed using the Herfindahl-Hirschman concentration method based on export shares. It is computed by calculating each product's export share, squaring the shares, and summing it to measure how concentrated a country's export structure is.

Theoretical Review

Financial Development Theory

The Financial Development Theory has evolved through contributions from several key proponents, primarily in the mid-20th century onwards. Joseph Schumpeter (1911) was one of the earliest scholars emphasizing the critical role of financial markets and institutions, particularly banks, in funding entrepreneurship and technological innovation that drives economic growth. Joan Robinson (1952) was sceptical, arguing that finance follows enterprise rather than leading it, putting her somewhat at odds with more optimistic views of finance spurring growth. Raymond Goldsmith (1969) contributed early empirical work measuring financial development and its correlation with economic growth, stressing the growth of financial instruments and institutions

The Financial Development Theory posits that a well-functioning and evolved financial system is crucial for economic growth and development. It emphasises that financial institutions, markets, and instruments reduce costs related to information, enforcement, and transactions, enabling efficient allocation of capital, risk management, and mobilization of savings (World Bank; Levine, 2005). Financial development involves expanding and diversifying financial intermediaries like banks and capital markets, enhancing firms' capacity to access funding for investment and innovation. In summary, financial development theory explains how improvements in financial institutions, instruments, and markets reduce information and transaction costs, enabling better capital allocation and fostering growth.

Endogenous Growth Theory

The Endogenous Growth Theory explains that economic growth is driven by internal factors such as financial development, innovation, investment, and human capital. In relation to the study, the theory suggests that a well-developed financial system improves access to credit and financial services for firms. This enables businesses to invest in new technologies, expand production, and explore new export products and markets. As firms receive adequate funding, they can move beyond reliance on a few primary commodities, thereby promoting export diversification. Therefore, financial development supports innovation and productive capacity within the economy, which aligns with the endogenous growth view that internal economic mechanisms drive diversification and long-term economic growth.

Empirical Review

Several empirical works have been conducted on the link between financial development and export diversification in Nigeria.

Sajo and Li (2017) examine the relationship among Financial Development, Export, and Economic growth in Nigeria. Johansen's co-integration methodology is employed to investigate the long-run relationship among the variables. Data was collected between 1994 and 2013. The direction of causality between variables was tested by the Granger causality test and Ordinary Least Squares (OLS). Econometric techniques were used to estimate the model. Findings show that exports and transportation development have a positive and significant effect on economic growth. While financial development, international trade structure, and the energy sector have negative effects on economic growth.

To examine financial inclusion, financial development, and economic diversification in Nigeria, Adeola and Evans (2017) obtained data from the CBN Statistical Bulletin and the World Development Indicators for the period 1981 to 2014. Fully Modified Ordinary Least Squares was employed as the method of analysis, which is designed to provide optimal estimates of cointegrating regressions. The results show that financial development has a positive and significant effect on economic diversification. Moreover, financial inclusion has positive and significant effects on economic diversification. GDP per capita, capital formation, and human capital development also have positive and significant effects on economic diversification. FDI has positive and insignificant effects on economic diversification. Also, exchange rates and trade openness have negative and significant effects on economic diversification within the study period.

Nwosa, Tosin and Ikechukwu (2019) investigated the concerning ED and EG in Nigeria between 1962 and 2016. The Auto-regressive Distributed Lag (ARDL) approach was used in the investigation. According to the findings of the study, ED has a favourable but negligible impact on Nigeria's EG. The following result shows that the oil industry continues to dominate the Nigerian economy, despite the government's attempts in diversify the economy. As a result, the study advocates for deliberate economic policies that support the diversification of the whole non-oil sector of the economy. Using the FMOLS approach, Malick (2019) determined the determining elements for the diversification of exports in the WAEMU nations between 1995 and 2015. The findings indicate that the primary explanatory elements for the diversification of exports in the WAEMU nations are trade openness, the build-up of human cum physical capital, a viable real currency rate, and natural resources endowment.

