Jurnal Ekonomi dan Bisnis Airlangga
p-ISSN : 2338-2686 e-ISSN : 2597-4564
Available online at https://e-journal.unair.ac.id/JEBA
Volume 35, No.2, June – November 2025
Page 333 – 343
doi: 10.20473/jeba.V35I22025.333-343

IMPACT OF TRADE LIBERALISATION REGIME AND ECONOMIC GROWTH IN NIGERIA

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ARTICLE HISTORY

Received:
18 June 2025
Revised
19 September 2025
Accepted:
07 November 2025
Online available:
30 November 2025

Keywords:
Economic growth, SAP, trade liberalization, Nigeria

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ABSTRACT

Introduction: This study aims to examine the impact of trade liberalization on economic growth in Nigeria, considering different policy regimes from 1986 to 2022. The study seeks to assess how exchange rates, capital stock, and policy shifts influenced economic growth during the Structural Adjustment Program (SAP) era and the gradual trade liberalization period.
Methods: The linear regression model was employed with data sourced from the Central Bank of Nigeria publications and the National Bureau of Statistics. The Augmented Dickey-Fuller (ADF) test is used to test variable stationarity, and the Markov Switching Regime model captures the effects of policy shifts on economic growth.
Results: In the first regime (SAP era), exchange rate and capital stock had a significant positive impact on economic growth, while trade liberalization showed a negative but insignificant effect. In the second regime (gradual trade liberalization), capital stock maintained a positive effect, but both trade liberalization and exchange rates had a significant negative impact.
Conclusion and suggestion: The findings suggest that trade liberalization has had a generally negative impact on Nigeria's economic growth, particularly during the gradual liberalization period. To promote growth, policymakers should reconsider the export promotion strategies that enhance domestic production.

INTRODUCTION

The liberalization of trade across economic boundaries is one of the measures of trade promotion. As such, the trade liberalization policy has been of concern to economists and policymakers all over the world (Kalu, Nwude, & Nnenna, 2016). Trade liberalization is the process of reducing or removing restrictions on international trade.

This may include the reduction or removal of tariffs, abolition or enlargement of import quotas, abolition of multiple exchange rates, and removal of requirements for administrative permits for imports or allocations of foreign exchange (Sani & Yunusa, 2019). Looking at the relationship between trade liberalization and economic growth, trade is considered an important part of a nation's economic activities because it increases world output, a wider market, varieties, technological transfer, and an an enhanced standard of living, helping nation to specialize in the production and exchange of goods for which her resources are most suitable (DeRosa, 2012). Economic theory suggests that good trade policy can enable a country to import needed raw materials and capital goods; increase scale efficiency by enlarging access to foreign markets; and lead to increased competition with foreign firms, forcing domestic firms to adopt a more efficient technology to reduce inefficiency and waste. However, trade can also lead to a deficit in the balance of payments and reduce the real income of a country. Hence, a good trade policy should be such that it balances imports and exports in order to ensure a surplus balance of payment (Verter and Osakwe, 2015).

Nigeria had embarked on several trade policies in the post-independence era. Among these policies are the import substitution industrialization policy (1970), the export promotion strategy (1981), the Structural Adjustment Programme (1986), and the present gradual liberalization policy (2003). Despite the implementation of trade liberalization measures in Nigeria, growth performance and other macroeconomic variables like the exchange rate and trade balance have worsened. Also, the country's growth performance falls below expectations.

Most of the existing studies examined the relationship between trade liberalisation and economic growth across developed and developing, and emerging market economies. However, this study applies the Gauss-Markov Switching model analytical approach to capture the implications of trade liberalization policy shifts on economic growth in the last two recent trade liberalization policy regimes, comprising of Structural Adjustment Programme era of 1986 and the gradual liberalization policy of 2003-2022.

