THE EFFECTS OF TRADE FACILITATION ON TRADE FLOWS IN NIGERIA

Timilehin A. Aderibigbe[26]

Abstract

This study examines the effects of trade facilitation on trade flows in Nigeria using data obtained from the World Bank's development indicators database spanning 2007 to 2019. The study used descriptive statistics and correlation analysis. The correlation results revealed that: an increase in the number of individuals using the internet would increase imports for Nigeria; an improvement to border efficiency would increase exports for Nigeria and the contribution of trade to economic growth; an increase in the numbers of individuals using internet would decrease the contribution of trade to economic growth in Nigeria. The study concludes that border efficiency is effective for increasing exports from Nigeria while internet usage is effective for increasing imports in Nigeria. Among others, the study strongly recommends to the Nigerian government the elimination of customs processes that impede the exportation of goods and services and the removal of restrictions to E-Business to promote the importation of goods and services into the country.

Keywords: Trade, Flows, Trade Facilitation, Border Efficiency, E-Business

1. Introduction

Trade facilitation has great potentials to improving trade flows in terms of trade costs reduction, export expansion, increased firms participation in foreign trade, and linking domestic to global value chains (value chain integration). It involves all arrangements aimed at improving border and transport efficiency and reducing transaction costs associated with trade flows (Sakyi & Afesorgbor, 2019). Trade facilitation measures such as border efficiency (number of required documents), regulatory environment, logistics performance index, etc. have shaped in various ways Africa's trade patterns (Seck, 2014). For instance, due to the increasing importance of provisions on non-tariff measures (NTMs) and non-tariff

[26] Timilehin A. Aderibigbe lectures at Economics Department, Ajayi Crowther University Oyo, Nigeria. Email: ta.aderibigbe@acu.edu.ng

barriers (NTBs) in regional trade agreements (RTAs), Nigeria, Cote d'Ivoire, Ghana and Senegal could collectively account for 83.3% and 63.6% of intra-group exports and imports respectively (United Nations, 2018). More so, Nigeria's export and imports share of intra-group trade were at 44.6% and 14.0% respectively in 2015 (United Nations, 2018).

The structure of trade in Nigeria is characterized by a concentration of products that are exported to a limited number of destinations as revealed by the World Bank statistics (2019). Between 1996 and 2008, Nigeria's export to her Economic Community of West Africa States' (ECOWAS) members increased by only 9.6%, while its import from these countries increased by about 478.3% (Oguanobi, Akamobi, Aniebo, & Mgbemena, 2014). This is attributable to the export structure of Nigeria in terms of few product (crude oil and extractive resources) and market (Europe and America) concentration. Furthermore, between 2015 and 2019, Nigeria's trade balance had been on the downward trend with an average trade gap of 2.6 trillion naira (World Development Indicator, 2021). Amoako-Tuffour, Balchin, Calabrese, & Mendez-Parra, (2016) and Oguanobi *et al* (2014) hinged this on the lack of diversification of products and persistence of non-tariff barriers which the ECOWAS trade liberalization scheme has not been able to eliminate.

According to Seck (2018), trade liberalization schemes cannot suffice for the elimination of trade barriers especially the non-tariff barriers which have more devastating effects on trade than actual tariffs. Under the ECOWAS liberalization scheme, Nigeria's targets of greater regional market access, industrialization through export-led growth and capacity building were thwarted by factors like compulsory registrations requiring grotesque documentations, complex and lengthy procedure for obtaining certificate of origin, difficulty in adjusting average tariffs to common external tariff for non-ECOWAS members, cumbersome process of obtaining the ECOWAS passport, failure to operate by the recommendations of the ECOWAS to reduce the number of police checkpoints to prevent bribery that increases trade costs and delay in delivery time, multiple licenses required for the production and distribution of goods, etc. (Oguanobi *et al*, 2014).

