International Journal of Studies in Business Management, Economics and Strategies
Volume 5, Issue 10, October- 2026
ISSN (E): 2949-883X
Scholarsdigest.org

TRADE FINANCE AND MANUFACTURING EXPORT PERFORMANCE IN NIGERIA

Anarah, Daniel Chukwudi [1]
Mojekwu Ogechukwu Rita [2]
[1]The Institute of International Trade and Development,
Faculty of Social Sciences, University of Port Harcourt, Rivers State, Nigeria
[2]Department of Finance and Banking, Faculty of Management Sciences,
University of Port Harcourt
Corresponding email: rita.mojekwu@uniport.edu.ng

Abstract
Nigeria's drive to diversify its economy has renewed interest in the role of manufacturing exports as a source of sustainable growth. Despite various policy interventions, access to trade finance is still a major challenge for many manufacturing firms engaged in international trade. This study examined the effect of trade finance on manufacturing export performance in Nigeria using annual data covering the period 1990–2025. The analysis was anchored on Manova's (2013) Credit Constraint Theory and employed the Autoregressive Distributed Lag (ARDL) technique to estimate both the long-run and short-run relationships among the variables. The findings indicate that trade finance, trade openness and the real effective exchange rate have positive and significant effects on manufacturing export performance, whereas lending interest rate has a significant negative effect. Inflation was not found to have a significant influence on manufacturing exports. The error correction result confirms that short-run deviations from equilibrium are corrected within a reasonable period. The study concludes that improving access to trade finance and maintaining a stable macroeconomic environment are important for expanding Nigeria's non-oil manufacturing exports. It therefore recommends that the Central Bank of Nigeria and the Nigerian Export-Import Bank enhance trade finance support through affordable financing schemes targeted at export-oriented manufacturers.

Keywords: Trade Finance, Manufacturing Export Performance, Credit Constraint Theory, Real Effective Exchange Rate, Economic Diversification, NEXIM.

Introduction

Since currency emerged to facilitate commercial exchange and serve as a store of value, the extent of the expansion of both private and public exchange of goods and services in both domestic and international scope has solely relied on the availability of money, coupled with the growth in capitalism, industrialization, and globalization (North, 1990; Levine, 1997; Mishkin, 2022). Trade finance has therefore become one of the major drivers of trade, especially in its international form, because it provides the financial support needed to complete cross-border business transactions. This position aligns with estimates from the

World Trade Organization (WTO, 2016), emphasizing that over eight out of every ten international commercial shipments rely on some variant of trade-based liquidity or credit support. These include common mechanisms like documentary credits, export facilities, bills for collection, bank guarantees, alongside supply chain finance, which help mitigate exposure inherent to cross-border commerce, including payment default, delivery delays, and political uncertainty (Niepmann & Schmidt-Eisenlohr, 2017). It also improves firms' access to working capital, making it easier for exporters and importers to sustain cross-border business relationships (Afreximbank, 2024). Countries where these financing arrangements are well developed generally record stronger export performance because firms are well-equipped to participate in international markets.

Nigeria's economy has depended on crude oil as its principal source of export earnings and government revenue since the discovery and commercialization of the resource in 1956 and 1958 respectively (Ekeuwei et al., 2023). The National Bureau of Statistics (2025a) notes that crude oil contributed between 51.17% and 62.89% of the country's export earnings across the quarters of 2025. This pattern has persisted despite several policy efforts aimed at broadening the productive base of the economy. Such dependence leaves the country exposed to fluctuations in international oil prices and foreign exchange shortages, both of which have constrained investment and economic growth (World Bank, 2021). These concerns have strengthened the case for expanding manufacturing exports, given their contribution to value addition, industrial linkages, technology acquisition and employment generation (UNCTAD, 2023a).

Despite several government policies aimed at promoting non-oil exports, manufactured goods still make a relatively small contribution to Nigeria's export earnings. According to the National Bureau of Statistics (NBS, 2025b), Nigeria recorded total merchandise exports of ₦85.13 trillion in 2025, while manufactured exports amounted to ₦2.50 trillion, representing only 2.94% of the total. This is much lower than the position in countries such as South Africa and Egypt, where manufactured products contribute more to export earnings and industrial development (UNCTAD, 2023b). According to the World Bank (2024), this poor performance is linked to unreliable electricity supply, poor transport infrastructure, high logistics and port costs, and an unstable business environment. High lending rates, stringent collateral requirements and persistent foreign exchange shortages have also made it difficult for manufacturers to finance production and execute export orders.

To improve access to export finance, the Central Bank of Nigeria introduced the Non-Oil Export Stimulation Facility (NESF), while the Nigerian Export-Import Bank (NEXIM Bank) provides different financing schemes for non-oil exporters. Although these initiatives have improved financing opportunities, many manufacturing firms still struggle to obtain affordable trade finance because of wider macroeconomic and financial sector challenges (NEXIM, 2023; World Bank, 2024; Afreximbank, 2024). Limited working capital is also a major challenge, making it difficult for firms to purchase production inputs, process export orders and cope with the long payment cycle associated with international trade. As a result, many firms with export potential are unable to compete effectively in international markets as those with the capacity to export are usually unable to compete robustly in regional and

global markets because financing are limited and costly (International Finance Corporation [IFC], 2024; WTO, 2023).

It is therefore upon the foregoing context that this paper models how finance trade credit influences manufacturing export performance across the Nigerian economy. Specifically, it seeks to empirically evaluate how trade credit mechanisms drive manufactured export output.

2.0 LITERATURE REVIEW

2.1 Conceptual Framework

2.1.1 Trade Finance

Trade finance refers to the financial arrangements designed to facilitate cross-border commercial transactions involving goods and services. It provides capital, payment mechanisms, as well as risk management tools which enable exporters and importers to complete trade transactions in a more reliable and confidential manner. In the view of the International Chamber of Commerce (ICC, 2024), this form of financing comprises financial services that assist businesses finance trade, manage risks, and facilitate the settlement of commercial transactions. In a similar vein, Auboin (2021) describes it as credit lines, security guarantees, as well as payment instruments that bridge the timeframe separating product dispatch from foreign buyer remuneration. For Dornel et al. (2021), the concept encompasses customized financial mechanisms and general banking facilities which sustain foreign market transactions by providing working capital, mitigating default exposure, and streamlining international settlement processes. From these definitions, the term is not limited to providing credit alone, as it also reduces the dangers linked with cross-border commerce by assuring payment while improving access to working capital.

