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**International Trade Finance and Emerging Market Economies – An
Investigation into Nigeria**

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Abstract

This study investigates the impact of international trade finance on emerging market economies, with a focus on Nigeria. The specific objectives of this research were to: investigate how letters of credit affect the balance of trade; examine the impact of bills of exchange on the balance of trade; ascertain how direct lending facilities affect the balance of trade; and investigate how export-stimulation funds affect the balance of trade. To meet these objectives, the vector error correction model (VECM) was employed to assess the relationships between international trade finance and emerging market economies. The findings revealed that, in the long run, the effects of letters of credit on Nigeria's balance of trade were not statistically significant. Similarly, the effects of bills of exchange on Nigeria's balance of trade were non-significant in both the long and short run. Conversely, the long-run impact of export-stimulation funds on Nigeria's balance of trade was significant, whereas the short-run effect was non-significant. Based on these results, the study recommends that the government use letters of credit (LCs) to reduce risk and reassure commercial partners, as certain product exports are more resilient during periods of uncertainty. The Central Bank of Nigeria should enhance its export bills of exchange capabilities through NEXIM Bank to support deposit money banks (DMBs) in assisting exporters with pre- and post-shipment finance. Additionally, the government should revamp and expand exporters' access to low-interest loans to provide more opportunities for growth and greater competitiveness.

Keywords: bill of exchange; direct lending facility; export simulation; letter of credit; VECM

JEL: Q21

Introduction

International trade is a critical driver of economic growth that results in a constant rise in human status by raising people's expectations and wants (Azeez, Dauda and Aluko, 2014). International trade is crucial in rebuilding the economic and social elements of participating countries all around the world, particularly in developing countries, because no country has ever grown without it (Magaji and Muhid, 2018). The improvement in the trade balance, on the other hand, is not easily apparent. Before it improves, it must go through various changes, which are initially brought about by trade balance deterioration during currency depreciation. It is related to the fact that trade contracts are initially locked over historical exchange rates, resulting in a delayed response of the trade balance to improvement, which is known as the J-Curve effects (Ashamu, 2020).

According to Umuru and Zubairu (2012) the role of Central Banks of Nigeria in international trade development could be seen through the various services which these banks provide for the sustenance of international trade in the country. These services include the provision of capital for these exporter/importers in the business inform of loans, such as short-term loans, medium- and long-term loans, which the traders could use to finance their business goals (Al-majali & Al-Assaf, 2014). The CBN also provide overdraft facilities such as rediscounting facilities, letter of credit, export credit issuance facility and direct lending facility which are necessary to finance the working capital of the business. An overdraft could be defined as an arrangement whereby the banks allow their customers to over-draw his account up to a credit position at the end of the period, while short term loans refer to loans granted for periods between one to five years. Then medium- and long-term loans are granted for periods between five to ten years, even ten years respectively (Okoro, 2017).

Apart from granting loans and over drafts facilities, there are still other roles which banks could play in international trade. These roles include professional advice, opening of documentary letters of credit (L/CS), bills for collection and negotiation/open account and bills of exchange, foreign exchange example traveler's cheques and foreign currencies, information on trade and exchange restrictions, collection and transfer of funds status enquire, etc. above all the determination of the actual external funds required by an export/import borrower. There are accepts of such services which help international trade growth or expansion. It is in the light of this above backdrop that the study intends to investigate on the impact of international trade finance on emerging market economics.

The banking system has been integral part of the structural reforms and it

has a leading role in management of policy change. The role of financial institutions in export financing is that of a cartel and a committed broker. It ranges from assisting company and individual on how to enter export market through financing and handing shipping document and collect export proceedings. It is not for fetched that the exporters/importers of international trade suffer their own bank problems, which should be analyzed and solved to ensure international trade development. These problems such as the problem of corruption in banking firms obtaining capital from and operational problems which are caused by the dictates of the Nigeria environment and society. It is regrettable that despite their various funding mechanism and incentives put by financial institutions to stimulate the growth of export in relative contribution to the economy is still very low because of this low rectum, financial institution faces the risk of non-payment of loan and advance given to export. Global imbalances are tightly connected with the external economic aspects of the world economy; they are clearly manifested not only in the monetary and financial sphere, but also in the international trade system.

It has been noted that, in comparison to industrialized countries like the United States of America (USA) and Germany with Nigeria, the financing provided by banks has been notably inadequate. It is against this that the study attempts to evaluate the impact of international trade financing in Nigeria.

The main purpose of this study was to investigate impact of international trade finance on the emerging market economies. The specific objectives of this study were to:

1. investigate how letter of credit impact on balance of trade
2. examine bill of exchange impact on balance of trade.
3. ascertain how direct lending facility impact on balance of trade
4. investigate how export stimulation fund impact on balance of trade

According to the objectives stated above, the research questions that would be examined in the course of the study are as follows:

1. what impact does letter of credit has on balance of trade?
2. what impact does bill of exchange has on balance of trade?
3. what effect does direct lending facility has on balance of trade?
4. what effect does export stimulation fund has on balance of trade?

Flowing from the above, the hypotheses for the study are stated in the null form as:

Hypothesis one

H0: There is no significant relationship between letter of credit and balance of trade.

Hypothesis two

H0: There is no significant relationship between bill of exchange and balance of trade.

Hypothesis three

H0: There is no significant relationship between direct lending facility and balance of trade.

Hypothesis four

H0: There is no significant relationship between export stimulation funds and balance of trade.