In the Economic Community of Central African States (ECCAS), from 2000 to 2016, Ngassam *et al.* (2020) studied the power of infrastructure on export

diversification. As indices, total export diversification and its extensive and intensive margins were considered. The FMOLS and DOLS estimators are utilized. According to the empirical findings, infrastructure for mobile phones and power both favourably and significantly contribute to the diversification of exports as a whole. Internet and transportation infrastructure, however, have the opposite effect.

In exploring the influence of trade diversification and financial sector development on the economic growth of ten West African countries for the period 2007 to 2020, Orebiyi and Effiong (2023) employed the panel autoregressive distributed lag (ARDL) technique. A Fully Modified Ordinary Least Squares approach of estimation and a Granger causality test were employed as the method of analysis. From the ARDL model, the findings indicate that export diversification has a negative relationship with economic growth both in the short-run and in the long-run and is insignificant. The effect of financial sector development on growth is observed to be positive and significant in the short-run, and negative and significant in the long-run. Also, the FMOLS result indicated that export diversification has a negative and significant effect on growth, while financial development has a positive and insignificant effect on growth. The Granger causality test revealed that a unidirectional causality flow exists between export diversification and economic growth.

This review of the literature indicates that existing research focuses on promoting financial development and economic growth at the expense of empirical evaluation of how financial development promotes export diversification in Nigeria. To fill this gap, this study seeks to answer whether financial development in Nigeria promotes export diversification.

MATERIALS AND METHODS

Research Design

This study employs an ex post facto research design to establish the relationship between financial development and export diversification in Nigeria from 1995 to 2023. The data for the study are time series data obtained from diverse Central Bank of Nigeria statistical bulletins and United Nations Conference on Trade and Development. The data are analysed using an econometric software package.

Model Specification

The Endogenous growth models, proposed by Romer and Lucas was employed for the study. The theory suggests that financial development enhances productivity and growth by improving access to capital, reducing transaction costs, and facilitating investment in knowledge-driven sectors. In the context of Nigeria, a deeper financial sector can encourage export diversification by making it easier for non-oil sectors to access funding for growth. However, incorporating this theory, the notional functional form of the model is specified as follows:

$$EDI = f(FD, GCFGR, TOP, NOE) \quad (3.1)$$

Equation (3.1) is, therefore, presented in an econometric form as follows:

$$EDI_t = \alpha_0 + \beta_1 FD_t + \beta_2 GCFGR_t + \beta_3 TOP_t + \beta_4 NOE_t + \mu_t \quad (3.2)$$

(+) (+) (+) (+)

Where EDI is the export diversification index measured as export concentration index, FD is the financial sector development calculated as the ratio of money supply to GDP, GCFGR is gross fixed capital formation growth rate. NOE is the non-oil sector output calculated as a percentage of GDP, TOP is the trade openness, α_0 is the constant parameter, β_1 to β_4 are the parameters of the regression variables, while μ is the stochastic or error term.

Estimation Technique

The techniques of data analysis that were adopted for the study were based on the study objectives. However, to determine whether financial development promotes export diversification in Nigeria, the study employed the autoregressive distributive lag model and the Bounds test of cointegration.

The Autoregressive Distributive Lag Model

This test for co-integration was developed by Pesaran *et al.* (2001). The technique is preferable when dealing with variables that are integrated of mixed order between I(0) and I(1) and robust when there is a single long-run relationship between the underlying variables in a small sample. To ascertain the cointegration between the variables, equation 3 is therefore expressed in the general ARDL model developed by Peasaran *et al.*, (2001). The generalised ARDL (p,q) model is specified below as;

$$Y_t = \alpha_0 + \sum_{i=1}^p \delta_i \Delta Y_{t-i} + \sum_{j=1}^q \beta_j X_{t-j} + \epsilon_t \quad (3)$$