LITERATURE REVIEW

Most of the existing studies from developed countries show a positive effect of trade liberalization on economic growth; Yameogo and Omojolaibi (2021) explored the relationship among trade openness, economic growth, and poverty level in 40 sub-Saharan African countries from 1990 to 2017. Panel Autoregressive Distributed Lag (ARDL) model, Panel Vector Auto-regression (VAR), and the System of Generalised Method of Moments (SYS-GMM) were employed. A robustness test was also applied. The sensitivity analysis was done through the Panel ARDL model. The results revealed that trade

openness, foreign direct investment, and institutional quality significantly increase economic growth in the long term, while institutional quality reduces economic growth in the short run. Similarly, Ozturk and Radoua (2020) examined the dynamic relationship between trade liberalization on economic growth and economic development in the Kingdom of Morocco. Using Granger Causality and an Auto-Regressive Distributed Lag (ARDL) time series model. The results suggest that trade liberalization Granger causes economic growth. Moreover, ARDL results show that trade openness has a statistically significant yet negligibly small impact on economic growth both in the short run and in the long run.

Furthermore, Modeste (2019) examined the impact of trade liberalization on the supply of exports and poverty in Guyana from the early 1980s to the mid-2010s using the cointegration and error correction methodologies. From the empirical results of the study, two important points emerge. The first point is that, for Guyana, trade liberalization has resulted in the expansion of the country's supply of exports and the reduction in its poverty rate. The second point is that the impact of trade liberalization on export supply and poverty has been quite small. Also, Ahmad and Ali (2019) explored the effect of trade liberalization and trade tax revenue on the expenditure structure of Pakistan from 1975 to 2019. The Autoregressive Distributed Lag approach has been used for examining the long-run co-integration among the expenditure structure and trade liberalization, and the Error-Correction model is used for short-run dynamics of the concerned variables. The empirical result shows that trade tax revenue has a positive impact on expenditure structure in the long run but not in the short run.

Likewise, Fukuda (2019) examined the effects of trade liberalization on growth and welfare through basic and applied research. He considers R&D activities of basic science conducted by the government using asset income tax and applied technology conducted by profit-maximizing firms to re-analyze the effect of trade liberalization on growth and welfare. It shows that trade liberalization elevates the growth rate if the population size is small in an exogenous international spillover and endogenous growth model with firm heterogeneity. Moreover, it shows that the same condition is sufficient for welfare gain through further exposure to trade.

Furthermore, Shu and Steinwender (2018) reviewed the empirical economics literature on the impact of trade liberalization on firms' innovation-related outcomes. They defined and examined four types of shocks to trade flows: import competition, export opportunities, access to imported intermediates, and foreign input competition. Our review reveals interesting heterogeneities at the country and firm levels. In emerging countries, trade liberalization appears to spur productivity and innovation. In developed countries, export opportunities and access to imported intermediates tend to encourage innovation, but the evidence on import competition is mixed, especially for firms in the

United States. At the firm level, the positive effects of trade on innovation are more pronounced at the initially more productive firms, while the negative effects are more pronounced at the initially less productive firms.

Ijirshar (2019) assessed the impact of trade openness on economic growth among ECOWAS countries using secondary data from 1975 to 2017. The study uses non-stationary heterogeneous dynamic panel models through the application of Pooled Mean Group (PMG) and Mean Group (MG) estimators since the time dimension was more than cross-sections. Using the Hausman test, the PMG estimator was preferred. Results show that trade openness has positive effects on growth in ECOWAS countries in the long run, but mixed effects in the short run.

Similarly, Solomon and Tukur (2019) examined the extent to which trade openness has impacted the growth of the Nigerian economy, covering the period from 1981 to 2018. The Augmented Dickey-Fuller test (ADF) was employed to ascertain the stationarity of the variables, and the result revealed that the variables became stationary after the first difference. Findings from the Johansen Co-integration Test showed evidence of a long-run relationship, while the Error Correction Model (ECM) revealed that trade openness has a positive and significant impact on economic growth, the ECM further revealed that inflation has a significant negative impact on economic growth while exchange rate has a positive but not significant impact on economic growth of Nigeria within the period under study.

Awad-Warrad and Muhtaseb (2017) explored the role of trade in reducing poverty through economic growth and employment in Jordan between 1980 and 2014. The study applied two econometric models: one using heteroskedasticity-corrected OLS to estimate trade's effect on growth, and another using Okun's Law to assess growth's impact on unemployment. The findings revealed that while remittances, trade, and FDI positively influenced growth, this growth did not significantly reduce poverty or unemployment due to government size, rapid population increase, and foreign labour influx.

