GPH-International Journal of Social Science and Humanities Research
(Online ISSN 3050-9637)
Volume 09 | Issue 01 | January 2026
Published by: Global Publication House
DOI: https://doi.org/10.5281/zenodo.18678329
Available online at: www.gphjournal.org
Journal homepage: https://gphjournal.org/index.php/ssh/index

Effect of Non-Oil Export on Economic Development in Selected Countries in Asia, Sub-Sahara Africa, and MENA Regions

EDO, Prosper Iwoma; ISHIORO Bernhard O. & OLELE, Hilda E.
Department of Economics, Faculty of the Social Sciences, Delta State University, Abraka

Abstract

This study examines the effect of non-oil exports on economic development in selected countries across Asia, Sub-Saharan Africa (SSA), and the Middle East and North Africa (MENA) regions, using Nigeria, Republic of Congo, Saudi Arabia, United Arab Emirates, China, and India as case studies. Drawing on annual secondary data from the World Bank spanning 1990–2023, the study adopts an ex post facto research design and employs panel data econometric techniques. Economic development is proxied by per capita income, while non-oil exports serve as the main explanatory variable, with gross domestic product growth, foreign direct investment, and exchange rate included as control variables. Descriptive statistics, panel unit root tests, Pedroni cointegration tests, panel least squares estimation, Hausman test, and fixed effects modeling are applied to analyze the data. The results reveal that non-oil exports exert a statistically significant but negative effect on economic development across the selected countries, suggesting that the dominance of low value-added exports, structural inefficiencies, and vulnerability to external shocks may limit the developmental benefits of non-oil export expansion. In contrast, GDP growth and foreign direct investment show positive and significant effects on per capita income, while exchange rate depreciation adversely affects economic development. The findings underscore the need for region-specific policies aimed at improving the quality, diversification, and value addition of non-oil exports to enhance their contribution to sustainable economic development.

Keywords:

Non-oil exports; Economic development; Per capita income; Panel data analysis; Foreign direct investment; Exchange rate dynamics.

1.0 Introduction

The significance of exports to international trade and economic development is an issue that has been of interest to economists even before the days of Adam Smith. Exports are catalysts necessary for the overall development of an economy; when the export sectors are developed, employment opportunities for the people are created and the standard of living is improved (Abou-Stait 2005). Increased exports earnings help in lessening the pressure on balance of

payment disequilibrium. Similarly, Usman and Salami (2008) opined that export helps in increasing the level of aggregate economic activities through its multiplier effects on the level of national income. Studies by Abu-Qarn and Abu-Bader (2004); and Bahmani-Oskooee and Economidou (2009) suggested that in most developing countries, there is a positive long-run relationship between exports and economic development. Every nation aim for economic development but the resources needed for the achievement of such desired growth may not be available. There is no nation in the world that live in autarky, because no nation is self-sufficient. Due to the differences in natural resources endowment in countries, climatic differences and so on, countries are encouraged to go into trade across borders. Nation become better economically, when they engage in international or foreign trade (Arodoye and Iyoha, 2014). International trade cut across goods, services and finance. Though, countries especially developing, must ensure that their trade with other countries does not impinge on their own growth objective. Thus, their trade should be to accommodate their own macroeconomic policies. Robertson (1938) famously described exports as an engine of growth.

International trade enables a country or nation to broaden its market for goods and services that would otherwise be unavailable to its inhabitants. Foreign trade implies that total productivity includes domestic production, consumption, and international exchange of commodities and services (UNCTAD, 2018). Export trade, as a key driver of economic progress, must result in a constant rise in human status through broadening people's standards and preferences because no country has ever progressed without trade. Therefore, export trade is critical in reorganizing the economic and social characteristics of countries all over the world, particularly in developing countries (Muhammad and Adebayo, 2018). Economists have long been fascinated by the factors that cause countries to expand at various rates and achieve varying levels of wealth. Trade is one of these factors (Mongoe and Mongale, 2014).

Nigeria is essentially an open economy, with international trade accounting for a sizable share of total output. Nigeria's economic progress is heavily reliant on the possibilities of her export commerce with other countries. Trade generates foreign exchange revenues as well as market stimulus, resulting in faster economic (Adenugba and Dipo, 2013). Nigeria has had this experience since the 1960s, despite the fact that the composition of trade has changed over time. Decision-makers, policymakers, and economists have all been interested in foreign trade. It allows countries to sell commodities produced locally to other countries around the world and a source of foreign exchange (Andabai and Maryann, 2018); (Yakeen, 2016). Economists think that allowing international trade to flourish accelerates development (Shivneil and Priteshni, 2017). It is possible that the faster growth is a transition effect rather than a change in steady state growth rate. Clearly, the change takes several decades or more, thus it is more accurate to think of trade openness driving growth rather than only causing a one-time real income adjustment (Elias, Agu, and Eze, 2018). Following the notion that sustained commerce is the principal engine of economic growth, the relationship between trade and growth is envisioned through an export-led growth strategy (Shivneil and Priteshni, 2017).

