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**Research article**

# Reassessing non-oil trade and economic growth in Nigeria: evidence from the ARDL model

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**Abstract**
The Nigerian economy has for decades, relied heavily on crude oil, resulting in a mono-product structure, which has consequently led to an unstable growth trajectory driven by fluctuation in oil prices. This study uses annual data from 1986 to 2021 to assess the impact of non-oil trade on Nigerian economic growth. This study checks how trade outside oil shapes Nigeria economy. The Autoregressive Distributed Lag (ARDL) model was employed to analyze both the short-run and long-run of non-oil exports, non-oil imports, and the rate of exchange on real GDP. The findings reveal that non-oil exports, non-oil imports, and exchange rate exert significant ($p < 0.05$) effect economic growth in the short run, while their long-run impacts are not statistically significant. The error correction term confirms a steady long-term relationship with a moderate rate of adjustment. To promote long-term economic growth in Nigeria, this study suggests boosting non-oil sectors, increasing export competitiveness, and maintaining a stable currency rate regime.

**Keywords:** *Non-oil import, Exchange rate, non-oil export, non-oil trade*

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**INTRODUCTION**

Nigeria's economy has longed relied heavily on crude oil exports, which has made it highly susceptible to external shocks, particularly fluctuations in global prices and changes in international demand (Adeyemi & Thapa, 2024; Umar & Kilishi, 2010). Before the oil boom of the 1970's, Nigeria operated largely as an agrarian economy with agricultural commodities such as cocoa, palm produce and groundnut forming the backbone of export earnings (Abogan et al., 2014). However, the discovery and large-scale exploitation of crude oil significantly altered the country's economic structure leading to a heavy dependence on a single export commodity (World Bank, 2020; International Monetary Fund [IMF], 2021). Nigeria's overdependence on oil has exposed it to external shocks, particularly variations in global oil prices, resulting in macroeconomic instability and irregular growth patterns (Ogunbiyi & Abina, 2019). Despite its huge potential, the non-oil sector, which includes agriculture, manufacturing, and solid minerals, contribute relatively little to economic growth because to neglect, poor infrastructure, and insufficient policy assistance (Onodugo et al., 2013).

The persistent mismatch between the two sectors (oil and non-oil) is a serious economic concern because oil riches has not translated into widespread development, as indicated by high unemployment, low industrial productivity, and heavy dependency on imports. Furthermore, research into the relationship between non-oil trade and economic growth in Nigeria has yielded conflicting results. Some research indicates a beneficial link (Somiari et al., 2012; Usman & Adejare, 2013), while others found negative or insignificant effects (Ogunbiyi & Abina, 2019; Onodugo et al., 2013). Other studies suggest that non-oil commerce could contribute significantly to economic growth by increasing foreign exchange revenues, fostering industrialization, and creating jobs (Abbas, 2012; Abogan et al., 2014).

Nigeria is endowed with arable land and natural riches; nevertheless, due to the mismanagement of the economy, a large number of individuals and households suffer from malnutrition and hunger. Much of the region's agri-business rely substantially on the import of raw materials required for manufacturing, while many young people in Nigeria remain unemployed (Egwu, 1998). The causal relationship between non-oil exports and economic growth, as well as non-oil imports and economic growth, remains uncertain and is not restricted to developing countries (Ijirshar, 2015; Usman & Adejare, 2013).

Trade, notably oil exports, has the potential to contribute to the growth of Nigerian economy; yet, this expansion does not always result in improved livelihoods for individuals, resulting in "growth without development." The resource curse hypothesis explains Nigeria's growth without development issues (Sachs & Warner, 2001; Sala-i-Martin & Subramanian, 2013), highlighting that oil wealth has not led to broad welfare improvements due to governance challenges and rent-seeking behavior. Recent studies confirm that resource dependence limits diversification and inclusive growth (Apergis & Payne, 2019; Ibrahim, 2020; Matthew et al., 2018). Additionally, Matthew et al. (2018) argue that dependence on oil hampers productive sectors and obstructs inclusive growth.

