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EXPORT DIVERSIFICATION AND ECONOMIC GROWTH IN NIGERIA

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ABSTRACT

This study investigated the impact of export diversification on economic growth in Nigeria. Following an extensive review of theoretical and empirical literature, the study estimated an ARDL model with GDP growth as the dependent variable, while Export concentration (Theil index), Trade openness (TOP), Exchange rate (EXCH), Gross fixed capital formation (GFCF), GDP Per capita (GDPPC) and Human development Index(HDI) as the independent variables. Annual time series data ranging from 1981- 2022 of the selected variables were employed in the analysis. The study established that while export diversification promotes growth in the long run, it has positive impact on the lagged period in the short run. Finally, the study found the existence of a unidirectional causality from economic growth to export diversification. Amongst, others the study recommended the implementation of policies and programmes that support the diversification of the economy. This will involve a clearly articulated plan aimed at attracting local and foreign private sector investment in labor-intensive sectors such as the agricultural value chain, manufacturing, small and medium scale enterprises and other real sector activities that will fast track the diversification of the economy and improve inclusive economic growth.

Keywords: Export Diversification, Economic Growth, Theil Index, Exchange Rate, Gross Fixed Capital Formation.

INTRODUCTION

Export diversification which entails the reallocation of resources from less productive sectors into more productive and efficient sectors has been at the core of many trade policies in less developed countries like Nigeria (Lin, 2012). Efficient resource allocation from primary product export to a more diversified portfolio of export is considered crucial for achieving structural transformation and subsequent economic growth in less developed countries (McMillan & Rodrik, 2011; Lin, 2012).

Less developed countries like Nigeria have for a long time remained less diversified and this has been adduced as one of the reasons they have remained poor (Amoro, 2020). In Nigeria, the export sector has remained mostly exclusive with crude oil export as the primary source of government revenue and foreign exchange in the last Four decades (Duhu, 2021). This has grave implication for structural transformation, economic growth and long run economic development.

Statistics from the United Nations conference on trade and development (UNCTAD, 2020) shows a high concentration of crude oil in Nigeria's total export. The Herfindahl-Hirschman index which measures the degree of export diversification/concentration shows a consistent low level of diversification in Nigeria with the index consistently above 0.78 in the last two decades (IMF statistics, 2021). Furthermore, evidence from the CBN statistical bulletin 2021 indicate that the share of oil in total export revenues remained at 84%, 87% and 85% in 2019, 2020 and 2021 respectively (CBN, 2021).

The adverse effect of such exposure on government revenue, foreign exchange earnings and general economic growth is well documented in economic literature. For instance, studies have shown that fiscal and monetary policy in Nigeria are highly dependent on the price of oil in the international market (Ajayi, 2020), consequently, fluctuations in the oil prices negatively impacts government expenditure, economic planning and implementation (Afrogha and Afrogha, 2022). Apart from the direct effect on government revenue and expenditure, it is estimated that at least 30% of the economy indirectly depends on the oil sector through oil price developments (IMF, 2022).

To diversify the economy, successive governments have overtime adopted different economic policies. As a result, there have been a lot of reforms driven by policymakers, aimed at promoting export diversification and reducing it's over reliance on crude oil exports so as to achieve accelerated economic growth (Iyoboyi, 2018).

In 1986, the structural Adjustment policy was introduced with a clear objective of transforming the economy structurally by moving away from over reliance on the export of crude oil, to a more diversified export base capable of withstanding negative shocks and supporting sustained economic growth. This period was characterized by several reforms including exchange rate regime changes and guided deregulation of the economy (Duhu, 2021).

In 2004, the National Economic Empowerment and Development Strategy (NEEDS) was launched. Amongst other things, the policy was aimed at stimulating growth in multiple fronts. The main idea was that the economy needed a balanced growth approach to economic growth a big push was necessary to stimulate growth in multiple sectors and achieve prosperity. To actualize this, the document recommended massive privatization of government owned assets as well as deregulation and liberalization of key sectors of the economy (Iyoboyi, 2018).