These issues are indicative of high trade transaction costs, grotesque trade processes, high level of trade informality, and poor regional cooperation, all leading to low trade performance. They also advocate for the need to intensify efforts towards the implementation of trade facilitation measures which has gained increased significance in developing countries like Nigeria as an extension of trade liberalization efforts considered to have reached the exploitable limit of reducing trade costs via reduction in tariff related barriers. Further analysis of the trend of Nigeria's trade as percentage of the gross domestic product

(GDP) and indicators of non-tariff measures (the quality of port infrastructure, liner shipping connectivity index, burden of custom procedures, IDA resource allocation, CPIA business regulatory environment rating, and the population proportion of individuals using internet) can be used to gauge the relationship between trade flows and trade facilitation. Table 1 and Figure 1 shows the non-tariff measures as indicators of trade facilitation and the trend of trade as percentage of GDP in Nigeria (see Appendix A).

The figure shows that trade as percentage of GDP increased from 2007 to 2008. During this period, the quality of port infrastructure dropped, burden of customs procedures and IDA resource allocation performance worsened a little, population proportion of individuals using internet and the liner shipping connectivity increased. From 2008 to 2009, trade as percentage of GDP dropped by 4% despite the improvement to customs procedures, quality of port infrastructure and percentage of individuals using the internet. From 2011 to 2016, trade as percentage of GDP continually dropped. In relation to trade facilitation or measures of non-tariff barriers to trade, the quality of port infrastructure declined consistently from 2012 to 2015, the efficiency of border procedures dropped from 2012 to 2016, and IDA resource allocation index also dropped from 2015 to 2018. Though it can be observed that trade as percentage of GDP rose by 6.65%, periods of decline exceeds those of increase.

Accessible studies such as Seck (2018), Odebiyi and Alege (2019), Sakyi and Afesorgbor (2019), Safaeimanesh and Jenkins (2020), and among others, on the impact of trade facilitation have provided a significant amount of evidence that would convince of the necessity to intensify efforts at national level towards the implementation of trade facilitation measures. This notwithstanding, most of these studies largely considered the impact of trade facilitation on the expansion and diversification of exports and participation of exporting firms. More so, none have considered country specific issues which could influence regional and global initiatives on trade facilitation for increasing trade flows. By examining the effects of trade facilitation on trade flows (i.e exports, imports, and the contribution of trade flows to economic growth) in Nigeria, this study contributes to literature and offer feasible policy options for improving trade flows.

Following this introduction are the review literature which entails theoretical review and empirical review, the methodology, the empirical results and interpretations, and the conclusion and policy options.

2. Literature Review

2.1 Conceptual Review

In today's world, one of the most significant discussions in trade is trade facilitation. Trade facilitation is the full set of policy measures used to reduce the costs of international trade (Shepherd, 2009). Through lowering trade costs and consequently the prices of tradable goods, trade facilitation increases real income of consumers and profits of firms (Hoekman & Shepherd, 2013). Trade facilitation has two key operational areas that is, simplification and harmonization (Seck, 2014 & 2018; Yurendra & Isabella, 2015; Amoako-Tuffour *et al*, 2016). Yurendra and Isabella (2015) expanded these to include: the modernization of trade systems, and the sharing and lodging of information between business and government stakeholders in particular; the administration and management of trade and customs procedures; and the institutional mechanisms to safeguard effective implementation of trade facilitation principles and the commitment to reform. Amoako-Tuffour *et al* (2016) included transparency which involves having clear and complete foreknowledge of customs procedures and regulations with respect to the consistency of their application across ports of entry and over time.

The focal aim behind every trade facilitation efforts is to improve the trade environment and reduce any transaction cost between business and government (Grainger, 2019). Grainger (2019) classified transaction cost as direct or indirect. Direct transaction costs include immediate compliance costs for processing information required to prepare and submit documents, charges and fees associated with setting up and financing customs bonds and guarantees, testing and use of laboratories, inspections, and stamping of documents. Indirect trade costs result from delay at the border, uncertainty about procedures and requirements, and missed or lost business opportunities. Trade facilitation has the potentials for export diversification (Shepherd, 2009) which can be achieved via, lowering the cost of inputs increasing competition, boosting exports and facilitating integration into value chains (Amoako-Tuffuor *et al*, 2016). According to Seck (2018), trade facilitation also contributes to, increase the survival of exporting firms in international markets, and reduce the incidence of informal cross-border trading among many other benefits.

