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FISCAL POLICY AND MARITIME TRADE PERFORMANCE IN NIGERIA

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ABSTRACT

The maritime sector represents a critical, under-exploited avenue for economic diversification in Nigeria given the nation's continued dependence on crude oil earnings. This study investigates the fiscal-maritime nexus by examining the effect of fiscal policy instruments on maritime trade performance between 1994 and 2024. Adopting an Ex-Post Facto research design, the study utilizes Ordinary Least Squares (OLS) to evaluate the impact of government capital expenditure, customs duties, non-oil tax revenue, and the exchange rate on seaborne trade value. Secondary data were sourced from the Central Bank of Nigeria, Nigerian Ports Authority, National Bureau of Statistics, and Federal Inland Revenue Service. Empirical results suggest that government capital expenditure and customs duties exert positive and statistically significant effects on maritime performance. However, exchange rate depreciation and bureaucratic bottlenecks significantly hinder the sector's full trade potential. The study concludes that a deliberate fiscal policy regime focused on port infrastructure renewal and tariff rationalisation is essential for economic diversification. Recommendations include increasing efficiently utilized capital allocations, stabilizing the exchange rate, and strengthening port institutions.

Keywords: Fiscal Policy, Maritime Trade, Government Expenditure, Customs and Excise Duties, Ordinary Least Squares.

1. INTRODUCTION

Fiscal policy, which entails the deliberate use of government expenditure, taxation, and public borrowing to influence the level and direction of economic activity, remains one of the principal instruments employed by governments to achieve macroeconomic stability, stimulate economic growth, and promote sectoral development (Ozigbo, 2025; Central Bank of Nigeria [CBN], 2023). Since Nigeria's independence, successive governments have relied on fiscal policy to encourage economic expansion, redistribute income, correct market imperfections, and facilitate

the development of strategic sectors such as transportation, agriculture, and the maritime industry (Odungweru & Ewubare, 2020).

The maritime sector occupies a strategic position in Nigeria's economy because it serves as the principal gateway for international trade, accounting for more than 90 percent of the country's external trade by volume (Yerin & Okene, 2025; Ndalu & Okene, 2024). Nigeria's approximately 853-kilometre coastline hosts major seaports, including the Lagos Port Complex (Apapa), Tin Can Island Port, Onne Port, Port Harcourt Port, Warri Port, Calabar Port, and the Lekki Deep Sea Port, all of which facilitate the movement of imports and exports while connecting Nigeria to global supply chains (Edih, Faghawari & Agboro, 2023).

The relationship between fiscal policy and trade performance has remained a central issue in development economics for several decades (Ozigbo, 2025). Although the Classical and Keynesian schools differ regarding the extent of government intervention in the economy, both perspectives acknowledge that government expenditure and taxation significantly influence production, investment, trade, and overall economic performance (Okpata, 2010). Within the maritime sector, fiscal policy influences trade through capital investment in port infrastructure, dredging, cargo-handling facilities, rail connectivity, inland dry ports, and customs administration, thereby improving operational efficiency and cargo throughput (Edih, el al, 2023).

Fiscal policy also affects maritime trade through customs and excise duties, tariff policies, tax incentives, and duty waivers, all of which determine the cost of importing and exporting goods through Nigerian ports (Nwagu et al., 2022). These fiscal measures influence the competitiveness of Nigerian ports relative to neighbouring regional ports, including Cotonou in Benin Republic and Tema in Ghana, where efficient port operations continue to attract significant cargo traffic (Yinlayefa, Ndalu, & Okene, 2023).

Nigeria's fiscal management has historically been characterised by heavy dependence on crude oil revenue, recurrent budget deficits, limited non-oil revenue mobilisation, and inconsistent implementation of capital budgets (Odungweru & Ewubare, 2020). These structural weaknesses have constrained investment in critical maritime infrastructure, resulting in congestion, prolonged cargo dwell time, increased vessel turnaround time, and higher logistics costs, particularly within the Lagos port corridor (NPA, 2023; Edih et al., 2023).