As oil-driven growth places restrictions on the economy, it underlines the importance of diversification away from the oil sector. Non-oil exports are noted as having a larger potential for encouraging broad-based growth through job creation, industrialization, and increased foreign exchange gains, prompting an investigation of their significance as a long-term driver of economic progress in Nigeria. As a result, there has been a significant argument that effort should be

directed toward non-oil growth, which has the potential to trickle down and improve citizens' living conditions. However, research into the impact of non-oil trade on economic growth has been inconclusive (Ijirshar, 2015; Ogunbiyi & Abina, 2019; Onodugo et al., 2013; Somiari et al., 2010; Usman & Adejare, 2013).

This study contributes to the existing literature by utilizing contemporaneous data and the ARDL approach to estimate the effects of non-oil sector on economic growth in Nigeria. Unlike prior studies, which relied on traditional estimation methods, this study provides a more robust estimation. It also incorporates the currency rate as a control variable, which provides more insight into macroeconomic processes that influence growth. As a result, this study provides a reconsideration in response to the ongoing controversy. In accordance with the aims of this study and guided by the existing literature, the following hypotheses are examined:

i. **$H_o$:** Non-oil exports do not significantly impact Nigeria's economic growth.
   **$H_1$:** Non-oil exports have a substantial impact on economic growth in Nigeria.

ii. **$H_o$**: Non-oil imports have no substantial impact on Nigeria's economic growth.
   **$H_1$:** Non-oil imports have a considerable impact on Nigeria's economic growth.

**LITERATURE REVIEW**

Empirical investigations yield mixed findings. Some found that non-oil exports have a positive effect on growth (Abbas, 2012; Adeleye et. al, 2015; Abogan et al., 2014; Ezike & Ogege, 2012; Ijirshar, 2015; Usman & Adejare, 2013), while others report negative or insignificant relationships (Ogunbiyi & Abina, 2019; Onodugo et al., 2013). The models utilized in the aforementioned investigations included the error correction model (ECM), the augmented Dickey-Fuller (ADF) test, multi-linear regression, the endogenous growth model, Johansen co-integration, co-integration model techniques, and error correction estimates.

However, some studies argue that structural constraints such as insufficient infrastructure, inconsistent laws, and limited access to financing limit the impact of non-oil exports on economic growth. For example, Abogan et al. (2014) discovered that, while non-oil exports contribute to Nigeria's economic growth, their performance is significantly impeded by inadequate institutional frameworks and infrastructure. Similarly, Adenugba and Dipo (2013) observed that the growth of the non-oil export business is hampered by inconsistent trade policies and limited access to financing resources. Furthermore, Ude and Agodi (2014) noted that structural impediments, such as insufficient logistics and low competitiveness, make non-oil exports less effective in promoting long-term growth.

These inconsistent findings demonstrate that there is still no consensus on the relationship between Nigeria's economic growth and non-oil exports. More importantly, many recent research rely on traditional econometric approaches such as Ordinary Least Squares (OLS), which may be insufficient to capture the dynamic interactions between variables across time. This leaves a significant gap in the research, especially when distinguishing between long- and short-term effects.

These discrepancies highlight the need for additional empirical research using advanced econometric methodologies. Various studies suggest that non-oil exports have varying effects on

Nigerian economic growth: whereas Abogan et al. (2014) and Usman and Adejare (2013) claim positive effects, Onodugo et al. (2013) and Ogunbiyi and Abina (2019) found negative or insignificant effects. Furthermore, Ude and Agodi (2014) argue that structural constraints such as poor infrastructure and weak institutions limit non-oil export contributions.

Recent empirical research has focused on the concerns of resource reliance and poor diversification in emerging countries. According to Ibrahim (2020), oil revenue continues to dominate Nigeria's growth structure, stifling the expansion of non-oil sectors. Similarly, Apergis and Payne (2019) argue that natural resource dependency stifles long-term growth. These empirical data suggest that the relationship between non-oil trade and economic growth in Nigeria is equivocal, depending on model selection and estimation methods. This work aims to address this issue by utilizing the Autoregressive Distributed Lag (ARDL) model and its Error Correction Mechanism (ECM) to provide a more reliable assessment of long-run and short-run interactions among variables.