Theoretical framework

The theoretical framework is anchored on the Heckscher-Ohlin's theory as the main constructs in the study and shall be supported by theory of comparative cost advantage and the efficient market hypothesis.

Heckscher-Ohlin's Theory of International Trade

The Heckscher-Ohlin (H-O) theorem holds that trade between countries arise because different countries have different factor endowments. Thus, countries which are rich in labour will export labour intensive goods and those which are rich in capital will export capital intensive goods. According to the H-O theorem, for instance, Nigeria will specialise on production of goods and services that require cheap labour available in the country, while USA will specialise on production of goods and services using cheap capital. The theory assumes that there are two commodities, two countries, no transport cost, no qualitative difference in factors of production, identical production functions, constant return to scale and full employment, among others. Leontief, however, negated the H-O theorem as he found that the US exports labour intensive goods and services and imports capital intensive goods and service.

Since there is wide agreement among modern economists about the explanation of international trade offered by Heckscher and Ohlin this theory is also called modern theory of international trade. Further, since this theory is based on general equilibrium analysis of price determination, this is also known as General Equilibrium Theory of International Trade. It is worthwhile to note that, contrary to the viewpoint of classical economists, Ohlin asserts that there does not exist any basic difference between the domestic (inter-regional) trade and international trade. Indeed, according to him, international trade is only a special case of inter-regional trade.

Thus, Ohlin asserts that it is not the cost of transport which distinguishes international trade from domestic trade, for transport cost is present in the domestic inter-regional trade. Trade because currencies of different countries are related to each other through foreign exchange rates which determine the value or purchasing power of different currencies. Ohlin, therefore, regards different nations as mere regions separated from each other by national frontiers, different languages and customs, etc. But these differences are not such that prevent the occurrence of trade between nations. He, therefore, asserts that general theory of value which can be applied to explain interregional trade can also be applied equally well to explain international trade.

According to general equilibrium theory of value, relative prices of commodities are determined by demand for and supply of them. In the long-run equilibrium under conditions of perfect competition, relative prices of commodities, as determined by demand and supply, are equal to average cost of production. The cost of production of a commodity, as is well-known, depends upon the prices paid for the factors of production employed in the production of that commodity. Factor prices in turn determine the incomes of the factor owners and hence the demand for goods. Thus, trade is mutual inter-dependence between prices of commodities and prices of factors, and the exchange of goods and factors between demand for commodities and demand for factors. This is how general equilibrium theory of value explains prices of commodities and factors between different individuals in a region or a country. However, according to Ohlin, the classical analysis presumes it to apply to a single market in a country and ignores the space factor whose introduction is crucial for explanation of trade between regions. The factors which explain the trade between different regions also explain the trade between different nations or countries as well.

Theory of comparative cost advantage

The theory of comparative advantage was developed by David Ricardo in 1817. The central plank of Ricardo's comparative advantage theory is emphasized on trade interdependence between countries in order to enhance the efficiency of labor and utilization of resources which will propel growth and development. According to this theory, there is no country that is self-sufficient enough to provide all the needed resources to stimulate economic advancement. Therefore, it is imperative for the countries to focus on those commodities which have a strong technical capacity to produce or those commodities can produce at a relatively cheaper cost. Similarly, imports goods that attract a high cost of production of goods that has less ability to produce. It is believed that going this way will provide countries with the possibility to earn higher income and growth. (Alwell, Mansi & Vincent, 2017).

Efficient market hypothesis

The efficient market hypothesis is the theoretical base adopted for this study. This hypothesis was developed by Fama in the early 1960s. Fama's knowledge in finance and macroeconomics assisted him to hypothesized that the market is transparent, that is, information efficient. He stated that, a capital market is deemed efficient at a point where all information available is reflected fully in security prices. Indeed, an efficient market is a critical element of a capitalist system. In a capitalist system, the prices in the markets are the major indicators of efficient allocation of financial resources. That is, when securities are being issued by companies in order to finance their operations, fair prices are expected and when investors select from these securities which afford them the right of ownership, their assumptions are that these prices are fair enough. If efficient allocation is the core of the capital market, securities price must be the measuring indicator of value (Ogege & Udoka, 2012).

Additionally, Nyong (2007) argued that, international trade efficiency is a condition critical for the Nigerian economic growth. The Efficient Market Hypothesis (EMH) is the theoretical underpinning for the development of share price random walk character. This assumes a market where investors are well-informed and operates logically. An international market is considered efficient when profit-maximizes that are competitive and rational are working together to determine the individual securities' market value in the future where current critical information is available almost free to market operators. In an efficient market, it is very obvious that, the existing market competition among smart participants will results to a position where the exact individual security price will be a true reflection of the influence of information based on both present and past events and what the market expects the future trends to become (Udoka, 2012).

According to Udoka (2012), new information regarding future profits leads the returns on stocks to be at variance to interest rate. More so, a market is efficient when the actual returns are different from the expected returns. It is still the expectations of the investors that future returns should equate the real interest rate and remain constant. On the other hand, if prices increase beyond expectations, it should not be the expectation of the investors that it will remain on the rise due to previous knowledge. Neither should they expect prices to decline in a manner that would offset the unexpected increase. The level of efficiency is dependent of the degree of disclosure of available information and the speed of processing information received by the market and reflected in the prices of shares. However, no market can be said to be perfectly efficient in reality.