In 2017, the Economic Recovery and Growth Plan (ERGP), was adopted by the Government. The ERGP aimed at restoring economic growth and driving sustainable, accelerated development using the non-oil sector. It focused on promoting national prosperity. It targeted a growth rate of 7 percent by the end of the year 2020, with an annual average real GDP growth rate of 4.62 percent between 2017 and 2020. This was to be mainly driven by the non-oil sectors (Anam et al, 2024).

Violent fluctuation in oil price creates revenue uncertainty in mono product net oil exporters like Nigeria. This affects projected revenue from crude oil sales and creates fiscal uncertainty making budget planning and implementation uncertain thereby negatively affecting economic growth (Lukman and Alege, 2018). The after effect can lead to recession as experienced in early 2016 and 2020 when oil prices dropped to below $30 per barrel and GDP growth fell to -1.6 percent.

Evidences from the success stories of the Asian Tigers show that a diversified export sector is crucial for rapid economic growth. By diversifying the export sector both vertically and horizontally, not only will the country insulate its revenue source from violent fluctuations, it creates a vibrant industrial sector which is a very crucial step in fighting unemployment, poverty, inequality and economic growth (Suberu, Ajala, Akande, & Adeyinka, 2015).

Given the implication of export diversification on Nigeria's economic growth prospects, there are no shortages of work documenting the impact of export diversification on Nigeria's economy (see Nwosa, Fasina&Ogbuagu, 2019; Adeyemi and Adewole, 2018; Owan, Ndibe and Anyanwu, 2020; Doki and Tyokohol, 2019; Metu, 2020). However, evidences from the studies in Nigeria are conflicting. While Doki and Tyokohol, (2019) found positive and statistically significant relationship between export diversification and economic growth, Duhu (2021) established that export diversification had a significant effect on the Nigerian Economy only in the short run. On the other hand, Metu, (2020), found no significant effect of export diversification on economic growth in Nigeria. Given this conflicting finding, there is need to reevaluate this relationship given recent data. Again, there are multiple measures of export diversification making comparisons across different works quite difficult. While Adeyemi and Adewole, (2018), used a ratio of oil export to total export as a measure of export diversification; this study will adopt the Theil index as our measure of export diversification because the Theil index is preferred over other measures of export diversification because of its decomposability properties into horizontal and vertical diversification, Iyoboyi (2018).

Nigeria like many less developed countries is in the process of transitioning from a mono product economy to a more diversified economy capable of competing in the Global market place as well as lifting a majority of its people out of poverty. In this regard, a study on the impact of export diversification on inclusive growth will help in guiding policies aimed at diversifying the export base and setting the country on a trajectory to sustainable inclusive growth.

CONCEPTUAL CLARIFICATIONS

Export Diversification

Several scholars have viewed economic diversification as a means of quickening growth and development, particularly in mono-product economies that rely primarily on the export of a single commodity, such as crude oil (Anyaehie and Areji, 2015; Akpan, 2009; Hyden, 2006). Economic diversification, according to Akpan (2009), is a pre-requisite for achieving sound economic growth, especially in Nigeria, in addressing the requirements of the poor masses by increasing aggregate supply in the economy.

According to Doki and Tykokohol (2019), export diversification is the expansion of exports to new products or new markets (extension margin), as well as having balance mix of existing products intensive margin. There are two well-known types of export diversification from the supply side that may take place in developing countries, namely, horizontal and vertical diversification. Horizontal diversification can be materialized through (i) a larger mix of diverse and complementary activities within agriculture; and (ii) a movement of resources from low value agriculture to high value agriculture. On the other hand, an economy is said to be vertically diversified if and only if that country starts processing and exports value-added products that would have previously been exported in raw forms.

Economic growth

Economic growth is the increase in the inflation-adjusted market value of the goods and services produced by an economy over time. It is conventionally measured as the percentage rate of increase in real gross domestic product, or real GDP. An increase in growth caused by more efficient use of inputs (such as labor, physical capital, energy or materials) is referred to as intensive growth.

EMPIRICAL LITERATURE REVIEW

Research works have been carried out by different researchers using different techniques on the effect of export diversification on inclusive growth in Nigeria.