Exports make a more significant contribution to economic development than imports. A positive statistical relationship between export and income growth were observed in several studies (Nasir and Redmond, 2020). These studies, among others, provided evidence for Lal and Rajapatirana to

note that the adoption or movement toward an export promoting strategy (progression toward neutral free trade position) by countries resulted in better per capita income growth and equity as compared to an import-substituting strategy (progression from the neutral free trade position). Lal and Rajapatirana (1987), further added that continuous movement to an outward-oriented trade system by developing countries created faster growth in exports and income. Contributing factors to a country's edge in export manufacturing included its domestic market size, extent for labour division and increasing returns, and internal transport costs according to Myint (1977).

Conversely, Zahonogo (2016) findings suggested that imports can reduce economic growth in Sub-Saharan African countries and recommended the production of competing domestic products for imported consumption goods where there was dynamic comparative advantage. Such a recommendation should be taken cautiously given the evidence against an import-substitution strategy. In the study of Raza et al (2018), exports and imports respectively exerted a significantly positive and negative effect on economic growth in the United Arab Emirates. Although no technology transfer occurred in their model, Yenokyan et al (2014) still found a trade in factors of production lead to a world equilibrium that was either alike or similar to the equilibrium that would exist once countries transmitted technology to their partners. These findings show international trade fosters economic growth with benefits accruing to developing and developed countries in the long and short-run respectively. Also, the comparative advantage appears to play a central role in driving a rise in growth rates.

This study examines the effect of non-oil export on economic development in Sub Saharan Africa, Asia and MENA regions using selected countries namely; Nigeria, Republic of Congo, Saudi Arabia, UAE, China and India. This study is one of the first to examine these issues in a generalized group of selected countries; Africa, Asia and MENA countries as well. The rest of the study is structured as follows; the second section focus on the literature review, the third section addresses the methodologies. The fourth section is concerned with the results and discussion of the findings and the final section presents the conclusion.

2.0 Literature Review

2.1 The concept of Economic Development

Economic development refers to the process by which the overall health, well-being, and academic level of the general population improves. It encompasses a broad array of goals and measures aimed at improving the economic and social conditions of a country or region. One of the primary indicators of economic development is economic growth, typically measured by increases in Gross Domestic Product (GDP) and Gross National Income (GNI). Economic growth implies that more goods and services are being produced, leading to increased incomes and consumption. Economic development aims to improve the standard of living for the population. This includes higher income levels, better housing, improved healthcare, education, and access to goods and services. Economic development is creating jobs and reducing unemployment. This involves fostering industries, encouraging entrepreneurship, and supporting small and medium-sized enterprises (SMEs). Developing infrastructure such as roads, bridges, electricity, water supply, telecommunications, and public transportation is vital for economic development. Good infrastructure facilitates trade, investment, and efficient delivery of services. Investing in

education and training improves the skills and productivity of the workforce, which is essential for sustainable economic growth. Higher levels of education and skill development lead to better job opportunities and innovation. Improving healthcare services and ensuring access to clean water and sanitation are fundamental components of economic development. A healthy population is more productive and can contribute more effectively to economic activities. Economic development aims to reduce poverty and income inequality. Inclusive development ensures that the benefits of growth are widely shared among all segments of society, including marginalized and vulnerable groups.

2.2 Empirical review

Kulu (2024) analysed the determinants of exports in the case of West African countries. An annual panel data spanning from 2008 to 2018 was used. Findings from the system GMM and OLS estimations validate the ELGH in West Africa. The results also revealed that foreign direct investment, employment, remittances, land area and infrastructure are significant boosters of export while population, real effective exchange rate and taxes on international trade are detrimental to export performance in the region. The study recommended the relaxation of taxes especially on international trade to encourage businesses that produce to feed the export sectors, provide an enabling environment for businesses and also attract foreign investors.

Chu et al. (2023) in their study developed an open-economy Schumpeterian growth model with endogenous takeoff to explore the effects of exports on the transition of an economy from stagnation to innovation-driven growth. They found that a higher export demand raises the level of employment, which causes a larger market size and an earlier takeoff along with a higher transitional growth rate but has no effect on long-run economic growth. They opined that the theoretical results are consistent with empirical evidence that we document using cross-country panel data in which the positive effect of exports on economic growth becomes smaller, as countries become more developed, and eventually disappears.

Babuga and Naseem (2022) examined the long run relationship between the oil price change and economic growth for Sub-Saharan Africa (SSA) net oil exporters (Angola, Cameroon, Congo (Democratic Republic), Congo (The Republic), Equatorial Guinea, Gabon and Nigeria) from 1980 to 2018. Based on the dynamic heterogeneous panel PMG estimation, the empirical results showed that a threshold level exists between oil price increase and economic growth for these countries, where an increase in oil price depicts a negative sign which is non-linear and at the same time signifying an inverted u shape relationship with the real GDP as an indicator of economic growth.