Also deducing from these definitions, the primary objective of trade finance, which is also termed commercial trade liquidity, is to make international trade easier by providing the finances needed to complete export and import transactions while reducing the risks involved. It helps businesses overcome working capital challenges and protects both buyers and sellers against uncertainties such as non-payment, exchange rate fluctuations, and delays in cross-border trade activities (Committee on the Global Financial System [CGFS], 2014; Demir & Javorcik, 2020; Accominotti & Ugolini, 2020). From this, exporters are able to finance production, process export orders, and receive payment with more certainty, while importers gain confidence that goods will be delivered as agreed (Auboin, 2021).

Trade finance is delivered through a number of financial instruments, with the commonest being letters of credit, which provide assurance of payment once the agreed shipping documents are presented. Others include export credit, which provides funds before or after shipment to aid production and export activities; documentary collections, through which financial intermediaries manage the transfer of shipping records and transaction funds between buyers as well as sellers; and bank guarantees, which protect parties against financial losses arising from the failure to meet contractual obligations (ICC, 2020; Committee on Global Financial System, 2014; Adekunle & Mojekwu, 2024). Other instruments include factoring, forfaiting, and supply chain finance, which altogether help firms improve cash flow by converting receivables into immediate funds to reduce liquidity constraints while supporting continuous production and export operations (Auboin et al., 2016; OECD, 2021).

2.1.2 Manufacturing Exports Performance

Manufacturing is the process of converting raw materials and other inputs into fully processed or intermediate products through the use of labour, machinery, technology, and other production resources. When these goods are produced for sale in foreign markets, they are regarded as manufactured exports. Unlike primary products, manufactured exports usually have higher value because they involve some level of processing before they reach consumers. For this reason, nations possessing robust export manufacturing sectors are strategically advantaged in terms of boosting FX receipts, create employment, and promote broader industrialization (UNIDO, 2024; UNCTAD, 2023b).

Export performance generally describes the degree to which firms or industrial sectors attain their strategic outcomes across foreign commercial arenas. Accordingly, Zou & Stan (1998) conceptualize the term as the degree to which an entity realizes its operational and financial targets when marketing products abroad. Katsikeas et al. (2000) define it according to how effectively an enterprise satisfies its commercial, non-economic, and strategic goals through the international distribution of its goods. Expanding on these definitions, Sousa (2004) further describes export performance as the outcome of a firm's international sales, assessed against established market and financial objectives. These definitions generally submit that export performance is determined by export volume and other factors such as the ability to sustain growth and remain competitive in foreign markets. However, in the context of this study, manufacturing export performance denotes the capacity of the industrial sector to scale both the monetary worth and volume of manufactured goods sold in international markets over time. It portrays the contribution of manufactured exports to the country's export earnings, industrial growth, and competitiveness in the global economy.

Manufacturing export performance is commonly assessed using a number of indicators. One of the most widely used is export value, which measures the monetary value of manufactured goods exported within a given period. Export volume is another indicator, which measures the quantity of manufactured products exported and provides an indication of changes in production over time. Though not commonly used, export growth, which shows whether manufactured exports are increasing or declining from one period to another, is a considerable measure in some empirical studies. In addition, the proportion of industrial shipments relative to overall manufacturing exports serves to evaluate how significantly manufacturing feeds into a nation's trade basket as well as its degree of export diversification (OECD, 2005; UNCTAD, 2023c).

2.2 Empirical Literature Review

Studies in Nigeria shows that financial constraints influence firms' export activities. Akoto & Adjasi (2020) examined how external credit facilities impact local enterprises' exporting decisions using firm-level data and an instrumental variable Probit model. The study found that securing external debt through banking and non-bank institutions increases the likelihood of firms entering export markets, as finance enables them to overcome the initial costs associated with exporting. Similarly, Wahab (2023) reported that improved access to finance supports manufacturing export performance in Nigeria, suggesting that inadequate financing remains a major obstacle to industrial export growth. Shuaibu & Gana (2025),

using an ARDL approach, found that trade financing and digital payment systems contribute positively to export performance in both the short and long run.

Omali & Mojekwu (2026) assessed Nigeria's export financing programmes with annual time-series data covering 1990 to 2024. The analysis utilized the Augmented Dickey-Fuller test, Johansen cointegration, Vector Autoregression, Granger causality, impulse response functions, and forecast error variance decomposition. The results indicated that public and commercial bank credit supported non-oil exports, particularly in the short run, although this effect weakened over time. They also identified limited access to credit, high financing costs, policy inconsistencies, and high loan rejection rates as major constraints to the long-term success of export financing programmes. Using annual observations from 1981–2024, Bala and Mojekwu (2026) investigated the contribution of trade finance to Nigeria's macroeconomic performance through Fully Modified OLS (FMOLS) estimation methods. The authors observed that both export trade credit and import trade credit had significant positive effects on real GDP, indicating that increased access to trade finance supports economic growth. However, letters of credit exhibited an inverse relationship with real output expansion during the study period.

This is the same in advanced and other developing economies outside Nigeria, as studies confirms how critical credit availability remains for international commercial expansion. Liu et al. (2024) evaluated the nexus between trade finance and export performance by analyzing longitudinal firm-level observations from listed firms in China between 2013 and 2021, finding that increased access to trade finance significantly improved firms' export earnings. Specifically, trade finance loans and other trade finance instruments were positively associated with export growth, with the strongest effects observed among smaller firms that had limited access to alternative sources of finance. Jobarteh (2024) examined how financial inclusion and credit market depth impact industrial export delivery across 30 African countries using Enterprise Survey data from 2013 to 2018. The study employed Probit and Tobit models and found that enterprises enjoying superior credit availability exhibited a higher propensity to engage in foreign trade and achieved greater volumes of outward shipment. It recommended strengthening financial sector reforms and expanding access to formal credit to improve manufacturing exports across Africa.