RESEARCH METHODS

The theoretical framework of this study will be anchored on the New 'New Trade Theory', which follows the Ricardian, H-O model, new trade theory (NTT), and intra-industry trade (IIT) models, which believe that free trade leads to resource reallocations within sectors and reallocation from the least productive companies to higher productive firms between sectors. The study adapted the model used in the study conducted by Umoru (2013) on the relationship between trade liberalization and industrial growth in Nigeria. The model that will be used to accomplish each of the objectives raised:

$$RGDP = f(TRL, EXR, CST, REGIME) \quad \_\_\_\_\_(2)$$

The transformation of the model to a linear regression model is presented as follows

$$RGDP = \beta_0 + \beta_1 TRL + \beta_2 EXR + \beta_3 CST + \beta_4 REGIME + \mu \quad \_\_\_\_\_(3)$$

Economic growth is proxy by real gross domestic product growth rate; Trade liberalization is proxy by the ratio of the sum of export and import to the gross domestic product (GDP); the real exchange rate is the official Naira to US dollar cross selling exchange rate; Capital stock is measure using the gross fixed capital formation growth rate to capture the growth in labour force and the regime variable capture the effect of policy shift with 0 representing the period of structural adjustment programme and 1 stand for gradual trade liberalization era. The data series covered the period between 1985 and 2022. The choice of this period is informed by the need to capture the period of major trade liberalisation policies, including the structural adjustment programme of 1986 and the present gradual liberalisation policy initiated in 2003. The data will be collected from the publication of the Central Bank of Nigeria (CBN Annual Report), Statistical Bulletin, National Accounts, and the Bureau of Statistics.

The unit root test determined the estimation technique to use and the Augmented Dicker Fuller (ADF) unit root test will be used to test the stationarity of the variables in the data sets whileGauss Markov Switching regime analytical technique will be used to capture trade liberalization policy shift on economic growth andby applying this method of analysis on the parameters of trade liberalization as a time-series process variablewill help to capture the probability law governing such changes.

RESULT AND ANALYSIS

Pre-estimation Results

Table 1. Descriptive Analysis

	RGDP	TRL	EXR	CST
Mean	0.1629	0.0005	0.1241	0.1645
Median	0.1496	0.0005	0.0352	0.1183
Maximum	0.5452	0.0008	0.7638	0.6680
Minimum	-0.0320	0.0001	-0.0612	-0.0898
Std. Dev.	0.1530	0.0001	0.1901	0.1759
Skewness	0.7936	-0.0655	1.7626	0.6865
Kurtosis	2.9335	2.3957	5.5766	3.1777
Jarque-Bera	3.6803	0.5574	27.8050	2.7955
Probability	0.1587	0.7567	0.000	0.2471
Observations	38	38	38	38

Key: RGDP represents economic growth, TRL is trade liberalization, EXR represents the exchange rate, and CST is capital stock

Source: Authors' Computation, 2023.

The mean value for RGDP, TRL, EXR, and CST (0.1629, 0.0005, 0.1241, and 0.1645, respectively) revealed the average value. The standard deviation values for RGDP, TRL, EXR, and CST (0.1530, 0.0001, 0.1901, and 0.1759) show the deviation of each variable deviates from its mean. The skewness value for RGDP, EXR, and CST (0.7936, 1.7626, and 0.6865), respectively shows that the variables are positively skewed which means that the distribution ha a long-right tail which means it has a higher value than the sample mean while TRL with a skewness value of -0.0655 shows that the variable has a long left tail, which embodies negative skewness.

The Jaque Bera analysis revealed that RGDP, TRL, and CST are not normally distributed, while REXR is normally distributed.

Table 2. Analysis of Multicollinearity

	RGDP	TRL	EXR	CST
RGDP	1.0000	0.3153	0.0767	0.6349
TRL	0.3153	1.0000	-0.2008	0.1512
EXR	0.0767	-0.2008	1.0000	0.0234
CST	0.6349	0.1512	0.0234	1.0000

Key: RGDP represents economic growth, TRL is trade liberalization, EXR represents the exchange rate, and CST is capital stock

Source: Authors' Computation, 2023.