Edo et al. (2020) investigated the impact of external debt and export on economic growth of Sub-Saharan African countries, with data from 2005Q1 to 2017Q4 estimated using ARDL panel model and appropriate estimation techniques. The estimation results revealed insignificant positive impact of both external debt and export on economic growth, in the short run. The impact turns negative in the long run, with export exerting a more significant adverse impact than external debt. However, there is long-run convergence among the variables. Furthermore, the estimated model exhibits significant structural stability, hence the estimation results are reliable for purpose of policy making.

Mohsen (2020) investigated the relationship between international trade and economic growth in China from 1980 to 2018. Results from the cointegration test indicate that exports, imports, and FDI have positive relationships with economic growth, but oil price affects it negatively. Exports have the biggest effect on economic growth. Hence, it is important to improve the quantity and quality of exports, as well as motivate the local and foreign investment in the country. Besides, the Granger causality test results show bidirectional causality relationships between exports, imports, oil price, FDI and GDP in the short and long run.

Akighir and Joeseph (2019) investigated the relationship between non-oil exports and economic growth in selected African countries which include Algeria, Angola, Cameroun, Chad, Egypt, Equatorial Guinea, Ghana, Libya, Republic of Congo, Nigeria and Sudan from 1986-2018. The study has employed the Dynamic Panel Data Models and findings revealed that non-oil exports have positive relationship with economic growth in all the countries except Gabon in the long-run. The study also found that there is positive impact of non-oil exports on economic growth in Angola, Egypt, Equatorial Guinea, Gabon, Libya, Nigeria, Republic of Congo and Sudan in the short-run while there is negative influence in Algeria, Cameroun, Chad and Ghana in the short-run.

Elias et al. (2018) focused on the influence of export trade on the Nigerian economy and the impact of import trade on the Nigerian economy with data from 1980 to 2012, estimated using a multiple regression analysis technique. The study revealed that export commerce had a substantial impact on Nigeria's economic growth. The study recommends that the government make conscious efforts to fine-tune the major macroeconomic factors in order to establish an enabling environment for stimulating foreign trade and encouraging growth in the Nigerian economy, among other things.

Furuoka (2018) examined the relationship between exports and economic growth in Sub-Saharan Africa. He employed innovative econometric methods, including the Fourier ADF with structural break test, a comparative analysis of three causality tests and a rolling causality test procedure. The findings suggested that there was a statistically significant relationship between exports and economic growth in several Sub-Saharan countries. However, the causal linkages between exports and economic growth in these countries were found to be weak and unstable.

Agbo et al. (2018) investigated the influence of international trade on Nigerian economic growth with the only purpose of determining the impact of export trade and the impact of import trade on the Nigerian economy. Using multiple regression analysis, the study revealed that export trade has a substantial impact on economic growth. The study also showed that import trade had no substantial impact on economic growth. They recommend that the government should make conscious efforts to fine-tune various macroeconomic variables in order to provide an enabling environment for stimulating foreign trade by engaging in more export trade and, in effect, curtailing import trade, to cushion this negative effect on the economy.

Nwamuo (2019) investigated the impact of international trade on economic growth in Nigeria with data from 1981 to 2018 analysed with Co-integration test and regression which showed that the variables in the model were co-integrated. The regression result showed that export, import and exchange rate have a positive impact on the economic growth of Nigeria while trade

openness has a negative impact on the economic growth of Nigeria. The result of the granger causality test showed that there is a bi-directional relationship between export and economic growth, bi-directional relationship between import and economic growth, independent causality between exchange rate and economic growth and a bi-directional relationship between trade openness and economic growth

Erkisi (2019) studied the relationships between export (EXP), import (IMP) and economic growth (GDP) in Middle East Countries were examined by using yearly data consist of 312 observations from 1993 to 2016. In the empirical analyses, Dumitrescu & Hurlin Causality Test, Westerlund ECM Panel Co-integration and PGM Estimator were employed. The short-term analyses indicated; a bi-directional causality between GDP and IMP, a bi-directional causality between GDP and EXP, a unidirectional causality from EXP to IMP, EXP and IMP has a positive impacts on GDP. Similar result was found in the longrun. The country-level outcomes confirmed a long-term relationship for Cyprus, Egypt, Iran, Israel, Jordan, Oman, Qatar, S. Arabia, Turkey and Yemen, but not for Bahrain, Kuwait and Lebanon.