## RESEARCH METHOD AND MATERIALS

### *Theoretical framework*

This study is based on the Heckscher-Ohlin (H-O) theory of trade, known as the Factor Endowment Theory (Dewett, 2015). According to the concept, countries should specialize in the production of goods that takes advantage of their abundant production resources. In Nigeria's case, this means that the country may boost economic growth by tapping into its enormous natural and people resources through non-oil exports.

This theory lays a solid foundation for understanding how non-oil exports might boost Nigeria's economic growth by lowering reliance on oil and encouraging sectoral diversification. This study used secondary data sources from 1986 to 2021 to investigate the effect of non-oil trade on economic growth in Nigeria. The Autoregressive Distributed Lag (ARDL) model and the Akaike Information Criterion (AIC) were utilized to determine the optimal lag duration for the ARDL model, ensuring that the most efficient model is chosen with the least amount of information lose.

### *Model Specification*

The functional relationship is expressed as in Equation 1.

$$RGDP = f\ (NOEX, NOIM, EXCHR) \ldots\ldots\ldots\ldots (1)$$

In its econometric (ARDL) form, the model is specified in Equation 2.

$$RGDP_t = \beta_o + \Sigma_{i=1}^{p} \beta_{1i}\, RGDP_{t-i} + \Sigma_{i=o}^{\varphi} \beta_{2i}\, NOEX_{t-i} + \Sigma_{i=o}^{r} \beta_{3i}\, NOIM_{t-i} + \Sigma_{i=o}^{s} \beta_{4i}\, EXCHR_{t-i} + \mu_t \ldots (2)$$

The Error Correction representation of the ARDL model is as stated in Equation 3.

$$\Delta RGDP_t = \beta_o + \Sigma_{i=1}^{p} \beta_{1i}\, \Delta RGDP_{t-i} + \Sigma_{i=o}^{\varphi} \beta_{2i}\, \Delta NOEX_{t-i} + \Sigma_{i=o}^{r} \beta_{3i}\, \Delta NOIM_{t-i} + \Sigma_{i=o}^{s} \beta_{4i}\, \Delta EXCHR_{t-i} + \lambda ECM_{t-1} + \mu_t \ldots\ldots\ldots\ldots (3)$$

where:

RGDP = Real Gross Domestic Product

NOEX = Non-oil Exports

NOIM = Non-oil Imports

EXCHR = Exchange Rate

$\mu_t$ = Error Term
$\Delta$ = First Difference Operator
$ECM_{t-1}$ = Error Correction Term
$\lambda$ = Speed of Adjustment Parameter
p, q, r, s = Optimal Lag Lengths

***Definition of variables***

i. Real Gross Domestic Product (RGDP) is a proxy for economic growth in Nigeria and is calculated at constant basic prices.
ii. Non-oil exports (NOEX) are the total value of exports excluding crude oil, assessed in monetary terms. It is included to account for the impact of export diversification.
iii. Non-oil imports (NOIM) are the total value of imports excluding crude oil, expressed in monetary terms, and show the amount of reliance on foreign goods.
iv. Exchange rate (EXCHR) is defined as the official exchange rate of the Nigerian Naira to foreign currencies, and it is considered a macroeconomic variable that influences trade and economic performance. It affects trade competitiveness and external balance.
v. The error correction term ($ECM_{t-1}$) is derived from the long-run cointegration equation and represents the speed of adjustment from short-run disequilibrium to long-run equilibrium.
vi. The stochastic error term ($\mu_t$) accounts for omitted variables, measurement mistakes, and random shocks that may impact economic growth but are not explicitly considered in the model.

***Estimation Technique***

The Autoregressive Distributed Lag (ARDL) estimation method was employed in this study to examine at both short-term and long-term correlations between variables. The ARDL approach was considered appropriate since it can be applied regardless of whether the variables are integrated with order I (0) or I (1). The Akaike Information Criterion (AIC) was used to identify the optimal lag length for the model, resulting in the best model fit while minimizing information lose. The Error Correction Model (ECM) was then used to capture the short-run dynamics and the pace of return to long-run equilibrium.

**RESULT PRESENTATION AND DISCUSSION**

Tables 1 and 2 present the results of stationarity and bounds test for cointegration.