Where Y_t is a vector and the variables in X_t are allowed to be purely I(0) or I(1) or cointegrated; β and δ are coefficients; α_0 is the constant; $j=1, \dots, k$; p, q are optimal lag orders; and ϵ is the vector of error terms. To check for the existence of a long-run relationship among the variables, the model was estimated as;

$$\begin{aligned} \Delta EDI_t = & \delta_0 + \delta_1 EDI_{t-1} + \delta_2 FD_{t-1} + \delta_3 GCFGR_{t-1} + \delta_4 TOP_{t-1} + \delta_5 NOE_{t-1} \\ & + \sum_{i=1}^n \gamma_1 \Delta EDI_{t-i} + \sum_{i=1}^n \gamma_2 \Delta FD_{t-i} + \sum_{i=1}^n \gamma_3 \Delta GCFGR_{t-i} \\ & + \sum_{i=1}^n \gamma_4 \Delta TOP_{t-i} + \sum_{i=1}^n \gamma_5 \Delta NOE_{t-i} + \mu \end{aligned}$$

However, the error correction model, which determines the speed of adjustment from short-run disequilibrium to equilibrium, was adopted and estimated as;

$$\begin{aligned} \Delta EDI_t = & \delta_0 + \delta_1 EDI_{t-1} + \delta_2 FD_{t-1} + \delta_3 GCFGR_{t-1} + \delta_4 TOP_{t-1} + \delta_5 NOE_{t-1} \\ & + \sum_{i=1}^n \gamma_1 \Delta EDI_{t-i} + \sum_{i=1}^n \gamma_2 \Delta FD_{t-i} + \sum_{i=1}^n \gamma_3 \Delta GCFGR_{t-i} \\ & + \sum_{i=1}^n \gamma_4 \Delta TOP_{t-i} + \sum_{i=1}^n \gamma_5 \Delta NOE_{t-i} + \sum_{i=1}^n \rho ECM_{t-i} + \mu_t \end{aligned}$$

Where $\gamma_1 - \gamma_5$ are short-run elasticities and $\delta_1 - \delta_5$ are long-run elasticities, ECM_{t-1} is one lag of the error correction term, λ is the speed of adjustment

Diagnostic Tests

The test is carried out to know whether the assumptions of the ordinary least squares technique are satisfied.

The Breusch-Godfrey test is a statistical tool employed in econometrics to detect the presence of serial correlation within the residuals of a regression model. Essentially, it identifies whether there are predictable patterns in the forecast errors, suggesting that past errors influence future ones

The Breusch-Pagan-Godfrey (BPG) test is a crucial tool in econometrics to assess a fundamental assumption of linear regression: homoscedasticity, which posits that the variance of the errors in the model remains constant across all observations. The BPG test elegantly detects heteroscedasticity by first examining the squared residuals of the original regression model. These squared residuals represent the magnitude of the errors. The test then regresses these squared residuals on the independent variables used in the initial model.

If the p-value is less than 0.05, we conclude that there is statistically significant evidence of heteroscedasticity.

This implies that the error variance is not constant, potentially leading to unreliable and inefficient parameter estimates in the original regression model. Conversely, a p-value greater than or equal to 0.05 suggests that there is insufficient evidence to reject the assumption of homoscedasticity. This indicates that the error variance is likely constant, providing greater confidence in the reliability of the regression results.

Results and Discussions

Stationarity Test

The variables in the model were subjected to unit root tests to determine their stationarity. The test was carried out at levels and first differences of the chosen variables, assuming intercept and trend in the Phillips-Perron (PP) specifications. The null hypothesis states that each variable has a unit root; that is, each is non-stationary. In contrast, the alternative hypothesis states that each variable does not have a unit root; in which case, each variable is stationary. The unit root test result is contained in Table 1.