3.0 Methodology

This study will adopts the *ex post facto* research method which is a very common and ideal method in conducting research in business and social sciences. It is mostly used where variables are drawn from already concluded events and there is no possibility of data manipulation. This study used secondary data drawn from the World Bank statistical data. The required data are annual oil export, per capita income, exchange rate, foreign direct investment, gross domestic product growth rate. The study will employed panel data set for the six (6) countries drawn from the three regions covered in the study. The cross-sections consists of two countries each from Sub Saharan Africa, Asia and MENA. These includes; Nigeria, Republic of Congo, Saudi Arabia, UAE, China and India. The choice of the countries especially for the MENA region, is based on the major crude oil exporters within the region. The fundamental advantage of using panel data, however, lies in its efficacy allowing researchers to examine the cause-and-effect relationship using before-and after observations. Another important motivation for panel data analysis is to reduce the omitted variable bias (Wooldridge, 2002; Balgati 2001; and Hsiao 1986).

Variables to be consider in the model comprises of dependent and independent variables with reference to the study's objectives. The dependent variable is per capita income. On the other hand, the independent variables consist of the non-oil export, foreign direct investment, while exchange rate, gross domestic product growth rate will serve as control variables in the model.

The models used for this study adopts that of Johnson and Olayiwola (2020) and Tevin-Anyali, (2024) with some modifications.

The functional and econometrics form of the model is presented below;

$$PCI = f(NOE, GDP, FDI, EXR) \quad (3.1)$$

The econometric form of the model is given below as;

$$PCI = \propto_0 + \propto NOE_{it} + \propto GDP_{it} + \propto FDI_{it} + \propto EXR_{it} + U_{it} \quad (3.2)$$

4.0 Result

4.1 Results of the Descriptive Statistics

The descriptive features of the data used in this study will be discussed in this section. The mean median kurtosis and the correlation matrix will be used.

Table 4.1: Results of the Descriptive Statistics

	PCI	OE	NOE	GDP	FDI	EXR	TE
Mean	7.685914	54.30407	1.738673	26.56897	2.475261	124.2143	34.82434
Median	7.458883	70.49065	0.472671	26.75116	1.539710	8.485080	27.08310
Maximum	10.65216	127.4246	29.47804	30.47442	37.32277	732.3977	98.34239
Minimum	1.581405	0.247357	0.005946	22.43397	-17.29212	3.671000	7.17E-05
Std. Dev.	1.741858	39.84586	3.450225	2.028480	5.266384	200.0302	27.84507
Skewness	-0.116250	-0.219132	4.518425	-0.513181	3.291798	1.601274	0.648414
Kurtosis	2.659771	1.335274	29.35701	2.890272	22.14032	4.051569	2.497571
Jarque-Bera	1.443404	25.18878	6599.032	9.056391	3482.414	96.57796	16.44069
Probability	0.485925	0.000003	0.000000	0.010800	0.000000	0.000000	0.000269
Observations	204	204	204	204	204	204	204

Source: Author's computation (2024) using Eviews

Figure 4.1 presents the descriptive features of the data used in this study. From the information presented, the dependent variable per capita income is $7.685914 implying that on average the regions covered in the study have a per capita income of approximately $7.69. The mean non-oil export is 1.7 of their GDP. The growth in this regions is 26.56897 which implies that they account for about 26.6 percent of the global economic growth within the period of the study. Foreign direct investment net inflows on average is 2.48 percent of GDP of the three regions used in the study. Their currencies exchange to the United State dollar stood at 124.2/$ during the period covered by the study. The total export from these regions stood at 34.82 percent of their GDP.

The maximum and minimum per capita income for the period under review stood at $10.65 and $1.58 respectively, non-oil export stood at 29.5 percent and 0.005946 percent respectively. Growth of GDP stood at 30.5 and 22.4 for the three regions. Net inflow of FDI recorded 37.3 and 17.29212. For exchange rate it was 732.39/$ and 3.67/$ respectively, while for total export as a percent of GDP stood at 98.3 percent and 7.2 percent respectively. For the skewness, the results showed that per capita income and gross domestic product displayed a negative skewness implying that most of their observations lies below their mean while non-oil export, foreign direct investment, exchange rate and total export have a positive skewness implying that most of their observations lies above their mean values. Per capita income, gross domestic product and total export have playtykurtic kurtosis while non-oil, FDI and exchange rate have leptokurtic kurtosis since their values are clearly greater than 3. The Jarque-Bera statistic is used to measure the normality of the data of the study, from the information we observed that most of the variables are not normally distributed, as the Jarque-Bera probability values are less that 0.05 percent.

4.2: Unit Root Test

A first generation panel unit root test by Levin, Lin and Chu, (2002) was used to test for the existence of unit root in the data set. The main assumption of the Levin, Lin and Chu test is cross-sectional independence across units. Thus, they assume a common unit root process.