The correlation analysis result reveals that there is a weak positive correlation among all the variables of the study since correlation values between the variables are less than the 0.7 threshold for multicollinearity detection.

Table 3. Stationarity Tests

Variables	**ADF Test**		**Order**
	Level	**First Diff.**	
RGDP	1.9517	-4.7051	I(1)
TRL	-0.4143	-8.3433	I(1)
EXR	2.8458	-3.5149	I(0)
CST	1.4214	-5.1016	I(1)

Key: RGDP represents economic growth, TRL is trade liberalization, EXR represents the exchange rate, and CST is capital stock

Source: Authors' Computation, 2023.

The result of the unit root test using the Augmented Dickey Fuller (ADF) test showed that exchange rate volatility is the only variable stationary at the level, while TRL, EXR, and CST are all stationary after first difference.

Empirical Results

Table 4. Markov-Switching Regression Analysis

Variable	Coefficient	Std. Error	z-Statistic	Prob.
Regime 1				
TRL	-1.8472	1.2084	-1.5286	0.1264
EXR	0.1773	0.0370	4.7887	0.0000
CST	0.7733	0.0566	13.6421	0.0000
C	0.0140	0.0214	0.6576	0.5108
LOG(sigma)	-3.7759	0.2052	-18.3984	0.0000
Regime 2				
TRL	-15.2903	4.0315	-3.7926	0.0001
EXR	-0.5755	0.0994	-5.7857	0.0000
CST	0.7072	0.0733	9.6429	0.0000
C	0.3219	0.0420	7.6633	0.0000
LOG(sigma)	-2.0141	0.3102	-6.4923	0.0000
AR(1)	-0.17088	0.1129	-1.5130	0.1303
AR(2)	-0.7635	0.1077	-7.0894	/0.000 0

Key: RGDP represents economic growth, TRL is trade liberalization, EXR represents the exchange rate, and CST is capital stock

Source: Authors' Computation, 2023.

In Table 4, the result of the first regime (i.e, 1985-2002) indicated that trade liberalisation exerts a negative and insignificant effect on economic growth in Nigeria. This implies the ineffectiveness of trade liberalisation policy in stimulating economic growth during the SAP era. This corroborates the findings of Awad-Warrad and Muhtaseb (2017) revealed that trade did not significantly reduce poverty or unemployment due to government size, rapid population increase, and foreign labour influx. Meanwhile, exchange rate and capital stock have a significant positive effect on economic growth in Nigeria, implying that the contributory effect of real exchange and capital stock on growth is connected to the fact that during the era there was still a considerable export of non-oil commodities, including cocoa and rubber (Kalu et. al., 2016).

The result of the second regime (i.e, 2003-2022) revealed that trade liberalisation and exchange rate exert a significant negative effect on economic growth in Nigeria. This implies that the trade liberalisation policy during the gradual trade liberalisation initiated in 2003 and still being operated to date is adversely impacting the Nigerian exchange rate, which is also worsening economic growth in Nigeria. Meanwhile, capital stock has a significant positive effect on economic growth in Nigeria.

From the estimated Markov switching model in Table 4, it can be seen that all the model parameters are significant at 5% level since their P-value (0.0000), which indicates a good model. At the first regime, the estimated mean of the model 0.0140

with a sigma of -3.7759 are both significant with a p-value of 0.000 each. While in the second regime, the estimated mean of the model switched to 0.3219 with a sigma of -2.0141, which is also significant.

Table 5. Regime Transition Probability Matrix

	Regime 1	Regime 2
Regime 1	0.8177	0.1822
Regime 2	0.4288	0.5711
Constant	1	2
expected durations:		
	5.4869	2.3316

Source: Authors' Computation, 2023.

The probability transition matrix in Table 5 represents the probability of moving from policy regime 1 to policy regime 2 in a Markov process. From the matrix, given that in regime 1 (SAP era), the probability value in the first row-first column is 0.818, which represents the probability similar to 82% chance of remaining in regime 1, and the probability value in the first row-second column is 0.18, which represents the probability similar to 18% chance of switching to regime 2.