Seck (2014) analyzed four broad trade facilitation indicators, that is: Physical infrastructure- indicates the quality of ports, airports, road, and railroad infrastructure; Border efficiency- relates to the number of required documents, the time it takes to clear the customs, and eventually the dollar costs; Regulatory environment- relates to providing clear information regarding trade procedures and reducing the level of inconsistency in trade policies; E-

business- indicates the extent to which the use of information and communication technology (ICT) improves paperless trade and efficiency on one hand, and reduces trade transaction costs on the other. The study went further to include the World Banks Logistics Performance Index (LPI) which encompasses on-the-ground efficiency of trade supply chains, or logistics performance.

2.2 Theoretical Review

From a theoretical perspective, the facilitation of trade flows and how they engender economic prosperity of nations can be observed in the Mercantilist Trade Theory, Absolute Advantage Trade Theory, Comparative Advantage Theory, Factor Abundant Trade Theory and the New Trade Theory of Heterogeneous Firms. The mercantilist theory introduced by Jean-Baptiste Colbert (Kenton & Barnier, 2020) states that a country should export more than it imports in value and use the trade surplus to foreign exchange/national treasure (Krist, 2003). The role of the government is to make trade freer towards export and tighter towards import. This automatically creates winners and losers as the reciprocal demand from the exporting country is not sufficient for the importing country to settle trade without external borrowing. From the concept of trade cost, trade facilitation will only favour the outflow of goods and services in terms of costs reduction, expansion, value chain integration and increased firms' participation in export market.

The absolute advantage theory propounded by Adams Smith (Heyes & Westfall, 2020) challenged the mercantilist position, argued that trade flows more when a country focus on the good it produces with the least labor (trade) cost. The comparative advantage theory by David Ricardo (Svenson 2015) opposed the absolute advantage theory in the sense that it presupposes no trade if a country produces all its products at labor costs relatively higher than its trade partner. Comparative advantage holds that trade can still exist if a country focus on the product with the least opportunity costs of production. The factor abundant theory by Eli Hecksher and Bertil Ohlin responded to the shortcomings of the comparative advantage theory with respect the relative cheapness and abundance of factors of production. The theory basically holds that a country will export those commodities that are produced by the factor it has in relative abundance. This rules out the possibility that a more highly skilled labor can substitute for scarcity of labour as some lead firms send out their employees for training to improve their effectiveness (Krist, 2003).

The new trade theory propounded by Marc Melitz and Pol Antras (Krist, 2003), states that a reduction of both direct trade costs and trade transaction costs will increase the likelihood of export market entry. The new trade theory or the heterogeneous-firm models of international

trade have provided theoretical foundations that linked trade costs to firms' productivity and export performance. The theory also states that through a learning-by-exporting process non-exporting firms by greater interactions with highly efficient foreign firms are more likely to enter export markets (Seck, 2014). The New Trade Theory has been used by studies such as Hoekman & Shepherd (2013), Seck (2014 & 2018), UNECA (2013) and so on.

2.3 Empirical Review

The following empirical works provide some support for the effect of trade facilitation on trade flows. Shepherd (2009) found that a 10% improvement in trade facilitation is associated with product diversity gains of the order of 3%-4%. Geographical export diversification appears to be more responsive to trade facilitation than product diversification as it was observed that a 10% improvement in trade facilitation is associated with a 5%-6% increase in the number of foreign markets served. Njuguna (2013) revealed that trade facilitation is yet to have a significant effect on intraregional trade patterns. Multiple membership to RTAs have a negative influence on trade patterns which suggests the need for country specific analysis. UNECA (2013) examined the relationship between trade flows and trade facilitation. The study found that exporter's port efficiency positively impacts regional-intra export trade, the use of e-business in both importing and exporting SADC countries will cause intra-regional export trade to increase. The results show that the benefits of having facilitating domestic infrastructures and increasing engagement in e-commerce are very important in enhancing intra-regional trade.