Azam and Azam (2023), examined the relationship between export diversification and growth rate of the Gross Domestic Product (GDP) of Bangladesh using annual data from 1995 to 2020. The study utilized the Autoregressive Distributed Lag (ARDL) bounds test to cointegration approach to estimate the long run relationship and the error correction model to determine the existence of a short run relationship. The results from the study indicate that there exists a significant long run cointegrating relationship between overall export diversification and economic growth in Bangladesh. In the long term, if horizontal export diversification increases by 1%, the GDP growth rate shall rise by around 1.7%. Conversely, the short run relationship between export diversification and economic growth is proven to be insignificant.

Aigheyisi (2023), examined the effect of export diversification/concentration on income inequality in Nigeria during the period 1981-2015, while controlling for the effects of financial development, inflation, and exchange rate. The study employed the dynamic OLS estimator for analysis of relevant data. The study finds positive and significant effect of export concentration on income inequality, implying that export concentration contributes significantly to income inequality in the country. This suggests that export diversification will serve to reduce income inequality therein. The study also finds that inflation and currency depreciation engenders increase in income inequality. This is indicated by the estimated positive and significant coefficients of inflation and exchange rate variables.

Kalaitzi, Al-Awadhi, Al-Qudsi and Chamberlain (2023), examined whether export diversification can foster sustained economic growth in Kuwait, using time series analysis for the period 1980–2019 and a field survey of one hundred Kuwait business leaders engaged in import and export of goods and services. The time series analysis reveals that there is no

causality between export diversification and economic growth in the short-run. However, an indirect causality runs from export diversification to economic growth, and vice versa, via imports. In the long-run, no causality runs from export diversification to economic growth, but economic growth does cause export diversification.

Afrogha and Afrogha (2022) investigated the implication of export diversification on Nigeria's Economic growth. Using an inferential statistics approach, secondary data from the National Bureau of Statistics (NBS) and United Nations Commission on Trade and Development (UNCTAD) 2018 were collected and analyzed using the Ordinary Least Square (OLS) method. From the study's results and verification of the model using apriori expectation criteria, statistical criteria, and econometric techniques, it was determined that the theoretical statement was experimentally supported and OLS assumptions were maintained. Diversification, as measured by agricultural contribution to GDP and mining contribution to GDP, was found to have a significant impact on GDP, whereas manufacturing contribution to GDP was found to have a negative relationship with GDP and a negligible impact on economic growth in Nigeria during the period under review.

METHODOLOGY

Theoretical Framework: Prebisch-Singer Hypothesis

This theory surrounds the idea that where the relative prices of primary products would decline over long term, developing countries that were led by comparative advantage to specialize in them would find their prospect for development diminish (Ardeni& Wright, 1992).

Singer (1950) noted that technical progress improves manufacturing process through a rise in the price of its product, while the price in the production of food and raw materials was rather in a downward trend due to technical progress. This leads to a fundamental unequal situation because consumers in industrialized countries tend to have cheaper imports and high wages and the reverse to consumers in underdeveloped nations.

In summary, the Prebisch-Singer hypothesis posit countries that concentrate on the export of primary product will become poorer while those that diversify their economy by pursuing aggressive industrial policies are likely to achieve prosperity and economic growth.

Relating it to our study, the theory posits that export diversification both vertically and horizontally is a necessary condition for inclusive economic growth in less developed countries like Nigeria.
Mathematically;
Inclusive growth = f (Export diversification)……..3.1

Measurement of Export diversification

There are several measures of Export diversification in the empirical literature. However, the concentration and inequality indices (i.e. Herfindahl, Gini and Theil indices) are the most widely used when measuring export diversification.

Following Iyoboyi (2018), this paper adopted the Theil Index (TI), due to Theil (1972). A major advantage of the Theil index over alternative measures of diversification is that it can be decomposed into intensive and extensive margins.

Model Specification

Model Specification for Objective 1

To capture the objective of this model which is to determine the effect of export diversification on economic growth the following model was specified.