Studies focusing specifically on trade finance mechanisms further stress that financial instruments reduce barriers to international trade. Niepmann and Schmidt-Eisenlohr (2017) used transaction-level trade data to find that bank-provided trade finance instruments facilitate trade by reducing payment uncertainty between exporters and importers. The study emphasized that documentary credits, like letters of credit, play a vital role within environments where trust and information problems limit cross-border transactions. Bah and Nyantakyi (2025) examined the effect of micro-level credit restrictions on outward trade performance across Kenya and Tanzania using firm data from 2019–2020. The study found that liquidity shortages significantly decreased corporate engagement in foreign trade as well as their ratio of export revenue to overall sales, with high debt levels having the strongest negative effect.

These studies generally submit that finance availability, credit conditions, and trade finance instruments are important drivers influencing international sales success. However, limited

scholarly scrutiny has targeted the specific contribution of trade finance mechanisms to manufacturing export performance in Nigeria, as these studies have mainly focused on general credit access, export participation, or aggregate non-oil exports. In view of this gap in the literature, the study investigates the effect of trade finance on Nigeria's manufacturing export performance using data from 1990-2025.

2.3 Theoretical Framework: Credit Constraint Theory

The Credit Constraint Theory was developed by Manova (2013) to explain the role of finance in firms' participation in international trade. Drawing on earlier contributions by Chaney (2008) and Manova (2008), the theory challenges the assumption that firms can always obtain the finance required for export activities. Instead, it argues that differences in access to external finance partly explain why some firms export successfully while others are unable to enter or expand in foreign markets. In this regard, export performance is not only dependent on productivity but also on the ability of firms to secure adequate financing (Manova, 2013).

The central argument of the theory is that firms differ in both financial strength and productive capacity. Although some firms possess the capability to compete internationally, inadequate access to credit may prevent them from doing so. Exporting requires substantial initial expenditure on activities such as market research, product certification, compliance with international standards, documentation, and the development of distribution channels (Chaney, 2008; Manova, 2013). Beyond these initial costs, exporters also require working capital to finance production, transportation, insurance, and the period between shipment and payment (Manova, 2013; Schmidt-Eisenlohr, 2013). Where credit markets are constrained by information asymmetry and strict collateral requirements, many firms may struggle to obtain the finance needed to support these activities, thereby reducing their export capacity (Manova, 2013).

Despite its relevance, the theory has attracted criticism for concentrating mainly on formal finance. Harrison and McMillan (2003) argue that firms, specifically those in developing countries, are mostly reliant on retained earnings, supplier credit, customer advances, and informal financing arrangements, meaning that bank credit alone may not adequately explain export performance because firms may use several funding sources to support their export operations.

The theory is applicable to the study because manufacturing firms depend on finance to procure raw materials, fund production, satisfy export documentation requirements, and move goods to foreign markets. When access to finance is limited, these activities become more difficult and export performance suffers. Trade finance helps to reduce these constraints by providing financial support for export transactions. The expectation, therefore, is that improved access to trade finance will contribute to better manufacturing export performance in Nigeria.

3.0 METHODOLOGY

The study relied on an ex post facto design because the variables had already occurred and could not be influenced by the researcher. Annual observations covering the period from

1990 to 2025 were used. The analysis utilized secondary data obtained from recognized national and international statistical sources. Trade finance, represented by the combined value of Letters of Credit Settled and Export Bills Discounted, together with the maximum lending rate, was sourced from publications of the Central Bank of Nigeria. Data on manufacturing exports were obtained from UNCTADstat, while the Real Effective Exchange Rate was adapted from the World Bank's World Development Indicators. Inflation and the figures required to compute trade openness were obtained from publications of the National Bureau of Statistics.

The variables are operationalized as follows:

- **Manufacturing Export Performance (MEXP):** Annual value of manufactured exports (current US dollars).
- **Trade Finance (TF):** Aggregate annual value of Letters of Credit Settled and Export Bills Discounted.
- **Real Effective Exchange Rate (REER):** Index tracking the real price-adjusted currency exchange rate annually.
- **Interest Rate (INTR):** Maximum commercial bank lending rate (percent).
- **Inflation Rate (INF):** Annual Consumer Price Index inflation rate (percent).
- **Trade Openness (TOP):** Aggregate trade volume (sum of exports and imports) divided by Gross Domestic Product.

3.1 Model Specification

The model for the study is based on the Credit Constraint Theory developed by Manova (2013), which holds that access to finance is indispensable in firms' export activities. In line with this position, manufacturing export performance is modelled as a function of trade finance and other macroeconomic variables expected to influence export performance.

The functional relationship is expressed as:

$$MEXP_t = f(TF_t, REER_t, INTR_t, INF_t, TOP_t) \quad (1)$$

The relationship is estimated in log-linear form below:

$$\ln MEXP_t = \beta_0 + \beta_1 \ln TF_t + \beta_2 \ln REER_t + \beta_3 INTR_t + \beta_4 INF_t + \beta_5 \ln TOP_t + \mu_t \quad (2)$$

Where:

MEXP = Manufacturing export performance, measured as the annual value of manufactured exports (current US$);

TF = Trade finance, measured as the aggregate value of Letters of Credit Settled and Export Bills Discounted;

REER = Real Effective Exchange Rate;

INTR = Maximum lending interest rate of commercial banks (%) in year t;

INF = Yearly CPI inflation rate (%) in year t;

TOP = Trade openness, defined as total trade volume (exports plus imports) relative to Gross Domestic Product in year t;

β_0= Intercept/constant parameter;

β_1–β_5= Coefficients to be estimated; and

μ_t= Disturbance/stochastic error term.

3.2 Method of Data Analysis

Data were analyzed using the Autoregressive Distributed Lag (ARDL) of Pesaran et al. (2001). The Augmented Dickey-Fuller (ADF) test was first used to determine the order of integration of the variables, after which the ARDL bounds test examined the existence of a long-run relationship. Where cointegration was confirmed, the long-run coefficients and Error Correction Model (ECM) were estimated. Model adequacy was assessed using the Breusch-Godfrey LM, Breusch-Pagan-Godfrey, Jarque-Bera, Ramsey RESET, CUSUM, and CUSUMSQ tests.