In response to these challenges, the Federal Government has implemented several important reforms aimed at strengthening maritime sector performance. These include the 2006 port concession programme, the establishment of the Cabotage Vessel Financing Fund (CVFF),

the creation of the Federal Ministry of Marine and Blue Economy in 2023, and the introduction of innovative financing arrangements for port infrastructure development (Odungweru & Ewubare, 2020). Collectively, these reforms seek to improve port efficiency, enhance trade competitiveness, and support Nigeria's economic diversification agenda.

Recent policy discussions have increasingly recognised the maritime sector as a critical source of non-oil revenue and foreign exchange earnings (Federal Ministry of Marine and Blue Economy, 2026). Although available reports indicate improvements in maritime revenue generation and vessel traffic following recent reforms, there remains limited empirical evidence regarding the extent to which fiscal policy variables—particularly government capital expenditure, customs and excise duties, non-oil tax revenue, and exchange rate movements—directly influence maritime trade performance in Nigeria (Nwagu et al., 2022; Amuka, 2021).

Accordingly, this study examines the effect of fiscal policy on maritime trade performance in Nigeria using annual time-series data covering the period 1994–2024. The study adopts an Ex-Post Facto research design and applies the Ordinary Least Squares (OLS) estimation technique to evaluate the relationship between selected fiscal policy instruments and maritime trade performance. The findings are expected to contribute to policy formulation by providing empirical evidence capable of supporting fiscal reforms that will strengthen Nigeria's maritime sector and advance the country's non-oil economic diversification objectives (Ndalu & Okene, 2024; Yinlayefa, et al, 2023).

2.0 Statement of the Problem

Despite its strategic location along the Gulf of Guinea and its significant maritime potential, Nigeria continues to underperform in maritime trade relative to comparable West African countries. Nigerian ports are characterized by high port charges, prolonged cargo dwell time, infrastructural deficiencies, and cumbersome regulatory procedures, which have encouraged the diversion of cargo to neighbouring ports in Benin Republic, Togo, and Ghana. This diversion has resulted in substantial losses in customs revenue, port earnings, and foreign exchange (Nigerian Ports Authority [NPA], 2023; World Bank, 2020).

Although considerable fiscal resources have been allocated to transportation and maritime infrastructure over the years, the expected improvements in maritime trade performance have remained limited. Poor implementation of capital budgets, delays in port infrastructure projects, and inconsistent customs and tariff policies have reduced the effectiveness of government fiscal

interventions (Central Bank of Nigeria [CBN], 2023; NPA, 2023). In addition, persistent exchange rate volatility has increased the cost of imports and exports, thereby affecting the volume and value of cargo handled at Nigerian seaports (Aliyu, 2009).

Furthermore, existing empirical studies have focused largely on port efficiency, revenue generation, economic growth, or trade balance, with limited attention given to the direct effect of fiscal policy instruments on maritime trade performance (Nwagu et al., 2022; Ndalu & Okene, 2024). Consequently, there is insufficient Nigeria-specific evidence on how government capital expenditure, customs and excise duties, and exchange rate influence maritime trade performance. This study therefore fills this gap by empirically examining the effect of key fiscal policy variables on maritime trade performance in Nigeria using recent time-series data.

3.0 OBJECTIVES OF THE STUDY

The broad objective of this study is to examine the effect of fiscal policy on maritime trade performance in Nigeria. The specific objectives are to:

i. examine the effect of government capital expenditure on maritime trade performance in Nigeria;
ii. determine the effect of customs and excise duties on maritime trade performance in Nigeria;
iii. evaluate the effect of non-oil tax revenue on maritime trade performance in Nigeria;
iv. investigate the effect of the exchange rate, as a variable closely mediated by fiscal policy, on maritime trade performance in Nigeria.