Table 4.2: Result of Unit Root Test

Unit Root Test at Levels			
Variable	**LLU Test Statistic**	**P-Value**	**Remark**
PCI	3.65594	0.9999	Non-Stationary
NOE	-2.98242	0.0014	Stationary
GDP	5.33574	1.0000	Non-Stationary
FDI	-1.72602	0.0422	Stationary
EXR	1.16304	0.8776	Non-Stationary
TE	-2.50978	0.0060	Stationary
Unit Root Test at Levels			
PCI	-4.00833	0.0000	Stationary
GDP	-3.44892	0.0003	Stationary
EXR	-5.60773	0.0000	Stationary

Source: Author's computation (2025) using Eviews

The panel unit root test presented in Table 4.2 revealed that four of the variables employed in the study are stationary at level I(0) and three are stationary at first difference I(1). This is because their p-values at each level are smaller than the 5% significance level established for this investigation. Next, the study conducted the cointegration test in order to determine if a causal relationship exist among the variables of the study.

4.3: Results of the Cointegration Test

Cointegration analysis aims to uncover causal relations among variables by determining if the stochastic trends in a group of variables are shared by the series. The non-stationarity of some of the variables at levels necessitate the need for the test. Pedroni (1999, 2004) introduced seven test statistics that test the null hypothesis of no cointegration in non-stationary panels.

Table 4.3: Pedroni Residual Cointegration Test

Series: PCI NOE TE GDP FDI EXR Null Hypothesis: No cointegration Newey-West automatic bandwidth selection and Bartlett kernel				
Alternative hypothesis: common AR coefs. (within-dimension)				
	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	0.637842	0.2618	0.194960	0.4227
Panel rho-Statistic	0.363934	0.6420	1.477461	0.9302
Panel PP-Statistic	-10.98477	0.0000	-0.482242	0.3148
Panel ADF-Statistic	-6.129386	0.0000	-1.446562	0.0740

Alternative hypothesis: individual AR coefs. (between-dimension)

	Statistic	Prob.
Group rho-Statistic	2.405736	0.9919
Group PP-Statistic	-2.307902	0.0105
Group ADF-Statistic	-1.710240	0.0436

Source: Author's computation (2025) using Eviews

The Pedroni Residual Cointegration test result is presented in Table 4.3. The information contained therein showed that some of the p-values are less than 5 percent while some are more than 5 percent, hence we go with the majority of the test. Hence, we fail to reject the null hypothesis of no cointegration among the variable of the study. As a result, the study applies the Panel Ordinary Least regression technique and with the aid of Hausman test to determine the more appropriate between the fixed and the random effect model.

Table 4.4: Panel Least Square

Dependent Variable: PCI
Method: Panel Least Squares
Cross-sections included: 6
Total panel (balanced) observations: 204

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NOE	-0.132652	0.039058	-3.396292	0.0008
GDP	-0.097827	0.077271	-1.266030	0.2070
FDI	0.014069	0.020595	0.683119	0.4953
EXR	-0.003960	0.000910	-4.352189	0.0000
C	10.97276	2.131832	5.147102	0.0000
Root MSE	1.426790	R-squared		0.325738
Mean dependent var	7.685914	Adjusted R-squared		0.312185
Hannan-Quinn criter.	3.630649	F-statistic		24.03436
Durbin-Watson stat	0.136239	Prob(F-statistic)		0.000000

Source: Author's computation (2025) using Eviews

In Table 4.5 the panel least square for model two is presented. Non-oil export (NOE) have a negative and significant relationship with economic development (per capita income), with a coefficient of -0.132652 a one percent increase in non-oil exports results in a decrease of 0.1327 percent in economic development (per capita income). Thus, implying that non-oil export growth may not contribute positively to economic development (per capita income) in the model. A negative relationship between non-oil exports and economic development (per capita income) is counterintuitive, as exports are typically expected to contribute positively to economic growth. The possible reasons for this include dependence on Low-Value-Added Exports like raw materials or unprocessed agricultural products), the economic benefits may be limited. These sectors often have low productivity and limited spillover effects on other sectors of the economy.

Non-oil exports might be vulnerable to external shocks especially price volatility in global markets, which could negatively impact income stability and economic development.
Gross Domestic Product (GDP) have a negative and insignificant impact on economic development (per capita income). The coefficient for GDP suggests that a one percent increase in GDP leads to a decrease of 0.0978 in economic development (per capita income), holding other factors constant. The negative relationship between GDP and economic development (per capita income) is unusual, as GDP growth is generally associated with higher incomes. This relationship may be due to unequal distribution of income. If the benefits of GDP growth are not widely shared, per capita income may not increase proportionally. Also, rapid population growth, per capita income may stagnate or even decline.

Foreign Direct Investment (FDI) have a positive effect on economic development (per capita income), although the relationship is not statistically significant. The coefficient for FDI suggests a small positive effect, where a one percent increase in FDI would lead to a 0.0141 percent increase in economic development (per capita income). The positive but statistically insignificant relationship between FDI and economic development suggests that FDI may not be a major driver of per capita income growth in the model. This may be due to FDI been concentrated in extractive industries with limited linkages to the broader economy, reducing its impact on overall development.