Hoekman and Shepherd (2013) revealed that firms of all sizes export more in response to improved trade facilitation. Seck (2014) indicates that trade cost landscape determines the extent to which a given country exports to another one. Institutional quality and regulatory environment positively impacts bilateral trade flows, reduces uncertainty and transaction costs, and increase public trust. Yurendra and Isabella (2015) showed that interventions to improve infrastructure are the most effective in increasing trade volumes and reducing trade costs, followed by reforms to improve customs efficiency and then reforms to improve the regulatory and business environment.

United Nations (2016) discovered that in low-income countries, the harmonization and simplification of documents has the strongest impact on increasing trade flows. From Peterson (2017) the World Bank's trading across Borders database indicates that for countries across all income levels, border procedures (i.e., those concerning customs clearance and inspection) account for the largest proportion of the costs and time associated with imports. Such costs and time delays are more acute among developing and low-income countries than

they are among high-income countries. Shepherd (2016) revealed that a clear infrastructure gap exists between high and lower income countries and that performance is strongest in information and communication technologies, which suggests that lower income countries have made substantial progress in that area.

Seck (2018) found that a one-standard-deviation increase in trade facilitation measures could yield up to 33% increase in Sub-Sahara Africa's exports; and improving border efficiency in terms of a reduction in the number of documents required when exporting (and transit time) is associated with a greater expansion of exports. This is in consonance with Sakyi and Afesorgbor (2019) that trade facilitation improves trade flows in Africa using principal component analysis, Poisson Pseudo maximum likelihood, GMM etc. on a sample of 52 countries for the period 2006-2015. Odebiyi & Alege (2019) discovered that export country GDP, import country GDP, as well as the distance between partner countries have a significant influence on bilateral trade. Exporter's administrative procedures as well as the importer's administrative machinery do not significantly influence bilateral trade in ECOWAS which do not conform to theoretical expectations. Of importance is the bilateral trade cost, which significantly affected bilateral trade in the sub-region.

Asides trade flows, Safaeimanesh and Jenkins (2020) examined the annual economic welfare gains from trade facilitation. The results show that the reduction of excessive trade compliance costs for the ECOWAS would lead to annual economic welfare gain between US$1.6 billion to US$2.7 billion based on 2019 prices.

3. Methodology

3.1 Data and Sources

This study adopts the trade facilitation measures used in Seck (2018) that is, the quality of physical infrastructure (roads, ports, airports, and railways), border efficiency (time and number of documents required to trade), regulatory environment (public trust in policy makers, irregular payments and bribes, favoritism in policy decision making, and transparency), e-business (availability of the latest technology and firms' technology absorption). The dataset used in the study was extracted from the World Development Indicators by the World Bank. The available proxies for trade facilitation measures span from 2007 to 2019 with respect to Nigeria. Nigeria is chosen because of the country's lead role in the ECOWAS sub-region. The study used trade (export plus import) as percentage of GDP (TGDP), export of goods and services (X) and import of goods and services (M) to proxy

trade flows. The study included the liner shipping connectivity index which measures timeliness of international shipment.

3.2 Method of Analysis

From the literature review, the works most closely related to this study is Seck (2018). Seck (2018) used correlation analysis to examine the impact of trade facilitation on trade flows in Africa. Correlation analysis is suitable for ordinal data such as the proxies for trade facilitation measures from the World Development Indicator and observations not sufficient for the use of standard regressions. The study, being on Africa conceals country-specific traits. This study adopts correlational analysis approach used by Seck (2018) to examine the effect of trade facilitation on trade flows in Nigeria to reveal country-specific traits.