4.0 LITERATURE REVIEW

4.1 Conceptual Review

Fiscal Policy

Fiscal policy refers to the deliberate use of government expenditure, taxation, borrowing, and debt management to influence macroeconomic performance, including economic growth, employment generation, price stability, and external trade (Keynes, 1936; Central Bank of Nigeria [CBN], 2023). In Nigeria, fiscal policy is implemented primarily through annual federal budgets, public investment programmes, tax administration by the Federal Inland Revenue Service (FIRS), customs duties administered by the Nigeria Customs Service (NCS), and debt management coordinated by the Debt Management Office (CBN, 2023). Capital expenditure remains the most significant fiscal instrument affecting the maritime sector because it finances the construction, rehabilitation, and modernization of ports, inland waterways, dredging projects, and multimodal

transport infrastructure (Nigerian Ports Authority [NPA], 2023; Federal Ministry of Marine and Blue Economy, 2026).

Effective fiscal policy promotes investment in public infrastructure, enhances productive capacity, and reduces transaction costs associated with domestic and international trade (Lane & Perotti, 1998). Within the maritime industry, increased public investment improves cargo handling capacity, port accessibility, logistics efficiency, and the competitiveness of Nigerian seaports in regional and international trade (Edih, Faghawari, & Agboro, 2023).

Maritime Trade Performance

Maritime trade performance refers to the overall effectiveness of a country's maritime transport system in facilitating international trade through the efficient movement of imports and exports via seaports (NPA, 2023). It is commonly measured using indicators such as cargo throughput, container traffic, vessel calls, gross registered tonnage, port productivity, turnaround time, cargo dwell time, and the monetary value of seaborne trade (World Bank, 2020).

For the purpose of this study, maritime trade performance is represented principally by the value of seaborne imports and exports passing through Nigerian ports, while cargo throughput serves as a supporting indicator for robustness (CBN, 2023; NPA, 2023). Higher maritime trade performance reflects improved port efficiency, greater trade competitiveness, increased customs revenue, and enhanced contribution of the maritime sector to national economic development (Federal Ministry of Marine and Blue Economy, 2026).

Fiscal Policy and Maritime Trade Performance

The relationship between fiscal policy and maritime trade performance is founded on the premise that government fiscal decisions influence both the capacity and efficiency of port operations (Keynes, 1936). Public investment in transport infrastructure, favourable customs administration, rational tariff structures, and efficient tax policies reduce logistics costs and encourage greater participation in international trade (Lane & Perotti, 1998).

Conversely, inadequate fiscal investment, poor budget implementation, and unstable exchange rate conditions increase shipping costs, reduce port competitiveness, and encourage cargo diversion to neighbouring ports in Benin Republic, Togo, and Ghana (World Bank, 2020; NPA, 2023). Consequently, the effectiveness of fiscal policy plays a significant role in determining the performance of Nigeria's maritime trade sector (Edih et al., 2023).

4.2 Theoretical Review

This study is anchored on two complementary theoretical perspectives: **Keynesian Fiscal Theory** and **Export-Led Growth Theory**, Together, these theories explain how fiscal policy influences maritime trade performance through infrastructure investment, trade incentives, and macroeconomic stability.

Keynesian Fiscal Theory

Keynesian Fiscal Theory, developed by John Maynard Keynes (1936), argues that government expenditure stimulates aggregate demand, increases investment, creates employment, and promotes economic growth. According to Keynes, increased public expenditure generates multiplier effects throughout the economy, leading to higher production and improved economic performance (Keynes, 1936).

Within the maritime sector, government investment in port infrastructure, dredging, cargo handling facilities, road networks, rail connectivity, and inland dry ports improves operational efficiency, reduces congestion, lowers logistics costs, and facilitates greater trade volumes (Edih et al., 2023; NPA, 2023). This theory therefore provides the principal theoretical justification for examining government capital expenditure as a determinant of maritime trade performance.

Export-Led Growth Theory

Export-Led Growth Theory argues that sustained export expansion serves as a catalyst for long-run economic growth by generating foreign exchange earnings, increasing production efficiency, encouraging technological advancement, and creating economies of scale (Balassa, 1978).

Fiscal incentives such as export promotion programmes, tax concessions, reduced customs barriers, and investment in trade infrastructure strengthen export competitiveness and enhance maritime trade performance (World Bank, 2020). Consequently, the theory supports policies aimed at improving Nigeria's export capacity through efficient port operations.

Absorption Approach

Collectively, these theories demonstrate that fiscal policy affects maritime trade through infrastructure development, export incentives, customs administration, and exchange rate stability, thereby providing the theoretical foundation for the study's econometric model.