Table 1: Augmented Dicky-Fuller Stationarity Test Result

Variables	ADF t-statistic	Prob. Value	Integration Order
EDI	-3.6403	0.0128	I(0)
FD	-4.5783	0.0012	I(1)
GCFGR	-9.5265	0.0000	I(0)
TOP	-3.9990	0.0053	I(1)
NOE	-7.4852	0.0000	I(1)

Source: Computed by the Researcher using EViews 10

Table 1 shows the unit root test results of the variables used in the study. The unit root test was carried out using the Augmented Dickey-Fuller Test. The Akaike selection criterion was chosen for the unit root test. The decision rule states that for the variable to be stationary at any level, the absolute value of the t-statistic must be higher than the absolute critical value at a 5% significance level. From the result in Table 1, the unit root test shows that all the variables used in this study were stationary at level and first difference.

Correlation Matrix

The study also conducted a correlation matrix, which is a useful statistical analysis technique that provides insights into the relationships between multiple variables in a data set. A correlation matrix in regression analysis identifies relationships between variables, helping to detect multicollinearity, which can distort regression results and affect model accuracy. The correlation matrix is present in Table 2.

Table 2: Correlation Test Result

	EDI	FD	GCFGR	NOE	TOP
EDI	1.000000	-0.824604	-0.098190	-0.600449	-0.704167
FD	-0.824604	1.000000	0.001380	0.718549	0.808550
GCFGR	-0.098190	0.001380	1.000000	-0.027273	-0.101366
NOE	-0.600449	0.718549	-0.027273	1.000000	0.799207
TOP	-0.704167	0.808550	-0.101366	0.799207	1.000000

Source: Computed by the Researcher using EViews 10

The result in Table 2 represents the correlation result between the dependent and independent variables. The result shows a strong negative correlation between financial development and export diversification in Nigeria. This implies that an increase in financial development will decrease export diversification in

Nigeria. Moreover, gross fixed capital formation, non-oil export as a percentage of GDP and trade openness have negative effects on export diversification in Nigeria. The result also reveals that there was no multicollinearity among the independent variables in the model.

Co-Integration Test

This test is adopted to examine whether our variables have a long-run relationship (i.e., whether they are co-integrated in the long run). The co-integration test was

carried out using the autoregressive distributed lag bound test. Thus, the autoregressive distributive lag bound test is presented in Table 3 below

Table 3: ARDL Bound Test

Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	2.034586	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Computed by the Researcher using EVIEWS 10

The co-integration test result presented in Table 3 shows that the variables used in this study have no long-run relationship. This is from the evidence that the F-statistic value of 2.0346 is less than the lower bound value of 2.56 and upper bound value of 3.49 at the 0.05% critical

value. This implies that the dependent variable cannot be sufficiently predicted in the long run using the explanatory variables. Hence, the error short-run regression result is presented in Table 4.

Table 4: ARDL Short-run Regression Result

Dependent Variable: Export Diversification Index				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EDI(-1)	0.733990	0.158936	4.618148	0.0001
FD	-0.004126	0.001722	-2.396729	0.0259
GCFGR	0.000303	0.000420	0.722055	0.4782
GCFGR(-1)	0.001208	0.000432	2.797286	0.0108
NOE	0.000769	0.001785	0.430750	0.6710
TOP	0.041521	0.043055	0.964372	0.3458
C	0.260846	0.149417	1.745761	0.0955
R-squared	0.856363	Mean dependent var		0.802429
Adjusted R-squared	0.815324	S.D. dependent var		0.056708
F-statistic	20.86700	Durbin-Watson stat		1.924149
Prob(F-statistic)	0.000000			

Source: Computed by the Researcher using EVIEWS 10

The coefficient value indicates the expected change in the dependent variable (EDI) for a one-unit change in the independent variable, holding all other variables constant. EDI(-1): A coefficient of 0.733990 means that a one-unit increase in the previous period's export diversification index (EDI) leads to an expected 0.734 unit increase in the current period's EDI. This suggests a strong positive persistence or a high degree of inertia in export diversification. Also, the p-value of 0.0001 is less than 0.05% critical value, and the t-statistic of 4.618 confirms that the past EDI is a highly significant positive predictor of the current EDI.