Conceptual framework

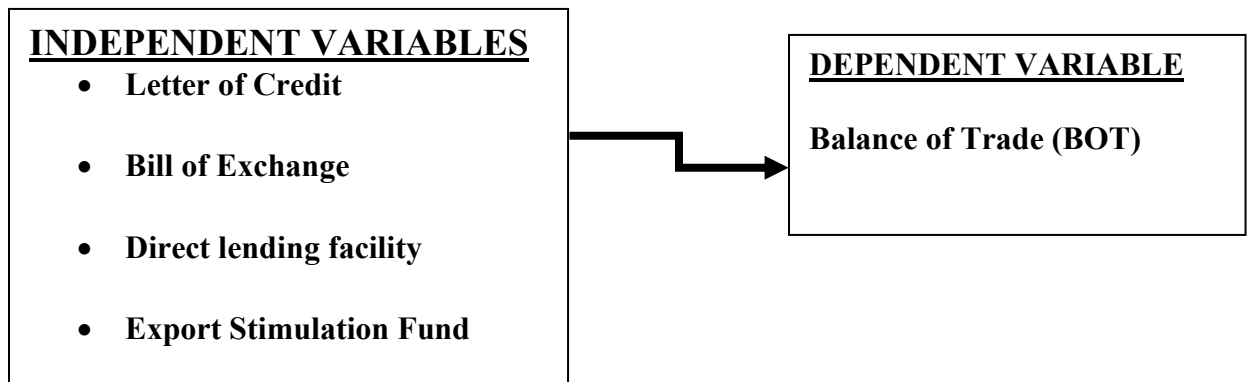


Fig 1: Conceptual framework
Source Researchers' conceptualization, 2026

Concepts of international trade

International trade is sometimes known as 'foreign trade' (Azeez, Dada and Aluko, 2014). It refers to a country's inflow (import) and outflow (export) of goods and services (Falaye and Babatunde, 2021). Imports and exports account for a large portion of a country's gross domestic product (GDP), hence international trade is linked to economic growth. Foreign trade development has a significant impact on GDP growth in an open economy.

As a result, it is a system that connects nations around the world through service flows, commodity commerce, and factor movements (Alfred, 2018). It is another development technique for increasing human living conditions without harming society's worth (Shivneil and Priteshni, 2017). According to the same author, overseas commerce provides a feasible platform for expanding the market base of domestic companies and enhancing domestic capacity utilization, both of which are critical for supporting economic growth.

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exchange rates, resulting in a delayed response of the trade balance to improvement, which is known as the JCurve effects (Ashamu, 2020). International trade facilitates the efficient production of products and services by allocating resources to countries with a comparative advantage (Ricardo, 2004). Furthermore, its impact on a country's economy is not only confined to quantitative gains but includes structural improvements and the facilitation of foreign capital flows.

Balance of payment and international trade

The international balance of payment is one of the monetary mechanisms involved in international trade it is a comprehensive record of all actual or official transactions with financial and economic between one country and the rest of the world. (Oduanya, 2018). According to Vaish (2017) Balance of payment is a statistical record kept in form of balance sheet comprising of all economic transactions between one country and her trading partners over a period of time usually one year. The IMF (2011) describes it as a systematic record of all economic transactions during a period between the resident of reporting countries. It may be defined in statistical sense as on itemized account of all transaction involving receipt from foreigners on the one hand and payment made to foreigners on the other hand.

According to the rules of double entry accounting, the balance of payment is separated into credits and debits, but it is also split horizontally into two main groups based on the board nature of the transaction in question and its connection to the national economy. The capital account and the current account are these categories. All transactions pertaining to the reporting nation's current outlays are included in the current account. These include unilateral transfers (personal, official, or institutional transfers) as well as the export and import of products and services. Items like travel, investment income (interest, dividends, and profits on securities held outside of the nation), and transportation (including merchandise and transport insurance) are also included in the current account transaction. Because they generate or make use of current national income, these are referred to as current transactions. Current transactions are different from capital transactions, which have an immediate impact on debt and wealth, making them national in the long run but not immediately consumed or national income products.

Balance of payments deficits arise when autonomous transactions involving money receipts exceed autonomous transactions requiring payment of money. These measures of surplus or deficit in the balance of payments indicate changes in the nation's net liquidity position. The imbalance indicates that the nation is losing liquidity to other nations, depleting its liquid foreign assets, or building up its liquid foreign liabilities. In contrast, if autonomous payments are lower than autonomous

receipts, there is a surplus. Therefore, a deficit or surplus in the balance of payments essentially encompassed both capital and current transactions.

Monetary policy and international finance

According to the CBN (2014), monetary policy refers to the monetary authority's deliberate efforts to control the value, availability, and cost of money in the economy to achieve specific goals. Monetary policy is a macroeconomic tool used by the monetary authority to ensure efficient economic management to achieve planned and desired goals (Imoughele, 2014). It means that monetary policy establishes the foundations for achieving specific macroeconomic goals. According to Afolabi, Adeyemi, Salawudean, and Fagbemi (2018).

Monetary policy is a critical tool for economic stabilization since it regulates the cost and availability of money or credit. It helps by regulating the monetary policy variable aids in the reduction of economic distortions. In the view of Okwo, Eze, and Nwoha (2016), monetary policy is a formal effort by the government to regulate the money in its economy in order to achieve particular economic objectives. From the foregoing, monetary policy is a mechanism used by the apex bank of the country to regulate the economy. This regulation can either be to expand or contract the economy depending on the objective of the apex bank authority. The authority makes use of mechanisms such as open market operation, interest rate, bank reserve, exchange rate and money supply to influence operations of the nation's economy.