Based on reviewed theories, the theoretical framework for this study is the new trade theory. Empirical analysis from the new trade theory could be traditional or firm based (Lapham, 2017). From the perspective of trade facilitation and trade flows, non-tariff barriers are inversely related to trade flows. The lower these barriers are due to trade facilitation, the higher the trade flows. Due to the lack of firm level data for Nigeria, the study used the traditional gravity model of the new trade theory relating trade flows with trade facilitation.

3.3 Model Specification

The traditional gravity model according to Lapham (2017) focus on the impact of trade facilitation measures that is, the quality of physical infrastructure, regulatory environment, border efficiency, E-business, international shipment and timeliness, and external support on trade flows. On this basis, this study adapts the model used by Seck (2018) and is specified below:

$$TF_t = \delta_0 + \delta_1 QPI_t + \delta_2 BCP_t + \delta_3 CBRE_t + \delta_4 IUI_t + \delta_5 LSCI_t + \delta_6 IRAI_t + W_t$$

Where the δ_s are the parameters of the model and W_t is the error term.

TF represents trade flows (that is, trade as percentage of GDP (TGDP), exports of goods and services (X), and imports of goods and services (M)); QPI represents the quality of port infrastructure, proxy for quality of physical infrastructure; CBRE represents CPIA business regulatory environment, proxy for regulatory environment; BCP represents burden of customs procedure, proxy for border efficiency; IUI represents individual using internet, proxy for E-business; Liner Shipping Connectivity Index (LSCI) measures timeliness of international shipment; lastly, IRAI represents IDA resource allocation index, proxy for external support.

4. Empirical Results and Interpretation

Table 2: Summary Statistics

Variables	Mean	Standard Deviation
TGDP	34.97	9.35
X	1.46	5.22
M	1.25	6.53
QPI	2.99	0.29
LSCI	19.75	2.3
IUI	22.55	13.59
IRAI	3.38	0.14
CBRE	3.34	0.24
BCP	3.02	0.27

Source: Author's computation using Stata 14

Table 2 presents the summary statistics for trade flows (dependent variables) and the proxies for trade facilitation (independent variables). The standard deviations of TGDP, X, M, LSCI, and IUI are greater than 1, while those of QPI, IRAI, CBRE and BCP are less than 1. This means that the level of variance in the data for Trade flows, LSCI, and IUI are high while those in QPI, IRAI, CBRE and BCP are low. The high variance indicates that the means of trade flows, liner shipping connectivity, and individuals using the internet are not reliable representatives of their individual observations.

Table 3: The Effects of Trade Facilitation on Trade Flows in Nigeria

	X	M	TGDP
QPI	0.5297 0.0626	-0.1264 0.6807	0.2269 0.4560
LSCI	0.3609 0.2257	0.0750 0.8076	-0.3394 0.2565
BCP	0.6044* 0.0287	-0.0669 0.8281	0.6157* 0.0251
IRAI	-0.1808 0.5545	-0.7656* 0.0023	0.2982 0.3224
CBRE	-0.0039 0.9900	-0.3625 0.2235	-0.1346 0.6611
IUI	0.3820 0.1978	0.7884* 0.0014	-0.5993* 0.0304

Correlation coefficient (first), standard error statistics (second), significant correlation coefficient (*)
Source: Author's computation using Stata 14

Table 3 shows the correlation results. The correlations of exports with quality of port infrastructure, liner shipping connectivity index, and individuals using internet are positive but not significant. The CPIA business regulatory environment and the IDA resource allocation index are negatively correlated with exports but not significant. The correlation between exports and burden of custom procedure is positive, significant, and greater than 0.5. The burden of customs procedure (proxy for border efficiency) as measured by the WDI, is an ordinal data which range from 1 to 7. A rating close to one means inefficient border and rating close to 7 means efficient border. This implies that a more efficient border (i.e the elimination of delays which may arise from physical inspection, paper documentations, etc.) would increase the trade flows in Nigeria. The burden of customs procedure has a strong predictive power over exports. This aligns with Yurenda and Isabella (2015) that custom efficiency is a key factor to increasing trade volumes. More so, the coefficient of determination which is 0.3653 (0.6044^2), shows that 36.53% of variability in exports could be explained by burden of customs procedure.