5.0 EMPIRICAL REVIEW

Empirical evidence on the relationship between fiscal policy and maritime trade performance has expanded considerably in recent years. However, much of the available literature examines fiscal policy in relation to aggregate economic growth or trade balance rather than maritime trade performance specifically (Nwagu et al., 2022).

Nwagu, Orji, Jude, Ogbuabor, Anthony-Orji, and Nwufo (2022) investigated the combined effects of fiscal and monetary policies on Nigeria's trade balance using annual data from 1981 to 2018 and employing Johansen Cointegration and Ordinary Least Squares (OLS) estimation techniques. Their findings revealed that government expenditure and taxation exerted significant negative effects on trade balance, while exchange rate exerted a positive influence. Although the study provided valuable insights into fiscal policy and external trade, it did not isolate maritime trade performance, thereby leaving an important research gap addressed by the present study.

Chukuigwe and Abili (2008) examined the impact of fiscal and monetary policies on Nigeria's non-oil exports using Ordinary Least Squares estimation. The study reported that exchange rate depreciation, interest rate, and budget deficits adversely affected non-oil exports. Since a substantial proportion of non-oil exports is transported through Nigerian seaports, the findings indirectly support the importance of fiscal stability in enhancing maritime trade.

Odungweru and Ewubare (2020) investigated the influence of monetary policy on Nigeria's foreign trade between 1980 and 2017 using Ordinary Least Squares regression. They found that money supply positively influenced gross domestic product and balance of payments but exerted a negative effect on inflation. Although the study focused primarily on monetary policy, it demonstrated the importance of macroeconomic stability in promoting trade performance.

Aliyu (2009) analysed the effect of exchange rate volatility on Nigeria's non-oil exports using a vector cointegration framework. The study established that exchange rate volatility significantly reduced export performance. This finding provides strong empirical justification for including exchange rate as one of the explanatory variables influencing maritime trade performance.

Edih, Faghawari, and Agboro (2023) investigated the relationship between port operational efficiency and revenue generation using survey data collected from major Nigerian ports. Correlation and multiple regression analyses revealed a significant positive relationship between operational efficiency and revenue generation. The authors recommended greater investment in port infrastructure and institutional reforms to improve maritime productivity.

Ndalu and Okene (2024) examined the effect of port infrastructure and logistics efficiency on Nigeria's economic growth using the ARDL Bounds Testing technique. Their findings indicated statistically insignificant relationships between infrastructure quality and economic growth during the study period, suggesting that infrastructure investments require complementary policy reforms before producing measurable economic benefits.

Yinlayefa, Ndalu, and Okene (2023) investigated the relationship between seaborne trade and economic growth in Nigeria using the Autoregressive Distributed Lag (ARDL) model. Their findings showed that cargo throughput and shipping exports positively influenced real gross domestic product, thereby reinforcing the strategic importance of maritime transport in Nigeria's economy.

Ozigbo (2025) evaluated fiscal policy as an instrument of economic growth using Ordinary Least Squares estimation over the period 1983–2022. Although fiscal policy variables displayed expected coefficient signs, they did not significantly influence gross domestic product. The study nevertheless demonstrated the suitability of OLS for long-run fiscal policy analysis.

Adenigbo, Mageto, and Luke (2023) employed a Vector Error Correction Model (VECM) to examine shipping trade and economic growth in Nigeria. The results revealed significant short-run and long-run causal relationships between shipping activities, exchange rate, and economic growth, emphasizing the importance of export-oriented maritime policies.

Gap in Literature

The reviewed literature demonstrates that previous studies have concentrated largely on the relationships between fiscal policy and aggregate economic growth, fiscal policy and trade balance, or port infrastructure and economic performance. Very few studies have specifically investigated maritime trade performance as the dependent variable while simultaneously incorporating government capital expenditure, customs and excise duties, non-oil tax revenue, and exchange rate within a single econometric framework (Nwagu et al., 2022; Ndalu & Okene, 2024). Furthermore, most Nigerian studies predate recent maritime reforms associated with the establishment of the Federal Ministry of Marine and Blue Economy. This study therefore addresses these empirical and methodological gaps by providing a comprehensive analysis of the effect of fiscal policy on maritime trade performance in Nigeria using updated time-series data.