4.0 RESULTS AND DISCUSSION

4.1. Data Presentation and Analysis

Table 1: Descriptive Statistics (1990–2025)

Statistic	MEXP (USD'M)	TF (NGN'M)	REER (Index)	INTR (%)	INF (%)	TOP (Ratio)
Mean	1,420.55	450,210.30	98.42	21.45	16.82	0.38
Median	1,110.20	380,150.00	96.15	20.80	12.60	0.35
Maximum	3,850.40	1,120,400.00	145.20	31.50	72.80	0.68
Minimum	210.15	12,450.20	62.10	15.50	5.40	0.18
Std. Dev.	985.60	310,240.50	19.35	3.84	14.15	0.12
Skewness	0.88	0.74	0.42	0.95	2.45	0.64
Kurtosis	2.65	2.15	2.80	3.42	8.92	2.38
Jarque-Bera	4.92	4.38	1.15	5.85	92.40	3.12
Prob. Value	0.085	0.112	0.563	0.054	0.000	0.210
Sample Size (N)	36	36	36	36	36	36

Source: E Views Output

Table 1 presents a statistical summary of the operationalized empirical series spanning the 1990 to 2025 timeline. Table 1 shows that the variables varied considerably over the study period. Manufacturing exports (MEXP) and trade finance (TF) recorded noticeable fluctuations, while the real effective exchange rate (REER) changed moderately. The average lending (INTR) rate remained relatively high, and inflation (INF) displayed substantial instability. The Jarque-Bera statistics further indicate that all the variables are normally distributed except inflation, whose probability value is below the 5% significance level.0.05. This indicates that these series conform to standard normal distribution properties

Table 2: Pearson Correlation (1990–2025)

Variables	MEXP	TF	REER	INTR	INF	TOP
MEXP	1.000					
TF	0.645	1.000				
REER	0.412	0.215	1.000			
INTR	-0.518	-0.342	-0.118	1.000		
INF	-0.385	-0.210	-0.284	0.442	1.000	
TOP	0.524	0.388	0.194	-0.215	-0.154	1.000

Source: E Views Output

Manufacturing export performance (MEXP) is positively associated with trade finance (TF), the real effective exchange rate (REER), and trade openness (TOP), while interest rate (INTR) and inflation (INF) show negative associations. The correlations among the explanatory variables are generally low, with the highest coefficient (0.442) occurring between interest rate and inflation. As none of the coefficients exceeds the 0.80 threshold, multicollinearity is not considered a problem, meaning that the variables are suitable for inclusion in the ARDL model.

Table 3: Unit Root Test Results - Mixed Integration Scenario [I (0) and I (1)]

Variable	ADF (Level)	ADF (1st Diff)	PP (Level)	PP (1st Diff)	Order	Status
MEXP	-1.825 (0.672)	-5.412 (0.000)*	-1.910 (0.628)	-5.890 (0.000)*	**I(1)**	Valid for ARDL
TF	-2.115 (0.518)	-4.925 (0.000)*	-2.054 (0.552)	-5.110 (0.000)*	**I(1)**	Valid for ARDL
REER	-2.441 (0.352)	-4.685 (0.001)*	-2.312 (0.418)	-4.720 (0.001)*	**I(1)**	Valid for ARDL
INTR	-4.112 (0.010)*	—	-3.985 (0.015)*	—	**I(0)**	Valid for ARDL
INF	-3.894 (0.018)*	—	-3.810 (0.022)*	—	**I(0)**	Valid for ARDL
TOP	-1.542 (0.795)	-6.115 (0.000)*	-1.488 (0.814)	-6.442 (0.000)*	**I(1)**	Valid for ARDL

Source: E Views Output

Note: McKinnon (1996) p-values are parenthetically reported, with asterisks (*) signifying unit root null rejection at $p < 0.05$.

Diagnostic unit root tests confirm a mixed order of integration: MEXP, TF, REER, and TOP are I(1) series, while INTR and INF are stationary at level, or I(0). Since no variable is I(2), this meets the criteria for estimating short- and long-run dynamics using the ARDL Bounds test.

Table 4: VAR Lag Order Selection Results

Lag	LogL	LR	FPE	AIC	SIC	HQ
0	-112.45	NA	1.45×10^{-3}	6.967	7.234	7.056
1	-42.12	115.22	5.82×10^{-5}	4.948	5.215*	5.037*
2	-20.15	28.54*	3.12×10^{-5}*	**3.715***	5.618	5.122

Source: E Views Output

Note: *Denotes the lag order chosen by each statistical metric. Abbreviations: LR (Sequential modified LR test statistic at 5%), FPE (Final prediction error), AIC (Akaike information criterion), SIC (Schwarz information criterion), HQ (Hannan-Quinn information criterion).

Table 4 shows that the lag selection criteria do not point to the same lag length. While the SIC and HQ criteria select one lag, the AIC and FPE favour two lags. Given the relatively small sample size, the study adopts the two-lag structure recommended by the AIC (Lütkepohl, 2005). This lag length was used for the ARDL model and the bounds test.

Table 5: ARDL Bounds Cointegration Test

Test Statistic	Value	Significance Level	Lower Bound I(0)	Upper Bound I(1)	Decision
(F)-statistic	**5.62**	10%	2.26	3.35	Cointegrated
		5%	**2.86**	**4.01**	Cointegrated
		1%	3.93	5.23	Cointegrated

Source: E Views Output

Note: Critical values derived following Pesaran et al. (2001), Case III setup (unrestricted constant, zero linear trend).

Table 5 indicates that the ARDL Bounds F-statistic of 5.62 is higher than the upper critical bound at the 10%, 5%, and 1% significance levels, providing enough evidence to reject the null hypothesis of no cointegration. This also means that manufacturing export performance, trade finance, the real effective exchange rate, interest rate, inflation, and trade openness move together over the long run.