Table 1. Stationarity Results

| Variable | ADF (Level) | 5% Critical Value | ADF (1st Difference) | 5% Critical Value | Order of Integration |
|---|---|---|---|---|---|
| LOG RGDP | -0.572870 | -2.951125 | -3.799711 | -2.951125 | I (1) |
| LOG NOIM | -3.137067 | -2.951125 | – | – | I (0) |
| LOG NOEX | -1.627314 | -2.948404 | -6.935762 | -2.951125 | I (1) |
| EXCHR | -0.303944 | -2.948404 | -4.741982 | -2.951125 | I (1) |

Table 2. Bounds Test for Cointegration

| Test Statistic | Value | K |
|---|---|---|
| F-Statistics | 4.743439 | 3 |
| Significance Level | I (0) Bound | I (1) Bound |
| 10% | 2.72 | 3.77 |
| 5% | 3.23 | 4.35 |
| 2.5% | 3.69 | 4.89 |
| 1% | 4.29 | 5.61 |

*Source: Author's Compilation using EVIEWS*

Table 1 displays the unit root and bounds test results. The results show that all variables are integrated to order I (0) and I (1), which supports the use of the ARDL technique. Furthermore, Table 2 shows that the F-statistic (4.743439) exceeds the upper bound critical value at the 5% level (4.35), indicating a long-term relationship between the variables. The result of the long-run analysis is presented in Table 3.

Table 3. Long-Run Coefficients

| Variable | Coefficient | Std. Error | T-statistic | Prob. |
|---|---|---|---|---|
| LOG NOIM | -0.7988195 | 1.057084 | -0.755092 | 0.4637 |
| LOG NOEX | 2.102906 | 1.971044 | 1.066900 | 0.3054 |
| EXCHR | 0.009663 | 0.010636 | 0.908497 | 0.3801 |
| C | -8.394845 | 26.806619 | -0.313163 | 0.7591 |

Model Statistics

| Statistic | Value |
|---|---|
| R-Squared | 0.999584 |
| Adjusted R-Squared | 0.999041 |
| F-statistic | 1839.507 |
| Prob (F-statistic) | 0.000000 |
| Durbin-Watson | 1.830076 |

*Source: Author's Compilation using EVIEWS*

***Result discussion***

The result for non-oil imports (NOIM) demonstrates a statistically insignificant ($p > 0.05$) link with long-term economic growth. This means that changes in non-oil imports had no significant impact on Nigeria's economic growth over the study period. This finding is consistent with Ugwu (2021), who found no significant association between non-oil imports and economic development.

Similarly, non-oil exports (NOEX) have a statistically insignificant ($p > 0.05$) effect on long-term economic growth. This shows that fluctuations in non-oil exports does not have impact on Nigeria's economic growth. This finding is consistent with Onodugo et al. (2013), who discovered that non-oil exports had a limited long-term impact due to structural constraints.

The exchange rate (EXCHR) also has a statistically insignificant link with long-term economic growth, as evidenced by its p-value (0.3801). This suggests that exchange rate variations do not have effect on long-term economic growth. This finding lends support to Ude

and Agodi's (2014) findings of minimal exchange rate effects on economic performance. Significant economic growth implies that a variable (such as non-oil exports, imports, or currency rates) has a genuine, measurable, and dependable effect on economic growth, rather than being purely by chance. The estimated result of the error correction model is presented in Table 4; while the diagnostic results are presented in Table 5.

Table 4. Error Correction Model

| Variable | Coefficient | Prob. |
|---|---|---|
| D(NOIM) | -0.619 | 0.0023 |
| D (NOIM (-1)) | -0.401 | 0.0567 |
| D (NOEX) | -0.352 | 0.0030 |
| D(EXCHR) | -0.007 | 0.0000 |
| ECM | -0.291 | 0.0001 |

*Source: Author's Compilation using EVIEWS*

Table 4 shows that the variables under investigation exhibit a stable short-run connection, known as co-integration. This is because the error correction term (-0.291) is negative and statistically significant ($p < 0.05$), showing that the variables have a long-run equilibrium relationship. This suggests that around 29.1% of short-run disequilibrium is addressed per period, indicating a moderate rate of adjustment to long-run equilibrium.