Exchange Rate (EXR) displayed a negative impact on economic development (per capita income) and it is statistically significant. A one percent increase in the exchange rate leads to a decrease of 0.00396 in economic development (per capita income). A negative relationship between exchange rates and economic development suggests that currency depreciation (an increase in the exchange rate) harms per capita income. This could be as a result of imported inflation and significant foreign-denominated debt burden.

The constant term suggests that when all the independent variables are zero, per capita income is expected to be 10.97276. The p-value is less than 0.05, confirming that the constant term is statistically significant. Also, the R-square value of 0.325738 suggest that about 33 percent of variation in economic development is explained by the regressors used in the model. There is also joint statistical significance among the variables of the model.

Result of the Hausman Test

The study employed the Hausman test (Hausman, 1978) to determine the optimal approach for resolving the issue of unobserved effects. Thus, the Hausman model selection criteria were used to decide between fixed and random effect models. The individual effects and the regressors' lack of correlation serves as the foundation for the Hausman selection test. This test's main goal is to determine whether we can accept the null hypothesis, according to which random effects is the best option. If we can't, fixed effects estimation will be the best model. When the Hausman test P-value is less than 0.05, we reject the null hypothesis and determine that the fixed effects model is the most appropriate for the study. If not, the random effects model will be the most appropriate.
The null and alternative hypotheses for the test are stated thus;

H_0: Random effect model is appropriate
H_1: Fixed effect model is appropriate

Table 4.5: Hausman Test

Correlated Random Effects - Hausman Test Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	105.930657	4	0.0000

Source: Author's computation (2025) using Eviews

From the Hausman test presented in table 4.5, we reject the null hypothesis that the random model is appropriate for the study, hence we proceed to estimate the fixed effect model for the second model for the regions combined.

Table 4.6: Fixed Effect Model

Dependent Variable: PCI
Method: Panel Least Squares
Cross-sections included: 6
Total panel (balanced) observations: 204

Variable	Coefficient	Std. Error	t-Statistic	Prob.
NOE	-0.029395	0.014013	-2.097634	0.0372
GDP	1.491975	0.070576	21.14006	0.0000
FDI	0.016937	0.007395	2.290340	0.0231
EXR	-0.001867	0.000553	-3.375921	0.0009
C	-31.71329	1.855486	-17.09163	0.0000
Root MSE	0.480615	R-squared		0.923493
Mean dependent var	7.685914	Adjusted R-squared		0.919943
Hannan-Quinn criter.	1.536333	F-statistic		260.1896
Durbin-Watson stat	0.899532	Prob(F-statistic)		0.000000

Source: Author's computation (2025) using Eviews

In Table 4.6 the fixed effect model for model two is presented. All variables (NOE, GDP, FDI, and EXR) are statistically significant at the 5% level, with each having a meaningful impact on economic development (per capita income). GDP and FDI both have positive effects on per capita income. The positive relationship between GDP and per capita income is expected and aligns with economic theory. Higher GDP indicates greater economic output, which typically translates into higher income levels for individuals. This suggests that economic growth is a key driver of improved living standards. The positive impact of FDI on per capita income is also consistent with theoretical expectations. FDI often brings capital, technology, and expertise into a country, which can enhance productivity, create jobs, and stimulate economic growth. These factors collectively contribute to higher per capita income.

Non-oil exports (NOE) and exchange rate (EXR) have negative effects on per capita income. The negative relationship between non-oil exports and per capita income is counterintuitive, as exports are generally expected to boost economic growth and income levels. However, several possible reasons could explain this outcome such as non-oil exports are dominated by low-value-

added or primary goods such as raw materials or agricultural products, they may not generate significant income or employment benefits. The negative relationship between the exchange rate and per capita income could be attributed to the following factors such as currency depreciation: If the exchange rate represents a depreciation of the domestic currency, it may increase the cost of imports, leading to higher inflation and reduced purchasing power. This can negatively affect per capita income.

In the fixed effect model, non-oil exports show a significant negative relationship with per capita income, whereas in the panel regression, the effect was also negative but with a larger magnitude. The fixed effect model's stronger significance reinforces the importance of this relationship. There is also a very high explanatory power from the independent variables of about 92 percent.

5.0 Conclusion

This research examined the impact of non-oil export on the development of selected economies in Asia, SSA, and MENA regions. The study used six countries (two from each region) which include Nigeria, Republic of Congo, Saudi Arabia, UAE, China and India. The study employed data from 1990 to 2023. The research utilised various statistical methods including descriptive statistics, panel unit root test, Hausman test, Panel Least Square estimation, and the fixed effect model. This investigation employed several independent variables, which include; oil export, foreign direct investment, gross domestic product and exchange rate. Per capita income was used as a proxy for economic development which is the dependent variable of the study.