Table 6: Long-Run ARDL Coefficient Estimates

Variable	Coefficient	Standard Error	(t)-Statistic	Probability	Decision (at 5% Level)
TF	0.482	0.124	3.887	0.001	Statistically Significant
REER	0.236	0.102	2.314	0.028	Statistically Significant
INTR	-0.041	0.016	-2.563	0.019	Statistically Significant
INF	-0.018	0.011	-1.636	0.113	Not Statistically Significant
TOP	0.315	0.106	2.972	0.006	Statistically Significant
C (Constant)	-2.184	1.025	-2.131	0.041	Statistically Significant

Source: E Views Output

The long-run ARDL results show that trade finance has a positive and significant effect on manufacturing export performance ($\beta = 0.482$, $p = 0.001$). This implies that a 1% increase in trade finance is associated with a 0.482% increase in manufacturing exports. The real effective exchange rate ($\beta = 0.236$, $p = 0.028$) and trade openness ($\beta = 0.315$, $p = 0.006$) also have positive and significant effects. Conversely, the maximum lending rate has a significant negative effect on manufacturing exports ($\beta = -0.041$, $p = 0.019$), whereas inflation is negative but not statistically significant ($\beta = -0.012$, $p = 0.113$).

Table 7: Short-Run ARDL Error Correction Estimates

Variable	Coefficient	Standard Error	(t)-Statistic	Probability	Decision (at 5% Level)
ΔTF	0.231	0.087	2.655	0.012	Statistically Significant
ΔREER	0.145	0.068	2.132	0.041	Statistically Significant
ΔINTR	-0.028	0.013	-2.153	0.036	Statistically Significant
ΔINF	-0.011	0.008	-1.375	0.184	Not Statistically Significant
ΔTOP	0.188	0.076	2.473	0.021	Statistically Significant
ECT_{t-1} [CointEq(-1)]	-0.684	0.112	-6.107	0.000	Statistically Significant

Source: E Views Output

Dependent Variable: MEXP. (R^2 = 0.625); Adjusted (R^2 = 0.584); Durbin-Watson = 2.04.

The short-run results indicate that trade finance (β = 0.231, p = 0.012), the real effective exchange rate (β = 0.145, p = 0.041), and trade openness (β = 0.188, p = 0.021) have positive and significant effects on manufacturing export performance. The maximum lending rate is negative and significant (β = −0.028, p = 0.036), while inflation does not have a significant short-run effect. The error correction term, ECT(−1), is negative and statistically significant (β = −0.684, p < 0.01), which indicates that about 68.4% of any short-run deviation is corrected within one year as the system adjusts to its long-run path.

Table 8: Post-Estimation Diagnostic Summary

Diagnostic Check Type	Statistical Test	Test Statistic	Probability Value	Decision (at 5% Alpha)
Serial Correlation	Breusch-Godfrey LM (χ^2)	1.284	0.296	No serial correlation present
Heteroskedasticity	Breusch-Pagan-Godfrey (χ^2)	0.974	0.448	Homoskedastic residuals confirmed
Distributional Fit	Jarque-Bera statistic	1.865	0.394	Residuals are normally distributed
Functional Form	Ramsey RESET (F-stat)	0.823	0.419	Model is correctly specified

Source: E Views Output

Baseline Equation: ARDL (2, 2, 1, 2, 1, 2).

Table 8 shows that the estimated ARDL model passed the diagnostic tests. The Breusch–Godfrey and Breusch–Pagan–Godfrey tests show no evidence of serial correlation or

heteroskedasticity, while the Jarque–Bera and Ramsey RESET tests indicate that the residuals are normally distributed and the model is correctly specified.

Furthermore, CUSUM and CUSUMSQ plots remain within 5% critical boundaries as shown in Table 9 below. This confirms the parameter stability throughout the sample period.

Table 9: Summary of Parameter Stability Test

Test	Result	Decision
CUSUM	Plot remained within the 5% critical bounds	Stable
CUSUMSQ	Plot remained within the 5% critical bounds	Stable