For imports, the correlations with liner shipping connectivity index and individuals using internet are positive but only significant for individuals using internet. This indicates that policies that promote E-business would increase the flow of goods and services into Nigeria. The correlation coefficient between imports and individuals using internet is greater than 0.75 which is very close to one. This indicates a very strong predictive power from internet usage over import in Nigeria. Considering the coefficient of determination ($r^2 = 0.7884^2 = 0.6215$), about 62% of variation in import could be accounted for by internet usage. Internet usage is indispensable according to the United Nations (2016) in the simplification of documents for increasing trade flows. The quality of port infrastructure, burden of customs procedure, IDA resource allocation index and the CPIA business regulatory environment are negatively correlated with imports but only significant for IDA resource allocation index. The correlation coefficient ($r = -0.7656$) suggests that IDA resource allocation index has a strong predictive power over imports. Based on the coefficient's sign, increase in external support would decrease the flow of goods and services into Nigeria. Considering the coefficient of determination ($r^2 = 0.5861$), 58.6% variability in imports could be explained by IDA resource allocation index.

The correlations of trade as percentage of GDP with the quality of port infrastructure, burden of customs procedure and IDA resource allocation index are positive but significant only for the burden of customs procedures. This indicates that improvement in border efficiency would increase the contribution of trade to economic growth in Nigeria. The correlation coefficient between trade as percentage of GDP and burden of customs procedure is greater

than 0.5 which indicates a strong predictive power from border efficiency over trade as percentage of GDP. The r^2 (0.379) shows that 37.9% of variability in trade as percentage of GDP could be explained by burden of customs procedure. The liner shipping connectivity index, CPIA business regulatory environment, and individuals using internet are negatively correlated with imports but only significant for individuals using internet. The correlation coefficient (r = -0.5993) which is greater than -0.5 suggests that the number of individuals using internet has a strong predictive power over trade as percentage of GDP. Based on the coefficient's sign, an increase in the numbers of individuals using the internet would decrease the contribution of trade to economic growth in Nigeria. Considering the coefficient of determination (r^2 = 0.359), 35.9% variability in trade as percentage of GDP could be explained by the number of individuals using the internet.

5. Conclusion and Policy Options

The study assessed the link between trade facilitation and trade flows in Nigeria and the effects of the former on the latter using correlation analysis and Poisson regression respectively. The study examined the periods from 2007 till 2019 due to availability of data for the trade facilitation measures. Based on the results, the study concludes that: an increase in the number of individuals using internet would increase the flow of goods and services into Nigeria; an improvement to border efficiency would increase the flow of goods and services from Nigeria; an increase in external support would decrease the flow of goods and services into Nigeria; an improvement to border efficiency would increase the contribution of trade to economic growth in Nigeria; an increase in the numbers of individuals using internet would decrease the contribution of trade to economic growth in Nigeria; border efficiency (measured by BCP) has the strongest positive effect on export and import (TGDP inclusive), followed by physical infrastructure (measured by QPI), timeliness of shipments (measured by LSCI), and E-Business (measured by IUI). The limitations of this study basically emanate from availability and nature of data to proxy trade facilitation. The number of observations are small which prevents the use of standard regression and the nature of the data, which is ordinal, does not allow for the conduct of stationary test.