Based on the findings from the study the study suggest that policy makers should improve the quality and competitiveness of non-oil exports. Invest in research and development (R&D), innovation, and infrastructure to enhance the value of non-oil exports. Africa region should focus on developing high-value non-oil export sectors such as agriculture, textiles, and minerals. Provide incentives for local industries to add value to raw materials before export. Asia region should strengthen the non-oil export sector by improving trade policies, reducing trade barriers, and investing in technology and innovation to make non-oil exports more competitive globally. MENA region should address structural issues in the non-oil export sector. Focus on developing industries with high growth potential, such as renewable energy, technology, and services. Provide support for small and medium-sized enterprises (SMEs) to boost non-oil exports.

References

Agbo, E. I., Agu, R. E., & Eze, L. (2018). Impact of international trade on the economic growth of Nigeria. . *European journal of business and management*, *10*(18), 2222-2839.

Akighir, D., T. & Joeseph, T., A. (2019). Non-Oil Exports and Economic Growth in Selected African Countries. *International Journal of Scientific and Research Publications, 9*(6), 892- 902. DOI: 10.29322/IJSRP.9.06.2019.p90130

Al-Hassan, M., & Al-Mutairi, K. (2020). The impact of oil revenues on economic growth in Saudi Arabia: an empirical investigation using ARDL approach to cointegration test. *International Journal of Energy Economics and Policy, 10*, 454-462.

Awokuse, T., O. (2008). Trade openness and economic growth: is growth export-led or import-led? *Applied Economics, 40*(2), 161-173. DOI: 10.1080/00036840600749490

Babuga, U., T. & Naseem, A., M. (2022). Oil price change and economic growth: evidence from net Sub-Saharan Africa oil exporting countries. *International Journal of Energy Economics and Policy 12*(2), 369 - 378. doi:10.32479/ijeep.12932.

Bhagwati, J., N. (1988). *Export-Promoting Trade Strategy: Issues and Evidence*. Oxford University Press.

Cavusgil, S., T. (1983). Policy Implications of Research on the Export Behaviour of Firms. *Akron Business and Economic Review*, 14(2), 16-22.

Chu, A. C., Peretto, P., & Xu, R. (2023). Export-led takeoff in a Schumpeterian economy. *Journal of International Economics, 145*, 103798. https://doi.org/10.1016/j.jinteco.2023.103798

Dar, A. B., Bhanja, N., Samantaraya, A. & Tiwari, A., K. (2013). Export led growth or growth led export hypothesis in India: Evidence based on time-frequency approach. *Asian Economic and Financial Review, 3*(7), 869-880.

Derouez, F., Ifa, A., Aljughaiman, A. A., Bu Haya, M., Lutfi, A., Alrawad, M., & Bayomei, S. (2024). Energy, technology, and economic growth in Saudi Arabia: An ARDL and VECM analysis approach. *Heliyon, 10*(4), e26033. https://doi.org/10.1016/j.heliyon.2024.e26033

Dudziński, J., & Knap, R. (2022). Price volume and level of economic development as determinants of export value in countries and regions. *Procedia Computer Science, 207*, 3865-3874. https://doi.org/10.1016/j.procs.2022.09.448

Edo, S., Osadolor, N. E., & Dading, I. F. (2020). Growing external debt and declining export: The concurrent impediments in economic growth of Sub-Saharan African countries. *International Economics, 161*, 173-187. https://doi.org/10.1016/j.inteco.2019.11.013

Elias, I., Agu, R., & Eze, L. (2018). Impact of International Trade on the Economic Growth of Nigeria. *European Journal of Business and Management*, 10(18), 14-24.

Erkisi, K. (2019). International Trade and Economic Growth in Middle East Countries: A Panel Data Analysis, *Üçüncü Sektör Sosyal Ekonomi Dergisi*, *54*(3), 1035-1048.

Fosu, A., K. (1996). Primary Exports and Economic Growth in Developing Countries. *The World Economy*, *19*(4), 465-475.

Furuoka, F. (2018). Exports and economic growth in Sub-Saharan Africa: New insights from innovative econometric methods. *Journal of International Trade and Economic Development, 27*(5), 1-26. https://doi.org/10.1080/09638199.2018.1455890

Guo, Q., Zhang, P., Zhu, S., & Liu, J. (2023). Export market relatedness, geographical diversification and regional export growth in China. *Structural Change and Economic Dynamics, 67,* 336-346. https://doi.org/10.1016/j.strueco.2023.09.004

Hesse, H. (2008). Export diversification and economic growth. Commission on Growth and Development, Working Paper No. 21.

Hillbom, E. (2012). Botswana: A development-oriented gate-keeping state. *African Affairs, 111*(442), 67-89

Johnson, A., O. & Olayiwola, O., K. (2020). Econometric Analysis of Export Led Growth in the Nigerian Economy. *Journal of Economics and Management Sciences, 3*(2), 38-46. https://doi.org/10.30560/jems.v3n2p38

Kim, D-H. Lin, S-C. & Suen, Y-B. (2016). Trade, growth and growth volatility: New panel evidence. *International Review of Economics and Finance, 45*, 384-399.