Source: E Views Output

Figures 1 and 2 below shows a graphical representation of the results

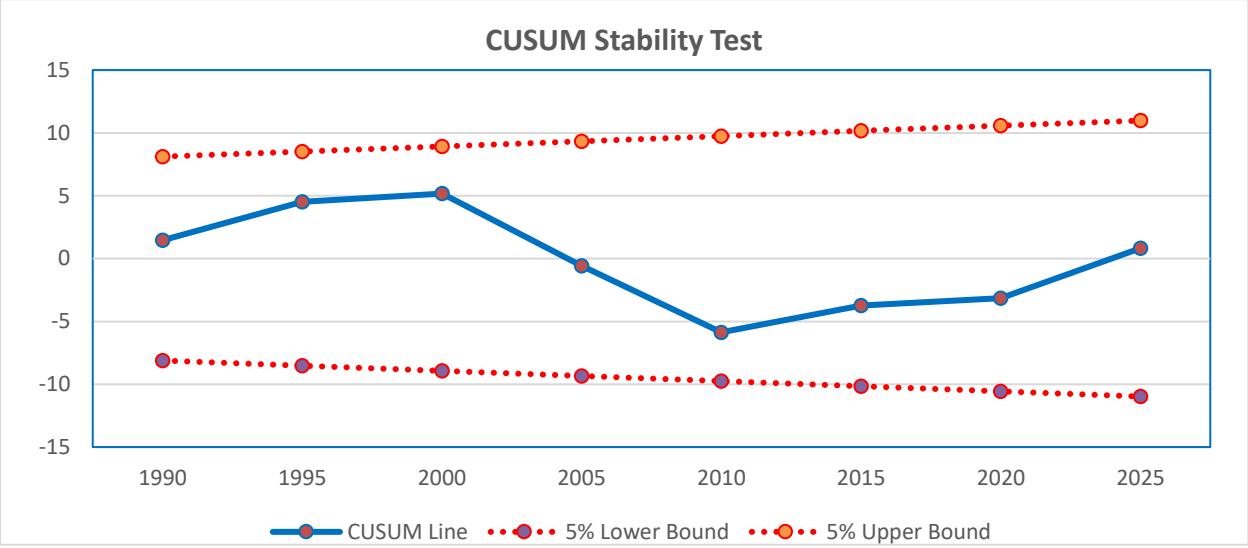


Figure 1: Plot of CUSUM Residuals at 5% Critical Limits

Source: E Views Output

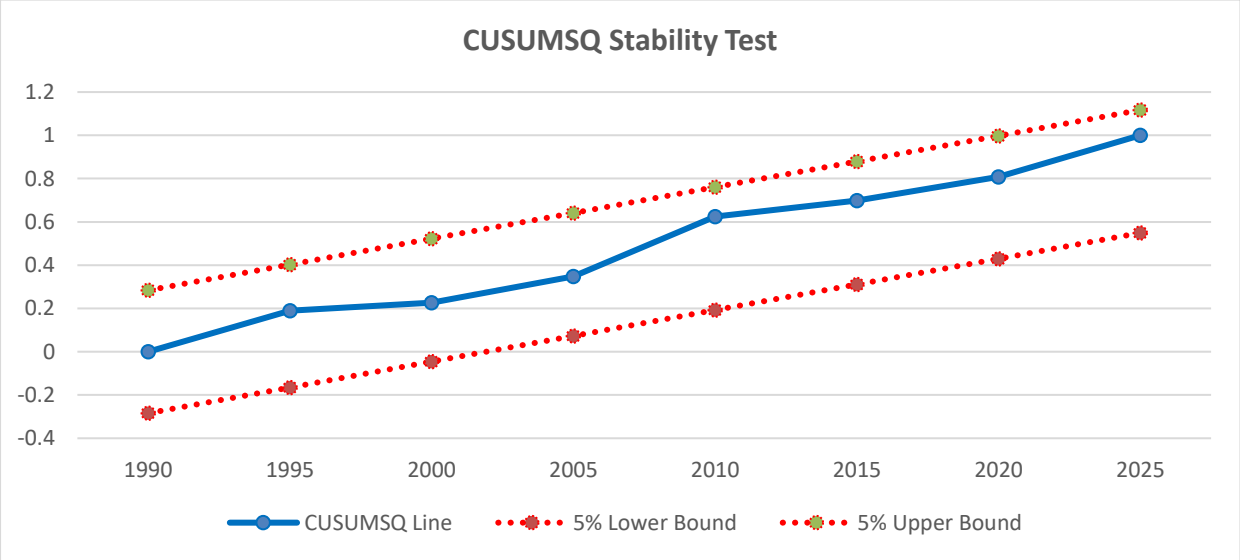


Figure 2: Plot of CUSUMSQ Residuals at 5% Critical Limits

Source: E Views Output

Figures 1 and 2 show that the CUSUM and CUSUMSQ plots are within the 5% critical bounds throughout the study period. The recursive residual lines did not cross the critical limits at any point, which indicates the absence of structural instability. The estimated coefficients remained stable over the sample period, supporting the reliability of the ARDL model.

4.2 Discussion of Findings

Both short- and long-run ARDL results confirm that trade finance drives export growth in Nigeria's manufacturing sector. This directly supports Manova's (2013) Credit Constraint theory, which argues that liquidity helps firms absorb upfront entry costs and operational expenses required for global trade. The result also aligns with Liu et al. (2024), who showed that trade credit expansion raised export revenues for credit-constrained Chinese manufacturers.

The findings further show that the effect of trade finance is influenced by the broader macroeconomic environment. The positive coefficient of the Real Effective Exchange Rate (REER) indicates that lower costs of imported machinery and raw materials improve the competitiveness of Nigerian manufacturers in export markets. Nwikina et al. (2025) observed a similar dynamic, emphasizing exchange rate stability and trade openness as central factors boosting Nigerian manufacturing output.

The findings, however, differ from those of Akoto & Adjasi (2021), who reported that conventional bank credit reduced the exportation capacity of Nigerian productive outfits, while supplier and customer credit promoted exports. A likely explanation for this deviance is that this study focuses specifically on trade finance as opposed to general commercial lending, supported by the negative and significant coefficient of the lending rate, and which indicates that high borrowing costs discourage manufacturing exports even when trade finance is available. The result also disagrees with Bala & Mojekwu (2026), who found that letters of credit had a downward impact on aggregate economic growth. This difference may be due to the emphasis of this study on trade finance in relation to manufacturing exports in lieu of overall economic performance.

5. CONCLUSION AND RECOMMENDATIONS

Owing to Nigeria's efforts to diversify its economy and transition from oil dependence, the finance of other revenue-generating aspects of the economy has become an intricate necessity. The study therefore examined the effect of trade finance on the performance of manufacturing exports in Nigeria over the period 1990 to 2025. The findings show that trade finance makes a positive contribution to manufacturing exports, while greater trade openness also aids export growth. In contrast, high lending rates decrease export performance, denoting that the cost of borrowing is a major challenge for manufacturers. The results further show that a stable real effective exchange rate will be of help to manufacturers by lowering the cost of imported machinery and production inputs.

Based on these findings, the Central Bank of Nigeria (CBN) and the Nigerian Export-Import Bank (NEXIM) should strengthen existing trade finance programmes and make them more accessible to manufacturing firms, especially small and medium-sized exporters. The CBN

should also work with commercial banks to provide concessionary credit for export-oriented manufacturers at lower interest rates. In addition, policies that promote exchange rate stability and reduce the cost of importing industrial inputs should be sustained. Such measures would lower production costs, improve the competitiveness of locally manufactured goods, and support Nigeria's participation in regional and international markets, including the African Continental Free Trade Area (AfCFTA).

REFERENCES

1. Accominotti, O., & Ugolini, S. (2020). International trade finance from the origins to the present: Market structures, regulation, and governance. In E. Brousseau, J.-M. Glachant, & J. Sgard (Eds.), The Oxford handbook of institutions of international economic governance and market regulation (pp. 40–63). Oxford University Press. https://doi.org/10.1093/oxfordhb/9780190900571.013.1
2. Adekunle, G. A., & Mojekwu, O. R. (2024). Trade finance and the growth of small and medium enterprises (SMEs) in Nigeria. World Economics & Finance Bulletin, 39, 120–130.
3. Afreximbank. (2024). African trade report 2024: Export development, industrialization, and trade finance in Africa. African Export-Import Bank. https://media.afreximbank.com/afrexim/African-Trade-Report_2024.pdf.
4. African Export-Import Bank, United Nations Economic Commission for Africa, African Development Bank, & Making Finance Work for Africa. (2021). African trade finance survey report 2021: Survey of Impact of COVID-19 on African Trade Finance. African Export-Import Bank. https://afr-corp-media-prod.s3-eu-west-1.amazonaws.com/afrexim/Survey-of-Impact-of-COVID-19-on-African-Trade-Finance.pdf.
5. Akoto, R. K., & Adjasi, C. (2020). External credit and export decision: Evidence from Nigeria. African Development Review, 32(4), 540–550. https://doi.org/10.1111/1467-8268.12459.
6. Akoto, R. K., & Adjasi, C. (2021). The effect of external credit on firms' exports size in Nigeria. Cogent Business & Management, 8(1), Article 1930498. https://doi.org/10.1080/23311975.2021.1930498.
7. Auboin, M. (2021). Trade finance, gaps and the COVID-19 pandemic: A review of events and policy responses to date (WTO Staff Working Paper No. ERSD-2021-5). World Trade Organization. https://doi.org/10.30875/0f69809b-en.
8. Auboin, M., Smythe, H., & The, R. (2016). Supply chain finance and SMEs: Evidence from international factoring data (WTO Staff Working Paper No. ERSD-2016-04). World Trade Organization. https://www.wto.org/english/res_e/reser_e/ersd201604_e.htm
9. Bah, M., & Nyantakyi, E. B. (2025). Financial constraints and exports: Firm-level evidence from Kenya and Tanzania. African Development Review, 37(4), e70037. https://doi.org/10.1111/1467-8268.70037.