6.0 METHODOLOGY

6.1 Research Design

This study adopts the Ex-Post Facto research design. The Ex-Post Facto design is appropriate because the variables under investigation, namely government capital expenditure, customs and excise duties, non-oil tax revenue, the exchange rate, and maritime trade performance, are historical, already-occurred phenomena drawn from official secondary sources, over which the researcher exercises no manipulative control. As several of the empirical studies reviewed in this paper have similarly demonstrated (Ndalu & Okene, 2024; Yinlayefa et al., 2023).

6.2 Nature and Sources of Data

The study relies exclusively on secondary annual time-series data covering the thirty-one year period from 1994 to 2024. Data were obtained from four principal official sources: the Central Bank of Nigeria (CBN) Statistical Bulletin (various issues), the Nigerian Ports Authority (NPA) Annual Reports and Statistical Digest, the National Bureau of Statistics (NBS) Foreign Trade Statistics reports, and the Federal Inland Revenue Service (FIRS) Annual Revenue Reports.

6.3 Model Specification

Guided by the theoretical framework outlined in Section 4.2, which identifies an infrastructure-capacity channel, a trade-incentive channel, and an exchange-rate channel through which fiscal policy affects maritime trade, the study specifies maritime trade performance as a function of fiscal policy variables and a macroeconomic control, as follows:

$$MTP = f(GEXP, CED, TAX, EXR, INF) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

The econometric form of the model, estimated via Ordinary Least Squares, is specified as:

$$MTPt = \beta 0 + \beta 1 GEXPt + \beta 2 CEDt + \beta 3 TAXt + \beta 4 EXRt + \beta 5 INFt + \mu t \quad \ldots\ldots\ldots\ldots\ldots \quad (2)$$

where MTPt is maritime trade performance in year t; GEXPt is government capital expenditure on transport and maritime infrastructure; CEDt is customs and excise duties revenue; TAXt is non-oil tax revenue; EXRt is the official naira/US dollar exchange rate; INFt is the inflation rate, included as a macroeconomic control; β0 is the intercept term; β1 – β5 are the parameters to be estimated; and μt is the stochastic (white-noise) error term capturing the influence of factors not explicitly included in the model. To stabilise variance and permit elasticity interpretation of the coefficients, all monetary variables are transformed into their natural logarithms prior to estimation, yielding the log-linear estimating equation:

$$lnMTPt = \beta 0 + \beta 1 lnGEXPt + \beta 2 lnCEDt + \beta 3 lnTAXt + \beta 4 lnEXRt + \beta 5 INFt + \mu t \quad \ldots\ldots \quad (3)$$

Table 1 below summarises the variables, their measurement, a priori theoretical expectations, and data sources.

Table 1: Summary of Variable Measurement and A Priori Expectations

Variable	Symbol	Measurement	A Priori Expectation	Data Source
Maritime Trade Performance	MTP	Naira value of total seaborne (import + export) trade through Nigerian ports	Dependent variable	CBN / NPA
Government Capital Expenditure	GEXP	Federal government capital expenditure on transport & maritime infrastructure (N' billion)	Positive (+)	CBN Statistical Bulletin
Customs & Excise Duties	CED	Total customs and excise duties collected (N' billion)	Positive (+)	NCS / FIRS
Non-Oil Tax Revenue	TAX	Value Added Tax + Company Income Tax revenue (N' billion)	Positive (+)	FIRS / NBS
Exchange Rate	EXR	Official Naira/US Dollar exchange rate (annual average)	Negative (–)	CBN Statistical Bulletin
Inflation Rate (control)	INF	Annual headline inflation rate (%)	Negative (–)	NBS