Mathematically, the functional form of the research model is specified below as:

GDPgrt = f(EXD,M2,EXCH,GDPPC,HDI,GFCF,TOP)…….. (3.1)

Taking the logarithm of equation 3.1 we have:

$LnGDPgrt_t = \beta_1 + \beta_2 lnEXD_t + \beta_3 lnGFCF_t + \beta_4 InHDI_t + \beta_5 M2_t + \beta_6 InTOP_t + \beta_7 EXCH_t + \mu t$…. *(3.2)*

The logged difference form of the equation 3.2 is thus:

$$\Delta Ln(GDPgrt)_t = \alpha_0 + \sum_{i=1}^{k} \alpha_1 \Delta \ln GDPgrt_{t-i} + \sum_{i=1}^{k} \alpha_2 \Delta \ln EXD_{t-i} + \sum_{i=1}^{k} \alpha_3 \Delta \ln M2_{t-i} + \sum_{i=1}^{k} \alpha_4 \Delta lnEXCH_{t-i} + \sum_{j=1}^{k} \alpha_5 \Delta lnGDPPC_{t-j} + \sum_{j=1}^{k} \alpha_6 \Delta \ln HDI_{t-j} + \sum_{j=1}^{k} \alpha_7 \Delta \ln TOP_{t-j} + \sum_{i=1}^{k} \alpha_8 \Delta lnGFCF_{t-i} + \mu t \ldots\ldots 3.3$$

Where Δ denotes the first difference and k the lag length. From equation 3.3 we can specify the unrestricted error correction model as:

$$\Delta Ln(GDPgrt)_t = \alpha_0 + \sum_{i=1}^{k} \alpha_1 \Delta \ln GDPgrt_{t-i} + \sum_{i=1}^{k} \alpha_2 \Delta \ln EXD_{t-i} + \sum_{j=1}^{k} \alpha_3 \Delta M2_{t-i} + \sum_{i=1}^{k} \alpha_4 \Delta lnEXCH_{t-i} + \sum_{j=1}^{k} \alpha_5 \Delta lnGDPPC_{t-j} + \sum_{j=1}^{k} \alpha_6 \Delta ln\, GFCF_{t-j} + \sum_{j=1}^{k} \alpha_7 \Delta \ln HDI_{t-j} + \sum_{j=1}^{k} \alpha_8 \Delta \ln TOP_{t-j} + \beta_1 \ln(GFCF) + \beta_2 lnEXD + \beta_3 \ln EXCH + \beta_4 lnHDI + \beta_5 lnM2 + \beta_6 lnGDPPC + \beta_7 lnTOP + ECM_{t-1} + \mu_{t1} \ldots\ldots\ldots\ldots 3.4$$

Where

GDPgrt = Gross domestic product growth (proxy for economic growth); EXD = Export diversification measured by the Theil Index; M2 = Broad money supply; TOP = Trade openness (measured as, export + import / GDP); EXCH = Exchange Rate; GDPPC = Gross domestic product per capita; HDI= Human development Index; GFCF= Gross fixed capital formation; α_1-α_8= Short run parameters; β_1 -β_7= Long run parameters

Model for Objective Two

Objective two had to do with the direction of causality between export diversification and economic growth in Nigeria. In order to address this objective, the study specified the functional form of the model as;

$$GDPgth_t = f(EXD) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.5$$

$$Ln(GDPgrt_t) = \alpha_0 + \sum_{i=1}^{k} \delta_1 Ln(GDPgrt)_{t-i} + \sum_{j=1}^{d_{max}} \beta_2 Ln(EXD)_{t-j} + \mu_{t1} \ldots\ldots\ldots\ldots\ldots\ldots \quad 3.6$$

$$Ln(EXD)_t = \alpha_0 + \beta_1 \sum_{i=1}^{k} Ln(EXD)_{t-i} + \delta_2 \sum_{j=1}^{d_{max}} Ln(GDPgrt)_{t-j} + \mu_{t2} \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 3.7$$

Where;

The value of d_{max} measures the order of integration of the variables. Other variables in the model remain as defined.

Null Hypothesis:

Ho: $\sum_{j=1}^{d_{max}} \beta_2 = 0$,or EXD does not granger cause GDPgrt …for equation …….3.