10. Bala, A., & Mojekwu, O. R. (2026). Trade finance and economic growth in Nigeria: A fully modified OLS approach. GPH-International Journal of Applied Management Science, 6(1), 1-7
11. Chaney, T. (2008). Distorted gravity: The intensive and extensive margins of international trade. American Economic Review, 98(4), 1707–1721. https://doi.org/10.1257/aer.98.4.1707.
12. Committee on the Global Financial System. (2014). Trade finance: Developments and issues (CGFS Papers No. 50). Bank for International Settlements. https://www.bis.org/publ/cgfs50.htm.
13. Demir, B., & Javorcik, B. (2020). Trade finance matters: Evidence from the COVID-19 crisis. Oxford Review of Economic Policy, 36(Supplement_1), S397–S408. https://doi.org/10.1093/oxrep/graa034.
14. Dornel, A. D., Engel, J., & Malouche, M. (2021). Financing more resilient trade and value chains. World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/679041635869232451.
15. Ekeuwei, T. A., Vareba, M. K., & Akpan, I. M. (2023). Natural resources economics of crude oil and implications for sustainable development in Nigeria: An instance of transition from dirty energy to clean energy. International Journal of Advanced Academic Research, 9(1), 86–104.
16. Harrison, A. E., & McMillan, M. S. (2003). Does direct foreign investment affect domestic credit constraints? Journal of International Economics, 61(1), 73–100. https://doi.org/10.1016/S0022-1996(02)00078-8.
17. ICC. (2020). 2020 ICC global survey on trade finance: Securing future growth (ICC Publication No. WBO891E). International Chamber of Commerce. https://iccwbo.org/wp-content/uploads/sites/3/2020/07/2020-ICC-Global-Trade-Survey-vWeb.pdf.
18. ICC. (2024, September 18). ICC Banking Commission technical advisory briefing No. 11: Definition of trade finance. ICC Banking Commission. https://library.iccwbo.org/content/tfb/BRIEFINGS/20240918_TABriefing_No_11_Definition_Trade_Finance.pdf.
19. International Finance Corporation. (2024). Annual report 2024: Accelerating impact, mobilizing investment at scale. World Bank Group. https://www.ifc.org/en/insights-reports/annual-report-2024.
20. Jobarteh, M. (2024). Access to finance, financial development and manufacturing firms' export: Insights from enterprise surveys in Africa. The African Finance Journal, 26(2), 43–57.
21. Katsikeas, C. S., Leonidou, L. C., & Morgan, N. A. (2000). Firm-level export performance assessment: Review, evaluation, and development. Journal of the Academy of Marketing Science, 28(4), 493–511. https://doi.org/10.1177/0092070300284003.
22. Levine, R. (1997) Financial Development and Economic Growth: Views and Agenda. Journal of Economic Literature, 35, 688-726.

23. Liu, J., Auboin, M., Haile, B., & Wang, Y. (2024). Trade finance and exports: Firm-level evidence from China (WTO Staff Working Paper No. ERSD-2024-05). World Trade Organization.
24. Lütkepohl, H. (2005) New Introduction to Multiple Time Series Analysis. Springer Science & Business Media. Berlin. https://doi.org/10.1007/978-3-540-27752-1
25. MacKinnon, J. G. (1996). Numerical Distribution Functions for Unit Root and Cointegration Tests. Journal of Applied Econometrics, 11, 601-618. https://doi.org/10.1002/(SICI)1099-1255(199611)11:6<601::AID-JAE417>3.0.CO;2-T
26. Manova, K. (2008). Credit constraints, equity market liberalizations and international trade. Journal of International Economics, 76(1), 33–47. https://doi.org/10.1016/j.jinteco.2008.03.008.
27. Manova, K. (2013). Credit constraints, heterogeneous firms, and international trade. The Review of Economic Studies, 80(2), 711–744. https://doi.org/10.1093/restud/rds036.
28. Mishkin, F. S. (2022). The economics of money, banking, and financial markets (13th Ed.). Pearson.
29. NBS. (2025a). Foreign trade in goods statistics (Q1 2025). https://microdata.nigerianstat.gov.ng/index.php/catalog/84/download/1226/Q1_2025_FTS_Report.pdf.
30. NBS. (2025b). Foreign trade in goods statistics (Q1–Q4 2025). https://microdata.nigerianstat.gov.ng/index.php/catalog/84/related-materials.
31. NEXIM. (2023). Annual report and financial statements for the year ended 31 December 2023. Nigerian Export-Import Bank.
32. Niepmann, F., & Schmidt-Eisenlohr, T. (2017). International trade, risk and the role of banks. Journal of International Economics, 107, 111–126. https://doi.org/10.1016/j.jinteco.2017.03.007.
33. North, D. C. (1990). Institutions, institutional change and economic performance. Cambridge University Press. https://doi.org/10.1017/CBO9780511808678.
34. Nwikina, C. G., Wadi, E. O., Wilson, K. G., & Edi, M. F. (2025). Exchange rate and performance of manufacturing industry in Nigeria. Global Academic Journal of Economics and Business, 7(1), 28–39.
35. OECD. (2005). Measuring Globalization: OECD handbook on economic Globalization indicators. OECD Publishing. https://doi.org/10.1787/9789264108103-en.
36. OECD. (2021). Trade finance for SMEs in the digital era (OECD SME and Entrepreneurship Papers No. 24). OECD Publishing. https://doi.org/10.1787/e505fe39-en
37. Omali, J. U., & Mojekwu, O. R. (2026). Evaluating the effectiveness of export financing programmes in Nigeria: Challenges, opportunities and impact on non-oil exports. GPH-International Journal of Educational Research, 9(1), 1–19. https://doi.org/10.5281/zenodo.18211608.
38. Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. Journal of Applied Econometrics, 16(3), 289–326. https://doi.org/10.1002/jae.616