Foreign exchange and international trade

Nzotta (2004) defined foreign exchange as the value of foreign nation's currency in terms of the home nation currency. This study measured exchange rates (i.e. real exchange rates) using annual exchange rates of Nigeria using the data from the central bank of Nigeria. The exchange rate is one of the intermediate policy variables through which monetary policy is transmitted to the larger economy through its impact on the value of domestic currency, domestic inflation (the pass-through effect), the external sector, macroeconomic credibility, capital flows, and financial stability. Thus, changes in the exchange rate might induce changes in the relative prices of goods and services, and the level of spending by individuals and firms, especially if significant levels of their wealth are held in foreign currencies (Adedeji, 2001).

An appreciation in the value of the exchange rate rise makes imported goods and services relatively cheap, while depreciation makes exports become cheaper to foreign buyers, thereby inducing higher competition in export markets at home. On the other hand, with depreciation, imports become more expensive and so less competitive against goods produced by domestic producers. Changes in the

exchange rate therefore, have implications for individual spending and investments behavior of firms, all of which can affect aggregate demand (an important determinant of economic growth, price stability and full employment in the macro economy). However, there is a growing debate among monetary economists; whether in the current medium-term orientation of monetary policy, the exchange rate is still significant as a relevant transmission channel for monetary policy (Aliyu 2008; Ezirim 2009).

Given the openness of most contemporary economies, money demand functions should include the effect of external monetary and financial factors approximated by movements in foreign rate and exchange rate. An increase in (expected) foreign interest rates would induce domestic residents to increase their holdings of foreign assets which would be financed by drawing down domestic money holdings. Also, a change in exchange rate would affect portfolio decisions between domestic assets and foreign assets. So, if, for example, domestic currency is expected to depreciate, domestic portfolio holders would adjust their portfolio in favor of foreign assets and vice versa. It can be postulated from such effect of external factors that foreign interest rate and exchange rate expectations may have a negative effect on the demand for money (Bassey, et al., 2012).

Trade restriction

A restriction on trade is any measure that interferes with the free movement of flow of goods between countries and thereby prevent resources being used in accordance with comparative cost. Restriction could be by prohibition, Quotas, Taxes on trade, subsidies, Exchange control measures etc. All these are aimed at reducing the volume of imports of country. During the period of oil boom in Nigeria, there was a proliferation of private sector firms, which were largely dependent on imported inputs. This resulted in the scarcity of our foreign exchange, since that time the government has been applying some restrictive measure to conserve our meager foreign exchange, this has led to the being placed on importation of some commodities that are essential but not necessarily scarce.

Literature review

An overview of International Trade finance in Nigeria

Trade finance exists when one business extends some form of credit to a business partner during a trade which is determined by the payment schedule. This partnership permits businesses to have access to capital without having to get a loan through a bank. This approach may provide a sustainable solution to a company which lies within a country with economic distress because trade may continue internationally when importers and exporters develop new payment terms. This approach may also provide a sustainable solution to SMEs who lack

creditworthiness and who are limited in the size of their trades by banks who do not grant large enough loans at all or who charge high interest rates (Fisman, R & Love, 2003).

The solution to financing does not solely lie in trade financing. It is important to note that most business ventures, especially at larger firms who have established creditworthiness and a stable reputation, continue to rely on banks for loans (Fisman, R & Love, I 2003). When these businesses with favorable interest rates extend favorable payment terms to their buyers or suppliers, this creates a domino effect. Buyers and suppliers who rely on trade finance benefit greatly when they can utilize the creditworthiness of their partner. In particular, SMEs benefit from trade finance because they “face the greatest hurdles in accessing financing on affordable terms” (“Trade finance and SMEs, 2016).

Although trade finance is a source of credit for some businesses, others trust banks to lend at favorable rates. Trade finance is generally considered to be “a particularly safe form of finance since it is underwritten by strong collateral and documented credit operations” (“Trade finance and SMEs” 13). Collateral, however, must be liquid for the lender to be safe from borrower default. The strongest forms of collateral are nonperishable and highly demanded items. The value of goods can quickly drop when an expiration date approaches, or the items are highly personalized. For example, a strong form of collateral is a batch of fabric, while a weak form would be an order of uniforms with a company’s logo on them. The collateral must also have documentation. In emerging markets, it is important to work with companies who always follow documentation procedures. Trade finance works best when it is backed by strong collateral.

Trade finance facilitates trust between companies. The World Trade Organization published a report called Trade finance and SMEs: Bridging the gaps in provision which outlines the two major styles of trade finance: inter-company credit and bank-intermediated finance. Inter-company credit, the first trade finance style, is credit issued between buyers and sellers (importers and exporters); this is the result of negotiated payment terms between parties. We will refer to two main payment terms: post-shipment and pre-shipment (Ahn 2014, p. 2). Although there are only two here, it is important to note many trade deals involve multiple payments (where importers pay a down payment before shipment and pay the full amount after delivery) or discounts for on time payment.

Post-shipment payment gives the exporter risk of non-payment if the importer defaults and allows the importer to benefit from trade credit by postponing the time they are required to pay cash. This is also called an open account transaction because the importer has an open balance due while the exporter finances the goods, shipment, and delivery until payment is completed. Many times, this will occur between businesses who have well established relationships. Post-

shipment payment terms introduce the “factoring” market (Ahn, 2014). If an exporter with post-shipment terms has immediate cash needs, they can sell their accounts receivable as an asset to a third-party factor for a discount. This transfers the risk of payment default to the factor. The same protection against default can be found in trade credit insurance, which is an approach to cover risk of non-payment from the importer provided by private and public credit insurers (Lorié, 2019).