RESULTS

Pre-Estimation tests

Unit Root Test

In order to verify the stationarity of the time series, data used for this analysis, a unit root test was conducted on the selected time series data to determine whether they are stationary or non-stationary in level form. The unit root test that was employed in this task is the Augmented Dickey- Fuller Unit Root Test. The result of the ADF Test is presented below:

ADF UNIT ROOT TEST

	At Level (Trend and Intercept)			**At First Difference (Trend and Intercept)**			
Variable	ADF Stat	ADF 5% CV	Prob.	ADF Stat	ADF 5% CV	Prob.	Result
GDPgrt	-0.575533	-2.963972	0.3210	-5.808447*	-2.963972	0.0001	I(1)
ln(GDPPC)	-0.476747	-2.963972	0.7867	-5.066604*	-2.963972	0.0018	I(1)
ln(TOP)	-2.436014	-2.963972	0.4165	-8.076911	-2.963972	0.0064	I(1)
HDI	1.008153	-2.963972	0.7121	-5.548282*	-2.963972	0.0002	I(1)
ln(GFCF)	0.876184	-2.963972	0.4970	-5.100474	-2.963972	0.0004	I(1)

EXCH	1.393597	-2.963972	0.5376	-4.263488	-2.963972	0.0002	I(1)
ln(EXD)	-1.883666*	-2.963972	1.0000	-5.763425	-2.963972	0.0019	I(1)

The 1%, 5% and 10% critical values for the ADF test statistic are -3.670170, -2.963972 and -2.621007. The asterisks (*) sign is used to indicate stationarity at the 5% significance level.

Based on the summary of unit root in table 4.2, the application of unit root tests in autoregressive distributed lag (ARDL) technique is necessary in order to ensure that the variables are integrated at level or order one and none of the variables is integrated of order 2 because the computed F-statistic provided by Pesaran& Shin (2001) are valid for only variables that are I(0) or I(1) and a combination of both. The outcome of the unit root test in table 4.2 above indicated that GDPgrt, ln(GDPPC), ln(TOP), HDI, ln(GFCF), EXCH and ln(EXD)were integrated of order I(1), i.e at first differences which implied that the variables under study are of the same integration order of differencing and this justified the use of ARDL bounds test approach to co-integration over other conventional approaches.

Bounds Cointegration Test

ARDL Bounds Test for Cointegration

Test Statistic	Value	K
F-statistic	5.653963	7
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	2.03	3.13
5%	2.32	3.5
2.5%	2.6	3.84
1%	2.96	4.26

Source: Authors computation using Eviews 12

The computed F-statistics (5.653) is greater than the critical values at the upper bound. This implies that inclusive growth and the explanatory variables used in the model have a long run relationship.

Presentation and Interpretation of Regression Result

Short Run Cointegrating form

Result Estimates of Dynamic Short Run ARDL Error Correction Model forExport Diversification and Economic Growth In Nigeria

Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
DLOG(EXD)	-0.701287	1.855221	-0.378007	0.7115
DLOG(EXD(-1))	3.926832	1.721663	2.280837	0.0401
DLOG(EXD(-2))	5.472963	1.662261	3.292481	0.0058
DLOG(TOP)	0.139232	0.107018	1.301007	0.2158

D(EXCH)	0.080762	0.100306	0.805152	0.4352
D(EXCH(-1))	-0.242560	0.135136	-1.794940	0.0959
D(EXCH(-2))	-0.183484	0.115004	-1.595452	0.1346
DLOG(GFCF)	-0.228652	0.227906	-1.003273	0.3340
DLOG(GDPPC)	-0.506533	0.229473	-2.207373	0.0459
DLOG(GDPPC(-1))	-0.075628	0.160961	-0.469857	0.6462
DLOG(GDPPC(-2))	0.586958	0.186370	3.149426	0.0077
DLOG(M2)	-0.043381	0.211162	-0.205437	0.8404
D(HDI)	-2.774896	5.874782	-0.472340	0.6445
D(HDI(-1))	-12.940457	6.489520	-1.994055	0.0676
D(HDI(-2))	-30.517789	7.407827	-4.119668	0.0012
CointEq(-1)	-0.793663	0.162977	-4.869771	0.0003

Source: Authors computation using E views 12

The error correction parameter is correctly signed and statistically significant indicating that the model adjust to equilibrium in the long run. The coefficient (-0.793663) of the error correction model indicates that the short run model adjust towards long run equilibrium at a speed of 79.4% per annum.