FD (Financial Development): The coefficient of -0.004126 indicates that a one-unit increase in financial development is associated with a 0.0041 unit decrease in the EDI. This suggests that financial development has a slight negative effect on export diversification, which could imply that as financial systems become more developed, they might favor existing, less diversified export sectors. However, the p-value of 0.0259 is less than the 0.05%

significance level and the t-statistics of -2.396 shows that financial development has a statistically significant negative relationship with export diversification in the shortterm.

GCFGR (Gross Fixed Capital Growth Rate): The coefficient for the current GCFGR is 0.000303, while the previous period's (GCFGR(-1)) is 0.001208. This indicates that both current and past growth in fixed capital have a positive impact on export diversification in Nigeria. Moreover, the p-value of 0.0108 is less than the 0.05% critical value, and the t-statistic of 2.797 indicates that the previous period's gross fixed capital growth rate is a statistically significant positive predictor of export diversification in Nigeria. For the current period, capital formation growth rate, the p-value of 0.4782 is much greater than the 0.05% critical value, meaning that the current period's gross fixed capital formation growth rate is not statistically significant in explaining changes in the export diversification in the shortrun.

NOE (Non-Oil Export): The coefficient of 0.000769

suggests that a 1% change in non-oil exports as a percentage of GDP is associated with a marginal 0.00077% increase in export diversification in Nigeria. The p-value of 0.6710, non-oil exports as a percentage of GDP are not statistically significant in predicting changes in the export diversification in Nigeria. TOP (Trade Openness): The coefficient of 0.041521 implies that a one-unit increase in trade openness is associated with an expected 0.0415 unit increase in the EDI, indicating a positive but weak relationship. Also, the p-value of 0.3458 shows that trade openness is not statistically significant in explaining changes in export diversification in the short-term.

R-squared (0.856363) and Adjusted R-squared (0.815324): These values are high, indicating that the model explains a very large portion of the variance in the change in export diversification in Nigeria. F-statistic (20.86700) and Prob(F-statistic) (0.0000), which is less than the 0.05% significance level, signify that the F-statistic is highly significant, indicating that the overall model is statistically significant in explaining changes in export diversification in Nigeria. Durbin-Watson stat (1.924149) is used to detect autocorrelation in the model. A value close to 2

suggests that there is no significant autocorrelation. The Durbin-Watson statistic value is 1.9241, which is close to two (2), implying that there is no serial correlation or autocorrelation in the model

In summary, only past EDI, financial development, and past GCFGR have a statistically significant relationship with the current export diversification index. The other variables in the model do not provide sufficient evidence to conclude a non-zero effect on EDI. The low p-value for the F-statistic (0.000000) indicates that the model is statistically significant, meaning that the independent variables collectively explain a significant portion of the variation in the dependent variable. The R-squared of 0.856 suggests that approximately 85.6% of the variation in the export diversification index can be explained by the independent variables in the model.

Diagnostic Test

To ensure that the model used in this study is devoid of econometrics problems, diagnostic tests were carried out to check for goodness of fit, serial correlation, heteroscedasticity test, and normality test. The results are stated below in Table 5.

Table 5: Diagnostic Test Results

	F-statistics	Prob. (F-statistics)	Decision
Heteroskedastic Test	0.520825	0.8318	Homoscedastic
Serial Correlation	0.122849	0.7895	No autocorrelation
Normality Test	1.388064	0.51477	Normally Distributed

Source: Computed by the Researcher using EViews 10

Serial Correlation

From Table 5, the F-statistic value of 0.1228 and the p value of 0.7895 is greater than the 0.05% critical value, therefore, the null hypothesis of no serial correlation is accepted, and it is concluded that there is no serial correlation among the variables. Also, the Durbin-Watson statistics confirm the presence of no serial correlation in the model, given that, the Durbin-Watson value of 1.924149, confirms no serial correlation in the model.

Heteroskedasticity

From Table 5, the prob. (F-statistic) is 0.8318 is greater than the 0.05 critical value, therefore, the null hypothesis is accepted and concludes that the models are homoscedastic, meaning that the variance of the errors is constant across different values of the independent variables.