Pre-shipment payment gives the importer the risk of non-delivery if the exporter fails to deliver and allows the exporter to benefit from trade credit by providing cash up front (Eun and Resnick, 2018). Bank-intermediated finance, the second trade finance style, involves letters of credit. Commonly used in commodity trading, letters of credit transfer the risk of default or non-delivery to banks in the importer and exporter’s respective countries (Ahn, 2014). The importer’s bank issues the letter of credit on the importer’s behalf to the exporter’s bank. This means that the importer’s bank will pay the exporter for the goods and act as a loan for the importer (Eun and Resnick 2018, p. 490). The letter of credit also acts as a loan for the exporter

Concepts of emerging market economics

There are so many definitions of emerging market economies (EME) given by different scholars. Economy Watch (2010) defined emerging market economies as economies with low per capital income. The EME countries constitute approximately 80% of the global population as well as 20% of the world economies. The word was invented in 1981 by Antiole Agtmeal which served at the international finance corporation of the World Bank. The author added that emerging market economies have indispensable description of trade liberalization and make available or exposed their economies at a global stage. This shows the way to many overseas goods flowing into the domestic market which now compete with locally produced items. This makes better the model of domestically produced goods and services and raises their yield and also helps to produce export value items.

Williams (2011) portrayed an emerging market economy as an economy that is accompanied with the description of fast economic growth, increased foreign investment and increased international political influence. Fast growth is evidenced by strong economic data, as in rising Gross Domestic Product (GDP), GDP per capital, trade volumes and foreign reserves. Fast growth generally means higher profits for foreign investors, which makes better more foreign investment in a country which in turn, holds up economic growth. Williams added that, in 2001, Jim O’Neill, invented the acronym BRICs, to refer to Brazil, Russia, India and China, the proponent of this concept of emerging market economies (EME)

consideration was that this would lead world economic growth for the next fifty years. Right

Role of financial institution in international trade

There are three major types of financial institutions that exist and are concerned with trade and export in Nigeria. The central bank, Commercial bank, Merchant bank and development bank.

- **Central bank of Nigeria (CBN):** The central banks of Nigeria has a dominant role to play in export financing the central bank of Nigeria (CBN) has taken active part in assisting the export through formulation of policies aimed at promoting export financing. A recent significant step in this direction is the establishment of Nigeria exports and import bank (NEXIM).
- **Commercial banks:** Although commercial banks constructs one of the main supports of international trade promotion efforts. The commercial bank in Nigeria is only beginning to open export desks.
- **The merchant banks:** The merchant bank are engaged more in short term domestic financing but naturally they are of finance export.
- **Development banks:** Development bank is in practice set up to finance development projects and may have no special schemes for promoting development and series oriented industries but they are also expected to render merchant bank type of services for developing the industrial infrastructure needed for a meaningful export-oriented economy.

Factors militating against export finance

Some major factors that could discourage the financial institution to make provision of exports finance are:

- High cost of local processed goods; in view of certain local factors and development the cost of security and producing goods for export, are after higher than the cost of importation of similar items. This is a situation whereby production of export has been relatively on largely attributable to the inflation any effects of large names devaluation, high interest rates and high cost of local inputs as well as provision of lack of infrastructural facilities.
- **Government Policy Consideration:** Bank export finance decision are based principally on government declared export where government economic policy rare to improve balance to payment position banks may be forced to raising their location rate and tends to accommodate all type of export.
- **Changing Financial Environment:** The changing financial environment a tremendous impact on the extent to which bank and other financial institution are prepared to finance export in Nigeria.

Owing the periods of monetary cases and liquidity banks are better disposed for export business but during the period of tight monetary policy and squeezed liquidity are less inclined to finance for export business for instance before the 1989 central banks directives to bank and monetary policy actions carried at mopping up excess liquidity in the system banks are more willing to exceed liquidity in the system, banks are more willing to finance export business. Only because of the availability of funds to allocate for those purposes but also because of the opportunity to have an additional source of foreign exchange from the non-oil export.

Principle of comparative cost

The fact that countries from international trade is summed up in principle of comparative cost, which states that countries will benefit from international trade by specialization in those commodities in the production of which they have greatest comparative cost advantage over other countries or the least comparative cost disadvantage. Basically this means that countries should concentrate on producing those commodities which they produce more cheaply than other commodities. It may be because of availability of cheaper labour, capital or natural resources. In my understanding, the idea of comparative advantage can be expressed by the use of an analogy in which the best architect in a particular town also happened to be the best carpenter in the town, it would not make an economic sense for the man to build his own frame because he can earn more money by devoting all his professional energy to his job as an architect, even though he has to employ a carpenter less skillful than himself to build his home. A country like the architect will gain if it concentrates its resources on the production of those commodities it can produce relatively more cheaply and most efficiently. A country may require a comparative advantage in any one of number of ways. It also results from the skill of the labour force acquired through the tradition or through the size of the labour force relative to the amount of land or capital. It may also come about because of climate and geography.

Empirical review

Astuti and Udjianto (2022) examine the effect of monetary policy and international trade on economic growth and inflation in four ASEAN countries (Indonesia, Malaysia, the Philippines, and Thailand). Panel data analysis and vector autoregression were used in the study. According to the impulse response results, monetary policy with an interest rate policy instrument harms economic growth in the short run but benefits it in the long run. An expansionary monetary policy has effectively accelerated economic growth in the short run, and vice versa.

International trade has a short-term positive impact on economic growth in ASEAN-4 countries and a long-term negative impact.