The Theil index is an increasing function of the concentration ratio. An increase in the Theil index implies an increase in export concentration and a decrease in export diversification while a decrease in Theil index implies an increase in export diversification and a decrease in export concentration. Having this in mind, a negative relationship implies that an increase in the Theil index (export concentration) will lead to a decrease in economic growth while a decrease in the Theil index (export diversification) will lead to an increase in economic growth.

The results that emerged from the calibration of the economic growth equation reveal that in the short run, export diversification (measured by the Theil index) had an instantaneous negative effect on economic growth. However, the effect is positive and significant at lags one and two. The lagged short run positive relationship implies that an increase in the export concentration in favor of oil export is good for economic growth in the short run.

One reason for this short term relationship is because as the economy reallocates resources from already existing productive sectors to new sectors, lags resulting from the time of conception to planning and implementations to the period where new investment become profitable may create short term disequilibrium leading to low or negative growth record in the short run . However, as time elapses and the economy gradually adjust and begin to reap the benefit of a more diversified sector, inclusive growth rises as shown by the negative long run relationship between export diversification and inclusive growth in the long run model estimated in the table above. For instance, the study indicated that a one percent decrease in the index of export concentration will lead to 15% increase in inclusive economic growth in the long run all things being equal. The policy implication of this finding is that export

diversification policies are crucial in solving the problem of economic growth in Nigeria. However, the impact of such policies can only be seen in the long run.

The empirical results showed that trade openness had positive impact on economic growth both in the short run (Coefficient: 0.139232) and long run (0.488464) respective. While it was insignificant in the short run with p- value of 0.2158, it was significant in the long run with P-value of 0.0361. This is in line with a priori expectation.

As regards exchange rate, its impact on economic growth is positive both in short run and long run with coefficient values of 0.080762 and 0.511568. However, it is insignificant in the short run (P=0.4352 > 0.05) but significant in the long run (P= 0.0165 < 0.05)

With respect to the gross fixed capital formation (domestic investment), it has negative impact on economic growth both in the short run and long run (Coefficient: -0.228652 and -1.435995) respectively. This result falls short of the a priori expectation. It is insignificant in the short run (P= 0.3340 > 0.05)) and significant in the long run (P= 0.003).

Finally, evidence of causal relationship between export diversification and economic growth indicates that economic growth is a major predictor of export diversification in Nigeria.

Long Run Model

Static Long Run Estimates for Export Diversification and Economic Growth In Nigeria

Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(EXD)	-15.186850	4.470324	-3.397259	0.0048
LOG(TOP)	0.488464	0.209064	2.336438	0.0361
EXCH	0.511568	0.185902	2.751809	0.0165
LOG(GFCF)	-1.435995	0.297062	-4.833996	0.0003
LOG(GDPPC)	-1.528503	0.417850	-3.658020	0.0029
LOG(M2)	-0.054659	0.269873	-0.202535	0.8426
HDI	50.311861	14.982308	3.358085	0.0051
C	65.578540	15.224704	4.307377	0.0009

Source: Authors computation using Eviews 12

Apart from money supply, all the variables included in the model had a statistically significant impact on economic growth in the period under review. Evidence from the estimated model indicates Export diversification (Measured by the Theil index) is negatively related to economic growth in the period under review. This implies that an increase in export diversification will lead to an increase in economic growth in the period under consideration. For instance evidence from model suggests that a 1% decrease in export concentration will increase inclusive economic growth by about 15% all things being equal. The impact is also statistically significant in the period under review. The findings are in line with a priori economic expectations. Increased diversification insulates economies from shocks arising from unexpected price changes in the international market. It allows for a stable revenue flow

which is important in stabilizing long term planning which is necessary for long term economic growth.

Toda -Yamamoto Causality test

The study estimated a Toda-Yamamota granger causality test allowing for two lags to test for the possibility of a causal relationship between Export diversification and Economic growth in Nigeria.