Normality Test

The classical normal linear regression model assumes that each error term is distributed normally. This study will make use of the Jarque-Bera normality test to find out if the estimated errors are normally distributed. From Table 4.5, the probability value of Jarque-Berra statistics is 1.3880 alongside their p-values of 0.51477, which is greater than 0.05% significant value. Therefore, we reject the null hypothesis and conclude that the models follow the normal distribution.

Variance Inflation Factor

In econometrics, Variance Inflation Factors (VIF) are used to assess multicollinearity among independent variables in a regression model. Multicollinearity occurs when two or more independent variables in a regression model are highly correlated, leading to unreliable estimates of the coefficients and standard errors.

Table 6: Test for Multicollinearity

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
EDI(-1)	0.025261	777.0690	3.712355
FD	2.96E-06	50.88710	4.423166
GCFGR	1.76E-07	1.357455	1.327376
GCFGR(-1)	1.86E-07	1.446139	1.410462

NOE	3.19E-06	16.53829	3.043648
TOP	0.001854	16.40628	4.909208
C	0.022325	1052.585	NA

Source: EViews 10 Output

The variance inflation factors in Table 6 clearly show that all the variables employed for the study have variance inflation factors greater than one (1) and less than five (5). This implies that there is no multicollinearity among the explanatory variables, thus making the regression result reliable for decision-making and predictions

Economic Implications of Findings
Export Diversification Index (EDI)

The coefficient of 0.733990 for EDI(-1) signifies that a significant portion of a country’s export diversification from the previous year carries over to the current year. This implies that policies aimed at diversifying exports have a lasting, cumulative effect. Economically, this suggests that the process of diversifying an economy’s export base is not a one-time event but a path-dependent process. Countries that have already achieved a certain level of diversification are likely to continue doing so in the future due to established infrastructure, knowledge, and market relationships. This also means that initial investments in diversification, while perhaps slow to yield results, are likely to have a persistent positive impact.

Financial Sector Development (FD)

The coefficient for FD is -0.004126, indicating that an increase in financial development will lead to a decrease in export diversification in Nigeria. The finding is not in line with the theoretical expectation of the findings. It therefore means that the financial sector development is yet to be developed in Nigeria. A well-developed financial system promotes economic diversification by efficiently mobilizing, allocating, and managing financial resources across different sectors of the economy.

To answer the question whether financial sector development promote export diversification in Nigeria, findings show that despite the gradual increase in financial sector development, export diversification index shows a continuous decline over the period, also the regression analysis indicate a negative relationship with export diversification implying that financial sector development does not promote export diversification in Nigeria due to underdevelopment of the capital market, short-term lending structure, weak financial inclusion, weak export credit and guarantee systems, crowding-out effect as a result of government borrowing, macroeconomic instability and high lending rate which discourages private sector or individual to borrowed funds for investment in Nigeria.

CONCLUSION

The research findings conclude that in Nigeria, export diversification is significantly influenced by various

economic factors with distinct impacts. The financial sector exhibits a negative relationship with export diversification, indicating that current financial sector dynamics may not be effectively supporting diversification efforts and may favour concentrated industries, particularly the oil sector. Conversely, the Granger causality results show unidirectional causality running from financial development to export diversification, supporting the view that a stronger financial system plays a crucial role in expanding Nigeria’s export base, while export diversification has not significantly influenced financial sector development in Nigeria. The findings suggest that policy focus should shift towards reforming the financial system to better serve diverse sectors, boosting investment in export-capable industries, and leveraging trade openness alongside non-oil export promotion to achieve a more diversified and sustainable export economy in Nigeria.