The study strongly recommends the need to eliminate regulatory, financial, and information sharing barriers to the use of internet to enhance the importation of goods and raw materials especially ones without local substitutes. The Nigerian government should eliminate custom delays which may arise from physical inspection of goods, paper documentations, bribery etc. to improve border efficiency and further increase the flow of goods and services and the contribution of trade to economic growth in Nigeria. Nigeria needs to improve her absorptive

capacity for support from external sources. The negative relationship between the numbers of individuals using internet and the contribution of trade to economic growth in Nigeria is connected to the insignificant correlation between individuals using internet and exports. In principle, trade contributes to GDP through net export and since 2015 this has been negative. On this basis, Nigeria should deliberately promote policies that will stimulate the use of E-business for export more than imports

References

Amoako-Tuffour, J., Balchin, N., Calabrese, L. & Mendez-Parra, M. (2016). Trade Facilitation and Economic Transformation in Africa. *African Transformation Forum*

Chete, L. N. & Adewuyi, A.O., (2012). Dynamics of Trade between Nigeria and Other ECOWAS Countries. *Nigerian Institute of Social and Economic Research (NISER) at the University of Ibadan*

Grainger, A. **(**2019). Customs and Trade Facilitation: from Concepts to Implementation. *World Customs Journal 2(1)*

Hayes, A. & Westfall, P. (2020) Comparative Advantage. Investopedia

Hoekman, B. M. & Shepherd, B. (2013). Who Profits From Trade Facilitation Initiatives? *Robert Schuman Centre for Advanced Studies. Global Governance Programme-55. European University Institute Working Papers*

Krist, W. (2003). Trade Agreements and Economic Theory

Kenton, W. & Barnier, B. (2020) Mercantilism. Retrieved online from Investopedia on July 13, 2021.

Lapham, B. (2019). The Effects of Trade Agreements: A Firm-Level Perspective. Department of Economics, Queens University, Queen's Institute on Trade Policy.

Njuguna, L. (2013) Impact of Trade Facilitation on Intra-Regional Exports: A study of the COMESA Region. *Master's Thesis in Economics*

Odebiyi, J. T. & Alege, P. (2019) Bilateral Trade Flows, Trade Facilitation, and RTAs: Lessons from ECOWAS. *Springer publisher.*

Oguanobi, C.R., Akamobi, A.A., Aniebo, C.A., & Mgbemena, M.A. (2014) Nigeria and the ECOWAS Trade Liberalization Scheme: the Journey so far. *Review of Public Administration and Management 3(5)*

Peterson, J. (2017). An Overview of Customs Reforms to Facilitate Trade. Journal of International Commerce and Economics. *United States International Trade Commission*

Safaeimanesh, S. & Jenkins, G. (2020) Trade Facilitation and Its Impacts on the Economic Welfare and Sustainable Development of the ECOWAS Region. *Sustainability 2021, 13, 164, MDPI.*

Sakyi & Afesorgbor (2019) the Effects of Trade Facilitation on Trade Performance in Africa. *Journal of African Trade*, 6(1-2), pp. 1-15

Seck, A. (2014). Trade Facilitation and Trade Flows in Africa. Faculte des Sciences Economiques et de Gestion Universite Cheikh Anta Diop Dakar, Senegal

Seck, A. (2018). How Facilitating Trade would benefit Trade in Sub-Saharan Africa. *AERC Research Paper 352 African Economic Research Consortium, Nairobi*

Shepherd, B. (2009). Enhancing export diversification through trade facilitation. *Asia-Pacific Research and Training Network on Trade*

Svenson, F. (2015) The Theory of Comparative Advantage – How applicable is it today? An invited lecture in Entrepreneurship Education. Retrieved at www.reseacrhgate.net

Shepherd, B. (2016). Trade Facilitation and Global Value Chains: Opportunities for Sustainable Development. *Geneva: International Centre for Trade and Sustainable Development*

UNECA (2013) Assessing the impact of trade facilitation on SADC's intra-trade potential

United Nations, (2016). Trade Facilitation and Development: Driving Trade Competitiveness, Border Agency Effectiveness and Strengthened Governance

United Nations (2018). Regional Integration and Non-Tariff Measures in the Economic Community of West African States (ECOWAS). *United Nations Conference on Trade and Development*