Also, given that in regime 2 (gradual trade liberalisation era), the probability value in the second row-first column is 0.43, which represents the probability similar to a 43% chance of remaining in regime 2, and the probability value in the second row-second column, which is 0.57, represents the probability similar to a 57% chance of switching to regime 1. Furthermore, the estimated transition probabilities indicated that none of the regimes is permanent since all the estimated transition probabilities are less than 1.

Diagnostic test

Table 6. Heteroskedasticity Test

Heteroskedasticity Test: ARCH			
F-statistic	1.1589	Prob. F(1,32)	0.2897
Obs*R-squared	1.1883	Prob. Chi-Square(1)	0.2757

Source: Authors' Computation, 2023.

The null-hypothesis at 5% level of significance is accepted, indicating that there is homogeneity of variance across the error term series.

Serial Correlation Test

From the LM test table, the null hypothesis is accepted as the probability value of the test (0.829) is greater than 0.05, implying that the residuals are independent.

Therefore, the residuals are white noise since they are not serially correlated and have a constant variance.

Table 7. Breusch-Godfrey's LM Test

Breusch-Godfrey's LM Test			
F-statistic	0.0398	Prob. F(1,30)	0.8430
Obs*R-squared	0.0464	Prob. Chi-Square(1)	0.8293

Source: Authors' Computation, 2023.

H0: The error terms (residuals) are independent
H1: The error terms (residuals) are not independent

CONCLUSION

This study examines the impact of trade liberalisation on economic growth in Nigeria, considering different policy regimes from 1985 to 2022. The findings revealed that the relatively negative effect of trade on economic growth across the two regimes is traceable in one part to external shocks arising from occasional upward and downward review of the international price of oil, based on the country's over-reliance on oil and ineffective macroeconomic policy environment in the management of such shocks especially that of inappropriate and inconsistent trade policy such as SAP. From the estimated Markov switching regime analysis, it can be inferred that the performance of trade policy during the SAP era differs considerably from that of gradual trade liberalisation because, during the SAP era although the policy adversely affected growth, there was still an appreciable impact of real exchange on growth, which is traceable to a considerable export of non-oil commodities including cocoa and rubber. The policy suggestions emanating from the above findings to stimulate growth through trade liberalisation policy are:

1. To promote economic growth, policymakers need to reintroduce the earlier export promotion policy, which strengthened the naira exchange rate during the period, since in both the SAP and gradual liberalisation regimes, trade liberalisation affects growth negatively.
2. Also government needs to be more consistent in the use of trade policy since the frequent switch from one policy regime to another has proven to be detrimental for economic growth in Nigeria.
3. There is also a need to reconsider and restructure the import substitution trade policy because it offers more potential for improving economic growth, taking into consideration the shortcomings in its implementation, such as an unstable macroeconomic environment for local firms to thrive and the over-reliance on imported products and services.

This study contributes to the existing literature by providing empirical evidence on the long-term dynamics between trade liberalisation and economic growth across two policy regimes in Nigeria. Unlike previous works that often adopt a single-period analysis, it distinguishes the Structural Adjustment Programme (SAP) era from the gradual trade liberalisation phase by employing Markov switching regime analysis, thereby offering insights into how policy shifts and

external shocks shape growth outcomes. These findings advance the understanding of the trade–growth nexus in resource-dependent economies with weak macroeconomic policy frameworks.

Future research can extend this study in several directions. First, comparative studies involving other oil-dependent African economies could reveal whether Nigeria's experience is unique or part of a broader regional pattern. Second, incorporating institutional quality indicators would help to clarify the extent to which governance and policy consistency moderate the effectiveness of trade liberalisation. Third, sectoral-level analyses could provide deeper insights into how different industries respond to shifts in trade policy, particularly in manufacturing and agriculture.

Authors' contributions

The authors participated in the writing of the manuscript and data analysis. The authors read and approved the final manuscript.

Funding

The authors have received no funding.

Availability of data and materials

The data is available upon request.

Competing interests

The authors declare that they have no competing interests.

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