Based on the regression results and the study objectives, the following policy recommendations are appropriate:

- i. Since Nigeria’s financial sector is underdeveloped, the government should reform financial sector policies to ensure that financial development supports a wider range of sectors, especially non-oil export sectors. This may include incentivizing banks and financial institutions to provide credit and financial services to small and medium enterprises (SMEs) in manufacturing and agriculture, which are key to diversification.
- ii. Since the empirical evidence shows a unidirectional causality running from financial development to export diversification. Therefore, policy should primarily focus on strengthening and restructuring the financial system as a strategic tool for achieving export diversification.

REFERENCES

Adeleke, A. S. and Ayadi, O. F. (2019). Financial development and export diversification in Nigeria. *African Development Review*, 31(2), 165–177.

Ajakaiye, D. O. (2017). Economic Development in Nigeria: A Review of Experience and Challenges. *Nigerian Economic Summit Group (NESG)*.

Amakinde, T. and Olusola, B. (2018). Financial sector reforms and export diversification in Nigeria. *International Journal of Economics and Financial Issues*, 8(2), 162–169.

Beck, T. (2002). Financial development and income inequality: Is there a link? *Journal of Economic Growth*, 7(1), 77–92.

CBN. (2019). Statistical Bulletin. Central Bank of Nigeria.

Das, S., and Ghosh, S. (2016). Financial Development and Economic Growth: Evidence from India. *Economic Modelling*, 55, 97-105.

- de la Torre, A., Didier, T., & Schmukler, S. L. (2016). *Financial development and diversification of production* (World Bank Policy Research Working Paper No. 7644). World Bank
- Fink, G., Haiss, P. and Stehrer, R. (2014). Financial Development and Economic Growth in Europe: A Sectoral Perspective. *Structural Change and Economic Dynamics*, 30, 80-92.
- Goldsmith, R. N. (1969). *Financial structure and development*. Yale University Press.
- International Monetary Fund. (2020). *Diversifying the economy: How important is it?*
- King, R. G. and Levine, R. (1993). Financing Growth: Schumpeter Might Be Right. *The Quarterly Journal of Economics*, 108(3), 717-737.
- Levine, R. (2005). Finance and Growth: Theory and Evidence. In P. Aghion and S. N. Durlauf (Eds.), *Handbook of Economic Growth* (pp. 865-934). Elsevier.
- Levine, R. (2005). Finance and growth: Theory and evidence. *Perspectives on Economic Growth and Development*, 211–252.
- Malick, D. (2019). *Facteurs de diversification des exportations: Une analyse empirique au cas des pays de l'UEMOA. Finance & Finance Internationale*.
- Martincus, C. V., & Gomez, S. M. (2009). *Trade policy and export diversification: What should Colombia export from the FTA with the United States* (IDB Working Paper No. 136). Inter-American Development Bank.
- Ngassam, S. B., Ngameni, J. P., Tiwang, G. N. and Kemmanang, L. F. (2020). Export diversification in Economic Communities of Central African countries: The role of infrastructure. *Asian Journal of Economic Modelling*, 10(3), 160-177.
- Nwosa, P. I. (2018). Trade Policy and Export Diversification in Nigeria: An ARDL Approach. In: *EuroEconomica* 37 (1), S. 180 - 190.
- Nwosa, P. I., Tosin, F. O. and Ikechukwu, O. M. (2019). Export Diversification and Economic Growth in Nigeria. *Signifikan: Jurnal Ilmu Ekonomi*, 8(2), 227-234.
- Orebiyi, P. A and Effiong, U. E. (2023) Export Diversification, Financial Sector Development and Economic Growth: Empirical Evidence from West African Sub-Region. *Studies in Economics and Business Relations*. 4(2), 13 – 36.
- Otu, O. G., and Ujunwa, A. (2019). Financial development and diversification of Nigeria's export base: Evidence from an autoregressive distributed lag (ARDL) approach. *Economic Change and Restructuring*, 52(4), 423–439.
- Rajan, R. G., & Zingales, L. (2003). *Saving capitalism from the capitalists: Unleashing the power of financial markets to create wealth and spread opportunity*. Crown Business.
- Schumpeter, J. A. (1911). *The theory of economic development*. Harvard University Press.