Omoke and Opuala-Charles (2021) by taking institutional quality into account, explored the link between trade openness and Nigeria's economic growth. Total trade, import trade, and export trade are the three indices of trade openness considered in the study, which spans the years 1984 to 2017. ARDL bounds testing technique was deployed to assess cointegration between the variables. According to the estimations, import trade has a significant negative influence on economic growth whilst export trade has a significant positive impact on economic growth.

Yusuff, Adekanye and Babalola (2020), Chiaraah (2019), Agbo, Agu and Eze (2018), Afolabi, Danladi and Azeez (2017), Abiodun (2017) examined how foreign trade impacts the expansion of the Nigerian economy from 1986 to 2017. The Ordinary Least Square (OLS) approach was deployed in the study to assess how trade openness impacts Nigeria's economic growth. The results indicated that, during the study period, there is a negative connection between foreign trade and GDP per capita. The study recommended that government should implement a crucial trade-oriented policy to stimulate economic growth through high exports and amass more foreign revenues to increase production growth in the nation.

Odungweru and Ewubare (2020) examine the effect of monetary policy on Nigerian international trade from 1980 to 2017. Total trade was used to represent foreign trade, and the independent variables were money supply, minimum rediscount rate, cash reserve ratio, exchange rate, interest rate, and inflation rate. Time series data on the variables of the study were obtained from the Central Bank of Nigeria's annual reports from 1980 to 2017. The ADF stationary test reveals that the variables in the study were stable at both levels and at first difference. The regression result shows that there exist a long run relationship between the independent variables and total trade. It also revealed exchange rate exerts a significant positive effect on Total Trade in the long run while Minimum rediscount rate exerts a significant negative effect on total trade in the long run.

Ashamu, (2020) examines the impact of monetary policy on foreign trade in Nigeria covering the period from 1981 to 2017. The study used secondary data collected from the Central Bank of Nigeria. The study used Error Correction Model (ECM) techniques. The result shows that the error correction term (speed of adjustment towards equilibrium) value of -0.53581 is significant at 5% and implies that there is a long run causality running from monetary policy activities measures of foreign trade.

Yusuf and Saidatulakmal (2019) studied the impact of debt management on Nigeria's international trade. Time series data obtained from an annual report covering a period of 39 years: 1980 to 2018, was used to analyses data in the study.

Autoregressive Distributed Lag Technique (ADLT) was adopted for the study and domestic debt and external debts in the long- and short-term periods were employed as the measures of public debts. The regression analysis carried out revealed that external debts were the major problem negating economic long-term growth in Nigeria.

Methodology

Research design

The study is designed to empirically examine the impact of international trade finance on emerging market economics: an investigation on Nigeria. The study employs exploratory, descriptive and ex-post facto research designs that reflects essentially of the parametric estimations to validate the nature, magnitude and possible direction of relationship among the target variables.

Sources of data collection

The data engaged for this study's variables are basically from secondary sources from various issues of Central bank of Nigeria (CBN) statistical bulletins covering the periods between 2003 and 2022. The study relied on annual time series data on balance of trade (BOT) as proxy for measuring emerging market economy, while international trade finance was proxied by letter of credit (LOC), bills of exchange (BOE), direct lending facility (DLF) and export stimulation fund (ESF) as independent variables.

Method of data collection

The method of data collection in this study was the desk survey method. The method was used to gather relevant information from published materials, articles, libraries, journals, and were summarized and tabulated in line with the hypotheses of the study.

Model specification

In order to model the relationship between the dependent and independent variables adopted as proxies are specified below.

$$\begin{array}{llll}
 \text{BOT} & = & f(\text{LOC, BOE, DLF, ESF}) & 1 \\
 \text{BOT} & = & a_0 + a_1\text{LOC} + a_2\text{BOE} + a_3\text{DLF} + a_4\text{ESF} + u_t & 2 \\
 \text{Where:} & & & \\
 \text{BOT} & = & \text{Balance of trade} &
 \end{array}$$

LOC = Letter of credit
 BOE = Bills of exchange
 DLF = Direct lending facility
 ESF = Export stimulation fund
 u_t = is the random error term which captures all the other explanatory variables not included in this regression model; For all the two models a priori expectations in line with extant literature are as specified thus: $a_0, a_1, a_2, a_3, a_4 > 0$

However, given the simultaneous relationship that is observed among the variables, specifying a single equation as in equ. 2 is not appropriate. Therefore, since there are feedbacks among the variables, the study specified simultaneous equation within the VEC methodology as follows:

$$\begin{aligned} \Delta BOT_t = & \alpha_{i0} + \sum_{i=1}^j \alpha_{i1} \Delta BOT_{t-i} + \alpha_{i2} \Delta LOC_t + \sum_{i=1}^j \alpha_{i3} \Delta LOC_{t-i} + \\ & \alpha_{i4} \Delta BOE_t + \sum_{i=1}^j \alpha_{i5} \Delta BOE_{t-i} + \alpha_{i6} \Delta DLF_t + \sum_{i=1}^j \alpha_{i7} \Delta DLF_{t-i} + \alpha_{i8} \Delta ESF_t + \\ & \sum_{i=1}^j \alpha_{i9} \Delta ESF_{t-i} + \varphi ECM_{t-1} + U_1 \quad 3 \end{aligned}$$

Techniques of data analysis

This study shall employ several estimation procedures at arriving at the final result to be interpreted. The step-by-step estimation procedures followed in the estimation process include: the unit root test; the cointegration test; and the vector error correction model (VECM). Modern econometricians point out a method to establish the relational model among economic variables in a non-structural way.