Toda-Yamamota Causality Test

VAR Granger Causality/Block Exogeneity Wald Tests

Dependent variable: LEXD			
Excluded	Chi-sq	Df	Prob.
LGDPPC	0.782672	3	0.8536
GDPgrt	1.509330	3	0.6801
LGFCF	1.060301	3	0.7867
LM2	0.335695	3	0.9532
LTOP	0.297672	3	0.9605
EXCH	0.346562	3	0.9510
HDI	0.463273	3	0.9269
All	12.71827	21	0.9182

Dependent variable: GDPgrt			
Excluded	Chi-sq	Df	Prob.
LEXD	13.54258	3	0.0036
LGDPPC	7.121597	3	0.0681
LGFCF	12.50876	3	0.0058
LM2	3.174796	3	0.3655
LTOP	4.849723	3	0.1831
EXCH	9.437452	3	0.0240
HDI	12.94087	3	0.0048
All	55.93649	21	0.0001

Source: Author's compilation using E views 12

The table shows the estimated Toda Yamamota causality test. The null hypothesis is that there is no causality running from the dependent to the independent variable. However, if the p value is less than 0.05, we reject the null hypothesis and accept the alternative hypothesis which states that there is causal relationship. From it can be seen that there is a unidirectional causality running from economic growth (GDPgrt) to export diversification (LEXD). This is so because the p value of the relationship is less than 0.05 (0.0036<0.05). However, there is no reverse causality from export diversification to economic growth (P value of 0.6801) and this implies that changes in inclusive growth can be used to forecast changes in export diversification but changes in export diversification cannot be used to predict changes in

economic growth. The results also show a unidirectional causal relationship running from economic growth to gross fixed capital formation (p=0.0058), Exchange rate (p=0.0240), and human development index (HDI, P= 0.0048).

Post Estimation test

Breusch-Godfrey Serial Correlation LM Test.

Result of Breusch-Godfrey Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.272757	Prob. F(2,13)	0.7655
Obs*R-squared	1.409018	Prob. Chi-Square(2)	0.4944

Source: Researcher's Extract from Eviews 12 Output package.

From Breusch-Godfrey Serial Correlation LM Test table, the null hypothesis of no serial correlation cannot be rejected as the p-value from the LM serial correlation test is 0.4944 > 0.05 level of significance indicating an acceptance of the null hypothesis.

Breusch-Pagan-Godfrey Heteroskedasticity Test

Result of Breusch-Pagan-Godfrey Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.193015	Prob. F(20,14)	0.9995
Obs*R-squared	7.564865	Prob. Chi-Square(20)	0.9944

Source: Researcher's Extract from Eviews 12 Output package.

From Breusch-Pagan-Godfrey Heteroskedasticity result, the null hypothesis of no serial correlation cannot be rejected as the p-value from the Heteroskedasticity Test is 0.9944 > 0.05 level of significance indicating an acceptance of the null hypothesis.

CusumTest for Stability

The cusum test for model stability was employed to check for the stability of the parameters in the model. The result of the stability test is shown in the figure below.

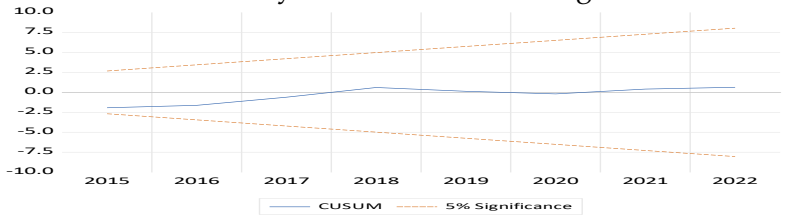

Figure 1. Cusum Test for Model Stablility

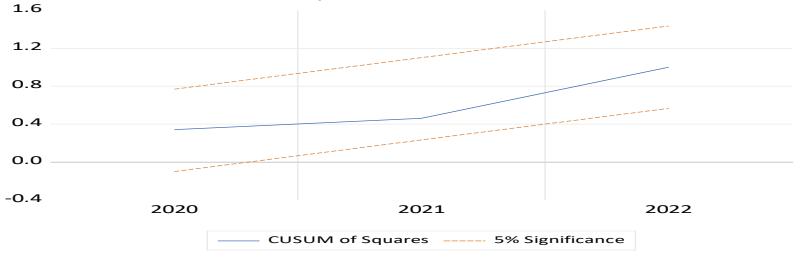

Figure 2. Cusum of Squares for Model Stability

The cusum and cusum squares diagrams shows that the model is stable as the cusum line lies in between the 5% boundary.