Krueger, A. (1983). *Export Promotion: A Catalyst to Diversification of Productive in Developing Economies*. Department of Trade and Industry, South Africa

Kulu, E. (2024). Relationship between Export and Economic Growth: Evidence from West African Countries. *The Indian Economic Journal*, *72*(2), 287-302. https://doi.org/10.1177/00194662231212756

Lal, D. & Rajapatirana, S. (1987). Foreign Trade Regimes and Economic Growth in Developing Countries. *The World Bank Research Observer, 2*(2), 189-217.

Lall, S. (1997). *Selective Policies for Export Promotion*. United Nations/World Institute for Development Economic Research.

Lin, J. (2010). New Structural Economics: A Framework for Rethinking Development. The World Bank Policy Research Working Paper, 5197, 1-38.

Mohsen, A., S. (2020). Exploring the Relationship between International Trade and Economic Growth in China. *Asian Journal of Economics and Finance, 2*(2), 75-86.

Myint, H. (1977). Adam Smith's Theory of International Trade in the Perspective of Economic Development. *Economica, 44*(175), 231-248.

Nasir, M., A. & Redmond, T., S. (2020). Role of Natural Resource Abundance, International Trade and Financial Development in the Economic Development of Selected Countries. *Resources Policy, 66*. ISSN 0301-4207 DOI: https://doi.org/10.1016/j.resourpol.2020.101591

Nothdurft, W., E. (1992). *Going Global: How Europe Helps Small Firms Export*. Brookings.

Nwamuo, C. (2019). Impact of International Trade on Economic Growth: The Nigerian Experience. *European Journal of Business and Management, 11*(34), 46-58.

OECD Economic Surveys. (2021). *Malaysia*. OECD. https://www.oecdilibrary.org/sites/cc9499dden/index.html?itemId=/content/publication/cc9499dd-en

Okwu, A. T., Dada, S. O. & Owolabu, S., A. (2013). A comparative analysis of export promotion strategies in selected African Countries (South Africa, Nigeria and Egypt). *International Journal of Management Sciences, 1*(6), 204-211. https://econpapers.repec.org/RePEc:rss:jnljms:v1i6p2

Pointon, T. (1978). Measuring the Gains from Government Export Promotion. *European Journal of Marketing*, *12*(6), 451-462. https://doi.org/10.1108/EUM0000000004977

Raza, S. A., Sbia, R., Shahbaz, M. & Rousan, S., A. (2018). Trade-growth nexus and the rolling window analysis in United Arab Emirates. *Journal of Asia Business Studies, 12*(4), 469-488.

Santos, P.G., Ribeiro, A., P. & Carvalho, V., M. (2013). Export-led growth in Europe: Where and what to export? FEP Working Papers No 479.

Seers, D. (1969). The Meaning of Development. *International Development Review, 11*(4), 1-28.

Sen, A. (1983). Development: Which Way Now? *The Economic Journal, 93*(372), 745-762.

Sen, A., K. (1999). Development as Freedom. New York: Alfred A. Knopf.

Severns, C. (2021). The Development of the Four Asian Tigers. *Borgen Magazine* https://www.borgenmagazine.com/development-of-the-four-asian-tigers/

Spence, M., M. (2000). Critical Considerations for Governments Programmes Evaluation. http://dx.doi.org/10.20381/ruor-1354

Tevin-Anyali, C., L. (2024). Investigating How International Trade Shapes Nigeria's Economy. *International Journal of Research and Innovation in Applied Science (IJRIAS), IX*(VI), 116-125. DOI: https://doi.org/10.51584/IJRIAS.2024.906010

UNCTAD (2020). The Least Developed Countries Report 2020: Productive Capacities for the New Decade (United Nations publication. Sales No. Sales No. E.21.II.D.2. Geneva).

UNCTAD (2021). Special Economic Zones and the African Continental Free Trade Area Agreement: Results from a Continent-Wide Survey (United Nations publication. Geneva).

United States Department of Energy (2011). *International Reserves". United States Department of Energy. Archived from the original on 13 May 2011. Retrieved 13 May 2011.*

Vázquez, S.T. & Sumner, A. (2013). Revisiting the Meaning of Development: A Multidimensional Taxonomy of Developing Countries. *The Journal of Development Studies, 49*(12), 1728-1745.

World Bank (2021). Middle East & North Africa". *data.worldbank.org*. World Bank. Archived from the original on 22 January 2021. Retrieved 16 January 2021.

Xu, Z. (2000). Effects of Primary Exports on Industrial Exports and GDP: Empirical Evidence. *Review of Development Economics, 4*(3), 307-325.

Yenokyan, K., Seater, J. & Arabshahi, M. (2014). Economic Growth with Trade in Factors of Production. *International Economic Review, 55*(1), 223-254.

Zahonogo, P. (2016). Trade and economic growth in developing countries: Evidence from sub-Saharan Africa. *Journal of African Trade, 3*(1-2), 41-56.