In the VAR model, each endogenous variable in the system is considered as the lagged value of all endogenous variables in the system; thus, the univariate autoregressive model is generalized to the “vector” autoregressive model consisting of multivariate time series variables. In 1980, Sims (Christopher Sims) introduced VAR model into economic field and promoted the widespread application in dynamic analysis of economic system. Engle and Granger combined cointegration and error correction models, to establish the trace error correction model. As long as there is a cointegration relationship between variables, the error correction model can be derived from the autoregressive distributed lag model. And each equation in the VAR model is an autoregressive distributed lag model; therefore, it can be considered that the VEC model is a VAR model with cointegration constraints. Because there is a cointegration relationship in the VEC model, when there is a large range of short-term dynamic fluctuation, VEC expressions can restrict long-term behavior of the endogenous variables and be convergent to their cointegration relation.

Unit root tests

The first procedure in the estimation of the equations is the determination of the stationarity properties and the integrating order of the variables. The unit root tests are conducted to determine the integrating order of the variables in the specified models. These tests are necessary, given the time series nature of the variables captured in this study. The unit root is tested using the Augmented Dickey-Fuller (ADF) test equation as follows. Based on the Augmented Dickey-Fuller (1979) specification, the following ADF equation is specified.

$$\Delta y_t = \varpi_0 + \varpi_1 \Delta y_{t-1} + \sum_{j=1}^j \delta_j \Delta y_{t-j} + \varepsilon_t \quad 4$$

Where:

ΔY_t = change in Y_t ;

ΔY_{t-1} = change in the lagged value of Y_{t-1} ;

ε_t = the random error term; and

ϖ_0 , ϖ_1 and δ_i represent the parameters the test will estimate.

To reach an acceptable conclusion, the following decision rules are followed judiciously. The null hypothesis of non-stationarity will be accepted if $\delta_1 = 0$. But if $\delta_1 < 0$ and is also statistically significant, then the null hypothesis of non-stationarity will be rejected.

Cointegration test

The second stage in the estimation procedures involves the determination of the long run equilibrium relationship among the set of variables in the specified models. Provided the variables are integrated of the same order, the cointegration test can be conducted. However, if there is no cointegration, then the variables do not have a long run equilibrium relationship. The cointegration analysis will be performed deploying the Johansen and Juselius (1990) multivariate cointegration approach, using two statistics: trace and maximum eigenvalue statistics. The cointegration equation of the vector autoregression model can be written as:

$$\Delta y_t = \Pi y_{t-1} + \sum_{i=1}^{k-1} \Gamma_i \Delta y_{t-i} + C + \varepsilon_t \quad 5$$

Where:

ΔY_t = $n \times 1$ vector of the variables in period t ;

C = $n \times 1$ vector of the constant term;

Γ_i = $i = 1 \dots k-1$ denotes the $n \times n$ matrix of coefficient of the short run specification;

Π = the $n \times n$ matrix of the long-term effect; and
 ε_t = $n \times 1$ vector of error term.

The trace statistic and the maximum eigenvalue statistic were deployed to carry out the cointegration test. The hypotheses for the null and alternative formation can be expressed as follows:

$H_0: \beta_i = 0$; indicating the absence of cointegration.

$H_A: \beta_i \neq 0$; indicating the presence of cointegration.

For an acceptable conclusion to be reached, the computed values of the trace and maximum eigenvalue statistics are compared with the critical values at the five percent level of significance. If the calculated values exceed the critical values, then we can conclude that there is cointegration and vice versa.

Vector error correction model (VECM)

Given that the variables in an econometric model must be estimated in a relational model in a non-structural way, the vector autoregressive (VAR) and vector error correction (VEC) are the established models in doing this. In the VAR model, each endogenous variable in the system is considered as the lagged value of all endogenous variables in the system; thus, the univariate autoregressive model is generalized to the “vector” autoregressive model consisting of multivariate time series variables. As a precondition, Engle and Granger combined cointegration and error correction models, to establish the trace error correction model.

As long as there is a cointegration relationship between variables, the error correction model can be derived from the autoregressive distributed lag model. And each equation in the VAR model is an autoregressive distributed lag model; therefore, it can be considered that the VEC model is a VAR model with cointegration constraints. Because there is a cointegration relationship in the VEC model, when there is a large range of short-term dynamic fluctuation, VEC expressions can restrict long-term behavior of the endogenous variables and be convergent to their cointegration relation.

Assuming $y_t = (y_{1t}, y_{2t}, \dots, y_{kt})'$ as k -dimensional stochastic time series, $t = 1, 2, \dots, T$ and $y_t \sim I(1)$, each $y_{it} \sim I(1)$, $i = 1, 2, \dots, k$ is affected by exogenous time series of d -dimension $x_t = (x_{1t}, x_{2t}, \dots, x_{dt})'$; then the VAR model can be established as follows:

$$Y_t = A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + Bx_t + u_t \quad 6$$

$$t = 1, 2, \dots, T$$

If y_t is not affected by exogenous time series of d - dimension $x_t = (x_{1t}, x_{2t}, \dots, x_{dt})'$, then the VAR model of formula (1) can be written as follows:

$$Y_t = A_1 y_{t-1} + A_2 y_{t-2} + \dots + A_p y_{t-p} + u_t \quad 7$$

$$t = 1, 2, \dots, T$$

With cointegration transformation of formula (3.8), we can get that

$$\Delta y_t = \Pi y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \mu_t \quad 8$$