CONCLUSION

The study is situated against the backdrop of the rising concentration of oil as a component of total export in Nigeria and its implication on economic growth in Nigeria. The clamor for sustainable economic growth has resulted in many growth and development theories with conflicting prescriptions on the best way to achieve economic development. The study, therefore, sought to investigate the impact of export diversification on economic growth in Nigeria. Following an extensive review of theoretical and empirical literature, the study estimated a ARDL model with GDP growth rate as the dependent variable , while Export concentration (Theil index), Trade openness (TOP), Exchange rate (EXCH), Gross fixed capital formation (GFCF), GDP Per capita (GDPPC) and Human development index(HDI) as the independent variables. Annual time series data ranging from 1981- 2023 of the selected variables were employed in the analysis.

The study established that while export diversification promotes growth in the long run, it has positive impact on the lagged period in the short run. Finally, the study found the existence of a unidirectional causality from economic growth to export diversification.

Recommendations

The study revealed a number of interesting results which have policy implications; hence it is recommended that:

1. There is need for policy makers to promote policies and programmes that support the diversification of the economy. This will involve a clearly articulated plan aimed at attracting local and foreign private sector investment in labour intensive sectors such as the agricultural value chain, manufacturing, small and medium scale enterprises and other real sector activities that will fast track the diversification of the economy and improve inclusive economic growth.
2. The removal or reduction of direct barriers to entry and operation tends to boost diversification and output. Lower barriers, reduce costs and encourage entrepreneurs to spread their reach beyond established activities, thereby contributing directly to diversification.
3. There is need for government to increase complementary investments in critical infrastructures like roads and electricity, strong financial systems. This will lower cost, improve the ease of doing business in the country and attract investors in the country's export sectors

REFERENCES

Adeyemi, D, & Adewole, A. (2018). Export Diversification and Economic Growth in Nigeria: An Empirical Analysis.

Afrogha O.O., &Afrogha F.T(2022)Implications of Economic Diversification in Nigeria (1986-2016) Fuoye Journal of Accounting and Management Science 5(1)210-230

Azam, M., & Azam, S. (2023). "Export diversification and economic growth in Bangladesh," Journal of Empirical Studies, Conscientia Beam, vol. 10(1), pages 1-18.

Aigheyisi, O. S. (2023). Economic Growth and Human Development Effect of Globalization in Nigeria: Evidence in the Democratic Era. Journal of Economic and Sustainable Development, 4(12), 24-33

Anand, R., Mishra, S. & Peiris, S. J. (2013). Inclusive growth: Measurement and determinants. IMF Working Paper. WP/13/135.

Kalaitzi, S., Athanasia & Al-Awadhi, Ahmad & Al-Qudsi, Sulayman & Chamberlain, Trevor W., (2023). "Export diversification and economic growth in Kuwait: evidence from time series and field survey analyses," LSE Research Online Documents on Economics 118060, London School of Economics and Political Science, LSE Library.

Anyaehie, M. &Areji, A. (2015). Economic diversification for sustainable development in Nigeria. Open Journal of Political Science, 5, 87-94. doi: 10.4236/ojps.2015.52010

Ardeni, P. G & Wright, B (1992).The Prebisch-Singer Hypothesis: A Reappraisal Independent of Stationarity Hypotheses," *Economic Journal*, *Royal Economic Society*, 102(413), 803-812.

McMillan, M. S. & Rodrik, D.(2011). Globalization, Structural Change and Productivity Growth. National Bureau of Economic Research Working Paper Series. No. 17143

Prebisch, R. (1950) 'The Economic Development of Latin America and its Principal Problems' (New York: United Nations).

Todaro, M. & Smith, S.C. (2006), "Economic Development" London: Addison-Wesley.

Udeh, S. C., Onuoha, D.A &Nwokorobia, C. (2021). Diversification of Nigeria's Economy: Option For Sustainable Growth. International Journal of Development and Management Review

World Bank (2020a). Poverty and Shared Prosperity 2020: Reversals of Fortunes. October. Washington, DC: World Bank.