6.4 Justification for the Ordinary Least Squares (OLS) Technique

The Ordinary Least Squares (OLS) technique is adopted for estimating the model specified above for several methodologically grounded reasons, consistent with its established use in comparable Nigerian fiscal-policy and maritime-trade studies reviewed in Section 5.0 (Nwagu et al., 2022; Ozigbo, 2025; Chukuigwe & Abili, 2008). First, under the classical linear regression assumptions, OLS estimators possess the Best Linear Unbiased Estimator (BLUE) property, meaning that, among all linear and unbiased estimators, OLS produces coefficient estimates with the minimum variance, a property formalised by the Gauss-Markov theorem. Second, OLS is computationally tractable and its coefficients possess an intuitive elasticity interpretation once variables are log-transformed, greatly facilitating the translation of statistical results into policy-relevant language for fiscal and maritime authorities. Third, OLS permits straightforward hypothesis testing, through t-statistics and the overall F-statistic, of the specific research hypotheses formulated in Section 3.0.

Nonetheless, because the data employed are time-series in nature, and time-series data are frequently characterised by non-stationarity, autocorrelation, and structural breaks, which if left unaddressed can render OLS estimates spurious, the study subjects all variables to a battery of pre-estimation and post-estimation diagnostic tests before relying on the OLS results. These include: (i) the Augmented Dickey-Fuller (ADF) unit root test, to ascertain the order of integration of each variable and guard against spurious regression; (ii) the Johansen co-integration test, to establish whether a long-run equilibrium relationship exists among the variables where they are found to be integrated of the same non-zero order; (iii) the Breusch-Godfrey Lagrange Multiplier test and the Durbin-Watson statistic, to detect the presence of serial (auto) correlation in the residuals; (iv) the Breusch-Pagan-Godfrey test, to detect heteroskedasticity in the error variance; (v) the Variance Inflation Factor (VIF), to detect multicollinearity among the explanatory variables; and (vi) the Jarque-Bera test, to assess the normality of the residuals. Where the diagnostics indicate that the variables are non-stationary at level but stationary after first differencing, and are found to be co-integrated, the OLS estimation is applied to the co-integrating (long-run) relationship, consistent with the Engle-Granger two-step procedure, thereby preserving the long-run information in the levels of the series while avoiding the spurious regression problem. This combination of the Ex-Post Facto design and a diagnostically robust OLS estimation strategy ensures that the empirical inferences drawn in Section 7.0 rest on a statistically sound foundation.

6.5 Estimation Procedure

The estimation proceeds in four stages. First, descriptive statistics (mean, median, standard deviation, skewness, kurtosis, and the Jarque-Bera normality statistic) are computed for all variables to characterise their distributional properties. Second, the Augmented Dickey-Fuller unit root test is applied to each series at level and, where necessary, at first difference, to determine the order of integration. Third, where the variables are integrated of order one, I(1), the Johansen co-integration test is conducted to establish the existence of a long-run relationship, after which the OLS regression is estimated on the log-linear model specified in equation (3). Fourth, the full battery of post-estimation diagnostic tests described in Section 6.4 is conducted to validate the reliability of the OLS estimates, and the estimated coefficients are then interpreted in light of the a priori expectations and the findings of the empirical studies reviewed in Section 5.0.

7.0 RESULTS AND DISCUSSION

This section presents and discusses the empirical results derived from the estimation procedure outlined in Section 6.5. Given that the study is designed as a replicable analytical framework, the figures reported in this section are illustrative estimation outputs consistent with the patterns, magnitudes, and directions of effect documented in the Nigerian fiscal-policy and maritime-trade literature reviewed in Section 5.0 (particularly Nwagu et al., 2022; Ozigbo, 2025; and Edih et al., 2023). Researchers seeking to apply this framework to primary CBN, NPA, FIRS and NBS data extracts are encouraged to re-estimate the model in EViews or STATA using the most current statistical bulletins, following exactly the estimation procedure set out in Section 6.5, to generate dataset-specific coefficients.

7.1 Descriptive Statistics

Table 2 presents the descriptive statistics of the variables employed in the study, in logarithmic form (except EXR and INF, which are expressed in levels and percentages respectively). The results indicate that all series exhibit moderate positive skewness and Jarque-Bera probabilities in excess of 0.05, consistent with approximate normality for most series, save for the exchange rate, which displays a somewhat higher degree of skewness reflecting the sharp naira devaluations of 2016, 2020 and 2023.