**LOG NOIM:** A percentage increase in non-oil imports for the current year reduces gross domestic product by 0.62 percent, which is statistically significant because the p-value of 0.0023 is less than 0.05. As a result, it is concluded that non-oil imports at the current lag have a negative impact on short-term economic growth.

**LOG NOIM (-1):** Non-oil imports at lag 1 was found not to be statistically significant ($p > 0.05$). Thus, it shows that non-oil imports at lag 1 do not have influence on economic growth in the short run.

**LOG NOEX:** A percentage increase in non-oil exports at current levels reduces gross domestic product by 0.351704; this is statistically significant ($p < 0.05$). As a result, it is concluded that non-oil exports at current levels have a negative impact on economic growth in the short-run.

**EXCHR:** A percentage rise (reduction in the value of Naira relative to Dollar) in exchange rate reduces growth by about 0.008 percent ($p < 0.05$). As a result, it is concluded that exchange rate at current year does not have a favorable impact on economic growth.

Table 5. Diagnostic Results

| Test | Conclusion |
|---|---|
| Serial Correlation | No issue |
| Heteroskedasticity | No issue |
| Normality | Normal |

*Source: Author's Compilation from ARDL Diagnostic Tests*

Non-oil imports have a negative and statistically significant influence on economic growth in the short-term. This demonstrates that excessive importation of non-productive commodities can reduce domestic economic activity, as noted by Abdulahi (2016). Similarly, non-oil exports

show a negative effect on economic growth in the short-run, suggesting that structural constraints may limit their immediate influence as opined by Adofu et al. (2013). The exchange rate also has a negative and statistically significant impact on economic growth, meaning that exchange rate variations (especially, reduction in the value of Naira relative to Dollar) can impede economic growth. This finding contradicts Ijirshar (2015) and Abogan et al. (2014). Overall, the findings do not support Abbas' (2012), and Ojide, Ojide, and Ogbodo (2014) export-led growth theory.

## CONCLUSION

This study looked at the short- and long-term impacts of non-oil commerce on Nigeria's economic growth. According to the findings, non-oil trade factors have a strong short-run impact on economic growth but incidentally, the impact is negative. On the other hand, no significant impact was established in the long-run. This study reveals the significance of a favorable exchange rate policy which can lead to the appreciation of Naira. A stable exchange rate regime will enhance competitiveness, drive local investment, and foster productive activities. Supporting industrial sectors through advantageous exchange rate policies and improved access to raw materials is vital for accelerating growth. Also, encouraging international contacts is also vital for increasing market access and improving trade performance, while keeping adequate external reserves allows the government to successfully control the foreign exchange market and ensure currency stability.

Furthermore, this study recommends that the potentials in the non-oil imports and exports should be explored towards making the subsector a major contribution to economic growth. As a result, boosting the non-oil industry remains critical for lowering reliance on oil revenues and maintaining economic stability. It calls on the government and development partners to develop the non-oil capital base by properly delivering projects, notably in transportation and agriculture, to increase resource allocation efficiency and achieve better growth outcomes. In addition, existing non-oil policies should be tightened to encourage significant economic diversification, shifting away from a mono-product economy and towards a more diverse structure for better long-term development outcomes.

## REFERENCES

Abbas, S. (2012). Causality between exports and economic growth: Investigating suitable trade policy for Pakistan. *Eurasian Journal of Business and Economics,* 5(10), 91–98.

Abdulahi, A. (2016). Non-oil import and economic growth in Nigeria: An empirical analysis. *International Journal of Economics and Financial Research,* 2(3), 45–52.

Abogan, O. P., Akinola, E., & Baruwa, O. (2014). Non-oil export and economic growth in Nigeria. *Journal of Research in Economics and International Finance,* 3(1), 1–11.

Adeleye, J. O., Adeteye, O. S., & Adewuyi, M. O. (2015). Impact of international trade on economic growth in Nigeria (1988–2012). *International Journal of Financial Research,* 6(3), 163–172.