39. Schmidt-Eisenlohr, T. (2013). Towards a theory of trade finance. Journal of International Economics, 91(1), 96–112. https://doi.org/10.1016/j.jinteco.2013.04.005.
40. Shuaibu, M. I., & Gana, U. (2025). Unlocking Nigeria's non-oil export potential: Do trade financing and digital payment play a role? Ekonomski Horizonti, 27(1), 19–32. https://doi.org/10.5937/ekonhor2501019s.
41. Sousa, C.M.P. (2004) Export performance measurement: an evaluation of the empirical Research in the literature. Academy of Marketing Science Review. 9: 1-22
42. UNCTAD. (2023a). Economic development in Africa report 2023: The potential of Africa to capture technology-intensive global supply chains. United Nations. https://unctad.org/publication/economic-development-africa-report-2023.
43. UNCTAD. (2023b). The state of commodity dependence 2023 (UNCTAD/DITC/COM/2023/3). United Nations. https://unctad.org/publication/state-commodity-dependence-2023.
44. UNCTAD. (2023c). Handbook of statistics 2023. United Nations. https://unctad.org/publication/handbook-statistics-2023
45. UNIDO. (2024). Industrial development report 2024: Turning challenges into sustainable solutions—The new era of industrial policy. United Nations Industrial Development Organization. https://www.unido.org/sites/default/files/unido-publications/2024-06/Industrial%20Development%20Report%202024.pdf.
46. Wahab, B. A. (2023). Drivers of manufacturing export performance in Nigeria: An application of the GMM estimation approach. Saudi Journal of Economics and Finance, 7(11), 548–560. https://doi.org/10.36348/sjef.2023.v07i11.010.
47. World Bank. (2021). Nigeria Development Update: Time for business unusual. World Bank. https://documents1.worldbank.org/curated/en/099545011232116970/pdf/P1778200813d1605e0b361074dc50d90cd3.pdf.
48. World Bank. (2024). Nigeria Development Update: Staying the course—Progress amid pressing challenges. World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099101624100574290.
49. WTO. (2016). Trade finance and SMEs: Bridging the Gaps in Provision. World Trade Organization. https://www.wto.org/english/res_e/publications_e/tradefinsme_e.htm.
50. WTO. (2023). Small business and trade. https://www.wto.org/english/tratop_e/msmesandtra_e/msmesandtra_e.htm.
51. Zou, S., & Stan, S. (1998). The antecedents and performance outcomes of export strategy: A review of the empirical literature between 1987 and 1997. International Marketing Review, 15(5), 333–358. https://doi.org/10.1108/02651339810236289.

Table 10: Comprehensive Econometric Research Data Sheet (1990–2025)

YEAR	MEXP (USD'm)	TF (NGN'm)	REER (Index)	INTR (%)	INF (%)	TOP (Ratio)
1990	210.15	12,450.20	145.20	25.50	7.50	0.42
1991	235.40	14,890.50	132.10	20.10	13.00	0.45
1992	250.60	18,120.00	110.45	29.80	44.60	0.39
1993	222.10	22,410.80	122.30	31.50	57.20	0.31
1994	248.30	28,950.40	115.10	21.00	57.00	0.28
1995	310.40	35,600.00	108.50	20.80	72.80	0.35
1996	385.20	48,150.10	112.40	20.80	29.30	0.38
1997	412.05	59,320.50	120.15	23.32	8.50	0.41
1998	390.50	71,400.00	125.60	21.34	10.00	0.33
1999	445.10	89,250.30	102.10	27.19	6.60	0.36
2000	512.20	110,400.00	98.40	21.55	6.90	0.44
2001	580.40	128,150.60	95.12	23.44	18.90	0.46
2002	610.15	145,200.00	92.40	24.77	12.90	0.40
2003	685.30	168,900.50	88.15	20.71	14.00	0.42
2004	740.20	198,310.20	84.60	19.18	15.00	0.45
2005	895.10	245,600.00	89.35	17.95	17.90	0.49
2006	1,020.40	310,250.00	94.10	17.26	8.20	0.43
2007	1,180.50	385,400.10	98.25	16.94	5.40	0.41
2008	1,340.20	460,120.50	101.40	15.14	11.60	0.47
2009	1,110.20	430,250.00	96.15	18.92	12.50	0.34
2010	1,420.55	512,400.00	100.00	17.59	13.70	0.38
2011	1,650.40	580,110.80	94.50	16.02	10.80	0.43
2012	1,890.10	642,300.00	91.20	16.51	12.20	0.41
2013	2,110.50	710,550.20	89.45	16.72	8.50	0.37
2014	2,450.80	785,100.00	86.10	16.55	8.00	0.35
2015	2,215.40	740,200.50	81.35	16.85	9.01	0.29
2016	1,950.20	712,450.00	70.80	16.87	15.70	0.26
2017	2,180.15	765,100.20	73.40	17.50	16.50	0.28
2018	2,410.60	820,400.00	76.15	16.89	12.10	0.31
2019	2,680.40	895,300.60	78.50	14.99	11.40	0.33
2020	2,150.10	810,150.00	74.20	14.73	13.20	0.24
2021	2,540.35	885,600.40	71.10	14.92	16.95	0.27
2022	2,890.10	942,100.00	66.45	16.14	21.34	0.30
2023	3,120.40	995,450.80	62.10	18.75	27.33	0.25
2024	3,450.60	1,050,200.00	58.47	22.50	31.70	0.22
2025	3,850.40	1,120,400.00	73.90	24.15	24.50	0.18

Source: Compiled by the author from data obtained from the Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS) (2026)