Yurendra, B. & Isabella, M. (2015). Trade Facilitation: Rapid Evidence Assessment. *London: Overseas Development Institute.*

Appendix A

Table 1: Non-Tariff Measures as Indicators of Trade Facilitation in Nigeria

	Quality of Port Infrastructure	Liner shipping connectivity index	Burden of customs procedure, WEF (1=extremely inefficient to 7=extremely efficient)	IDA resource allocation index (1=low to 6=high)	CPIA business regulatory environment rating (1=low to 6=high)	Individuals using the Internet (% of population)
2007	**2.691049456**	**13.69**	**2.813333**	**3.4**	**3**	**6.77**
2008	**2.620447671**	**18.3**	**2.666504**	**3.4**	**3**	**8**
2009	**2.802436864**	**19.89**	**3.086269**	**3.483333**	**3.5**	**9.3**
2010	**2.984105014**	**18.28**	**3.124152**	**3.441667**	**3.5**	**11.5**
2011	**3.3**	**19.85**	**3.5**	**3.425**	**3.5**	**13.8**
2012	**3.6**	**21.81**	**3.6**	**3.533333**	**3.5**	**16.1**
2013	**3.4**	**21.35**	**3.2**	**3.575**	**3.5**	**19.1**
2014	**3.2**	**22.91**	**3**	**3.533333**	**3.5**	**21**
2015	**2.978668371**	**21.44**	**2.804347**	**3.40833**	**3.5**	**36**
2016	**3**	**20.85**	**2.8**	**3.283333**	**3.5**	**25.67**
2017	**2.8**	**20.53**	**2.9**	**3.2**	**3.5**	**42**
2018	**2.8**	**18.96**	**2.9**	**3.133333**	**3**	**42**
2019	**2.8**	**18.96**	**2.9**	**3.133333**	**3**	**42**

Source: Author's Initiative using data from World Development Indicators 2021

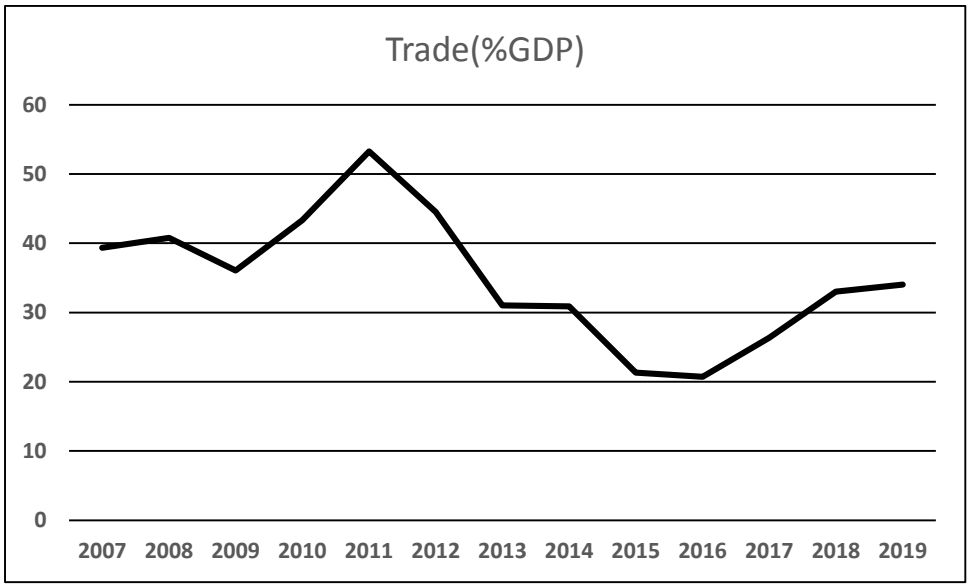

Figure 1: Trends of Trade as Percentage of GDP in Nigeria (2007-2019)

Source: Author's Initiative using data from World Development Indicators 2021