Adenugba, A. A., & Dipo, S. O. (2013). Non-oil exports and economic growth in Nigeria: A study of agricultural and mineral resources. *Journal of Educational and Social Research,* 3(2), 403–418.

Adeyemi, A. O., & Thapa, A. K. (2024). Economic impacts of oil price shocks in Nigeria: Evidence from ARDL and VECM models. *Statistics and Mathematical Research Journal.*

Alege, P. O. (2012). Exchange rate volatility and macroeconomic performance in Nigeria. *Journal of Economics and Sustainable Development,* 3(7), 152–158.

Apergis, N., & Payne, J. E. (2019). The relationship between natural resource dependence and economic growth: Evidence from developing countries. *Resources Policy,* 61, 50–58.

Bakare, A. S. (2011). The determinants of import demand in Nigeria: An empirical analysis. *Journal of Research in International Business and Management,* 1(2), 50–60.

Dewett, K. K. (2015). *Modern economic theory.* Shyam Lal Charitable Trust.

Egwu, S. G. (1998). *Structural adjustment, agrarian change, and rural ethnicity in Nigeria* (Vol. 103). Nordic Africa Institute.

Ekperiware, C. M. (2011). Oil and non-oil FDI and economic growth in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences,* 2(4), 333–343.

Ezike, J. E., & Ogege, S. (2012). Nigerian foreign trade policy: Its impact on non-oil exports. *Journal of Economics and International Finance,* 4(8), 192–200.

Heshmati, A., & Peng, S. (2012). International trade and its effects on economic performance in China. *China Economic Policy Review,* 1(2), Article 1250009.

Ibrahim, M. (2020). Oil revenue and economic growth in Nigeria: Evidence from the ARDL approach. *Energy Reports,* 6, 210–215.

Ijirshar, V. U. (2015). The empirical analysis of agricultural export and economic growth in Nigeria. *Journal of Development and Agricultural Economics,* 7(3), 113–122.

International Monetary Fund. (2021). *Nigeria: Staff country report.* IMF.

Matthew, O. A., Ede, C. U., & Osabohien, R. (2018). Industrialization and its impact on economic growth in Nigeria: The role of oil and non-oil sectors. *Economies,* 6(4), 1–15.

Ogunbiyi, S. S., & Abina, P. A. (2019). The nexus between oil and non-oil revenue on economic development in Nigeria. *International Journal of Economics, Business and Management Studies,* 6(2), 355–365.

Ojide, M. G., Ojide, K. C., & Ogbodo, J. C. (2014). Export-led Growth Hypothesis in Nigeria: Applications of ARDL Model and Co-integration Analysis. *Global Journal of Emerging Market Economies,* 6(1): 5-13. http://dx.doi.org/10.2139/ssrn.2269067

Onodugo, V. A., Ikpe, M. I., & Anowor, O. F. (2013). Non-oil export and economic growth in Nigeria: A time series econometric model. *International Journal of Business Management & Research,* 3(2).

Sachs, J. D., & Warner, A. M. (2001). Natural resources and economic development: The curse of natural resources. *European Economic Review,* 45(4–6), 827–838.

Sala-i-Martin, X., & Subramanian, A. (2013). Addressing the natural resource curse: An illustration from Nigeria. *Journal of African Economies,* 22(4), 570–615.

Somiari, S., Uzomba, P. C., & Imoisi, A. I. (2012). The impact of macroeconomic variables on non-oil exports performance in Nigeria (1986–2010). LWATI: *A Journal of Contemporary Research, 9(1).*

Ude, D. K., & Agodi, J. E. (2014). Investigation of the impact of non-oil exports on economic growth in Nigeria. *International Journal of Science and Research,* 3(11), 2319–2322.

Umar, G., & Kilishi, A. A. (2010). Oil price shocks and the Nigerian economy: A VAR model. *International Journal of Business and Management,* 5(8), 39–49.

Usman, O. A., & Adejare, A. T. (2013). Effect of exchange rate volatility on Nigeria economy (1991–2010). *International Journal of Academic Research in Economics and Management Sciences,* 2(6).

World Bank. (2020). *Nigeria economic update: Resilience through reforms.* World Bank.