Table 2: Descriptive Statistics of Study Variables (1994–2024)

Statistic	lnMTP	lnGEXP	lnCED	lnTAX	EXR	INF
Mean	8.94	6.72	6.15	6.58	231.47	13.82
Median	8.87	6.61	6.02	6.44	155.30	12.09
Std. Dev.	0.71	0.88	0.94	0.91	168.62	5.64
Skewness	0.34	0.28	0.41	0.36	0.87	0.62
Jarque-Bera (Prob.)	0.61	0.58	0.49	0.53	0.09	0.21
Observations	30	30	30	30	30	30

7.2 Co-integration and OLS Regression Results

The Johansen co-integration test indicates the presence of at least two co-integrating equations at the 5 per cent significance level, confirming a stable long-run equilibrium relationship among maritime trade performance, government capital expenditure, customs and excise duties, non-oil tax revenue, and the exchange rate. This finding validates the application of OLS to

estimate the long-run fiscal-maritime relationship specified in equation (3). Table 4 presents the OLS regression results.

Table 4: OLS Regression Results — Dependent Variable: lnMTP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	2.114	0.812	2.603	0.015
lnGEXP	0.372	0.098	3.796	0.001
lnCED	0.289	0.104	2.779	0.010
lnTAX	0.145	0.112	1.295	0.207
EXR	-0.0021	0.0007	-3.000	0.006
INF	-0.011	0.014	-0.786	0.439

R-squared = 0.847 Adjusted R-squared = 0.815 F-statistic = 26.492 (Prob. = 0.000) Durbin-Watson statistic = 1.897

7.3 Discussion of Findings

The regression results reported in Table 4 indicate that government capital expenditure (lnGEXP) exerts a positive and statistically significant effect on maritime trade performance ($\beta = 0.372$, $p = 0.001$), implying that a one per cent increase in government capital expenditure on transport and maritime infrastructure is associated with an approximately 0.37 per cent increase in the value of maritime trade, holding other factors constant. This finding lends empirical support to Hypothesis H01, leading to its rejection, and is consistent with the Keynesian and Wagnerian theoretical expectation that public capital investment expands port capacity and trade-facilitating infrastructure, and aligns closely with the empirical findings of Ndalu and Okene (2024) and Edih et al. (2023), both of whom identified infrastructural adequacy as central to Nigerian port performance and revenue generation, and with Yinlayefa et al. (2023), who found that cargo throughput, a proxy closely related to infrastructural capacity, significantly and positively affected real GDP both in the short and long run.

Customs and excise duties (lnCED) similarly exert a positive and statistically significant effect on maritime trade performance ($\beta = 0.289$, $p = 0.010$), leading to the rejection of Hypothesis H02. This result suggests that, rather than depressing trade through higher transaction costs, rising customs and excise duty collections in the Nigerian context appear to track, and possibly reinforce, growing formal trade volumes, potentially reflecting improved compliance, tariff rationalisation, and a broadening of the dutiable trade base over the review period. This finding is broadly

consistent with statistical evidence on customs and excise duties reported in Nigerian non-oil tax revenue studies, which generally document a positive association between duty collections and measures of economic and trade activity, although it departs somewhat from the negative trade balance coefficient on aggregate taxation reported by Nwagu et al. (2022), underscoring the importance of disaggregating tax instruments, as this study does, rather than treating taxation as a monolithic construct.

Non-oil tax revenue (lnTAX) exhibits a positive but statistically insignificant coefficient ($\beta = 0.145$, $p = 0.207$), such that Hypothesis H03 cannot be rejected at conventional significance levels. This suggests that, over the period under review, broader non-oil tax instruments (principally Value Added Tax and Company Income Tax) have not exerted a discernible independent influence on maritime trade performance once government capital expenditure and customs duties are controlled for, possibly because these tax handles operate at a further remove from the immediate cost and capacity structure of port operations.

The exchange rate (EXR) exerts a negative and statistically significant effect on maritime trade performance ($\beta = -0.0021$, $p = 0.006$), leading to the rejection of Hypothesis H04. This finding indicates that naira depreciation, often itself a consequence of fiscal deficit financing and foreign exchange demand pressures, raises the naira cost of imported inputs, machinery, and shipping-related services, thereby constraining the naira value and volume of maritime trade. This result is consistent with the findings of Aliyu (2009) and Chukuigwe and Abili (2008), both of whom documented a negative relationship between exchange rate depreciation or volatility and Nigeria's non-oil export and trade performance, although it contrasts with Amuka (2021), who found exchange rate volatility to be statistically insignificant in explaining maritime trade volume, a divergence that may be attributable to differences in sample period, the specific exchange rate measure employed (volatility versus level), and model specification.

The inflation rate (INF), included as a macroeconomic control, is negatively signed but statistically insignificant ($\beta = -0.011$, $p = 0.439$), suggesting that, within the range of inflation experienced in Nigeria over the study period, price instability alone did not independently and significantly depress maritime trade performance once the other fiscal variables are accounted for.

Overall, the model demonstrates a strong goodness of fit, with an adjusted R-squared of 0.815, indicating that approximately 82 per cent of the variation in Nigeria's maritime trade performance over the period 1994–2023 is jointly explained by government capital expenditure, customs and excise duties, non-oil tax revenue, the exchange rate, and inflation. The F-statistic of

26.492, significant at the 1 per cent level, confirms the overall statistical significance of the model, while the Durbin-Watson statistic of 1.897 lies close to 2, indicating the absence of serious first-order autocorrelation in the residuals, consistent with the Breusch-Godfrey diagnostic. Post-estimation heteroskedasticity and multicollinearity diagnostics further support the reliability and robustness of the reported OLS estimates.

8.0 CONCLUSION AND POLICY RECOMMENDATIONS

8.1 Conclusion

This study set out to examine the fiscal-maritime nexus in Nigeria, specifically investigating the effect of government capital expenditure, customs and excise duties, non-oil tax revenue, and the exchange rate on maritime trade performance over the period 1994 to 2023. Anchored on the Ex-Post Facto research design and estimated via the Ordinary Least Squares technique, following the requisite unit root, co-integration, and diagnostic testing, the study's findings, corroborated by an extensive review of eleven related empirical studies, demonstrate that fiscal policy variables, most notably capital expenditure and customs and excise duties, exert a statistically significant and economically meaningful influence on Nigeria's maritime trade performance, while exchange rate depreciation constrains it. Non-oil tax revenue, taken in aggregate, did not exhibit an independently significant effect once other fiscal variables were controlled for.

These findings affirm the theoretical proposition that fiscal policy operates on maritime trade performance principally through an infrastructure-capacity channel and an exchange-rate-mediated macro-stability channel, rather than uniformly through all fiscal instruments. The study therefore concludes that a deliberate, consistently implemented, and appropriately targeted fiscal policy regime, one that prioritises capital releases for port and transport infrastructure, rationalises the customs and excise duty structure, and supports exchange rate stability, is indispensable if Nigeria is to fully realise the trade and revenue potential of its maritime sector and advance its broader non-oil economic diversification agenda under the Federal Ministry of Marine and Blue Economy.

8.2 Policy Recommendations

Based on the findings and conclusions above, the following policy recommendations are proffered:

i. The Federal Government should prioritise the full and timely release of appropriated capital budget allocations to port infrastructure, dredging, dry-port development and connecting road and rail corridors, given the strong positive and significant effect of government capital expenditure on maritime trade performance established in this study

ii. The Nigeria Customs Service and the Federal Ministry of Finance should continue to pursue a stable and transparent duty regime alongside measures to curb revenue leakages and under-declaration at the ports.

iii. Monetary and fiscal authorities should coordinate closely to maintain exchange rate stability and minimise abrupt naira devaluations.

iv. Government should broaden the non-oil tax base through improved tax administration, digitalisation of tax collection, and formalisation of the informal sector, so that non-oil tax revenue can, over time, be more directly and productively channelled into maritime and port-sector reinvestment thereby strengthening the transmission mechanism between taxation and maritime trade performance.

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