Where,

$$\Pi = \sum_{i=1}^p A_i - I \quad 9$$

and,

$$\Gamma_i = - \sum_{j=i+1}^p A_j \quad 10$$

If y_t has cointegration relationship, then $\Pi y_{t-1} \sim I(0)$ and formula (3.9) can be written as follows:

$$\Delta y_t = \alpha \beta' y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \mu_t \quad 11$$

where $\beta' y_{t-1} = ecm_{t-1}$ is the error correction term, which reflects long-term equilibrium relationships between variables, and the above formula can be written as follows:

$$\Delta y_t = \alpha ecm_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \Delta y_{t-i} + \mu_t \quad 12$$

Data analysis

Descriptive statistics analysis

From the result, it could be observed that the mean values were: 14.00 for balance of trade (BOT); 155.90 for bills of exchange (BOE); 5.70 for letter of credit (LOC); 27.49 for direct lending facility (DLF) and 4.69 for export stimulation fund (ESF). The median values of the variables were: 6.55 for balance of trade (BOT); 80.49 for bills of exchange (BOE); 4.05 for letter of credit (LOC); 21.76 for direct lending facility (DLF) and 6.30 for export stimulation fund (ESF). From the E-view output, the maximum values were: 86.10 for balance of trade (BOT); 497.57 for bills of exchange (BOE); 15.80 for letter of credit (LOC); 57.20 for direct lending facility (DLF) and 6.90 for export stimulation fund (ESF).

The minimum values were: -26.49 for balance of trade (BOT); 14.00 for bills of exchange (BOE); 0.11 for letter of credit (LOC); 8.00 for direct lending facility (DLF) and 1.70 for export stimulation fund (ESF). The standard deviation measures how far the observations are from their sampled averages. From the summary output, the standard deviation values were: 25.12 for balance of trade (BOT); 172.78 for bills of exchange (BOE); 5.44 for letter of credit (LOC); 17.94 for direct lending facility (DLF) and 2.18 for export stimulation fund (ESF).

From the E-view result, the skewness values of 0.56 for letter of credit (LOC); 0.45 for direct lending facility (DLF) and -0.24 for export stimulation fund (ESF) respectively mirrored a negatively skewed distribution, implying that the distribution had a long-left tail with lower values than the sampled mean. the skewness values of 1.09 for balance of trade (BOT); and 1.29 for bills of exchange (BOE) respectively mirrored a positively skewed distribution, implying that the distribution had a long-right tail with higher values than the sampled mean.

TABLE 2: Result of descriptive statistics

	BOT	BOE	LOC	DLF	ESF
Mean	14.00350	155.9080	5.708500	27.49300	4.695000
Median	6.550000	80.49000	4.050000	21.76500	6.300000
Maximum	86.10000	492.5700	15.80000	57.20000	6.900000
Minimum	-26.49000	14.00000	0.110000	8.000000	1.700000
Std. Dev.	25.12233	172.7805	5.442044	17.94366	2.188601
Skewness	1.092732	1.290617	0.565317	0.451631	-0.243401
Kurtosis	4.456934	2.938694	1.833929	1.721689	1.156675
Jarque-Bera	5.749095	5.555438	2.198379	2.041635	3.029019
Probability	0.056442	0.062180	0.333141	0.360300	0.219916
Sum	280.0700	3118.160	114.1700	549.8600	93.90000
Sum Sq. Dev.	11991.50	567208.7	562.7011	6117.522	91.00950
Observations	20	20	20	20	20

Source: Researcher's presentation from E-views 10.0 statistical software

From the result obtained in Table 2 for the dataset, the kurtosis values of 2.93 for bills of exchange (BOE); 1.83 for letter of credit (LOC); 1.72 for direct lending facility (DLF) and 1.15 for export stimulation fund (ESF) were less than 3.0000 required for a normal distribution. Hence, the data for these variables had flatted curve and produced lower values than the sample mean. On the other hand, the kurtosis value of 4.45 for balance of trade (BOT) was greater than 3.0000 required for a normal distribution. Hence, the data for this variable had a peaked curve and produced higher value than the sample mean.

The Jarque-Bera (JB) test measures the difference of the skewness and kurtosis of the series with those from the normal distribution. The null hypothesis for the JB statistics held that the series is normally distributed. Given the result in Table 2, the JB values of 5.55 for bills of exchange (BOE); 2.19 for letter of credit (LOC); 2.04 for direct lending facility (DLF) and 3.02 for export stimulation fund (ESF) respectively with their corresponding p-values of 0.06, 0.33, 0.36 and 0.21 percent greater than 0.05 meant that the null hypotheses for all the variables were not rejected. It, therefore, meant that the dataset was normally distributed.

Group unit root test: Summary

The group unit root test was performed in order to determine whether the relevant variables are stationary. If variables are non-stationary, it may cause spurious ARDL model analysis. From the Table 3, the measurement of the group unit root in the data revealed that all the variables in the group were jointly integrated in all the methods under examination, that is, all the variables were found to be jointly stationery at 1 per cent, 5 per cent and 10 per cent significance at levels.

TABLE 3: Group unit root test (levels)

Group unit root test: Summary				
Series: BOT, BOE, LOC, DLF, ESF				
Exogenous variables: Individual effects				
Automatic selection of maximum lags				
Automatic lag length selection based on SIC: 0 to 4				
Newey-West automatic bandwidth selection and Bartlett kernel				
Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	0.56221	0.7130	5	90
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	0.61381	0.7303	5	90
ADF - Fisher Chi-square	7.96508	0.6322	5	90
PP - Fisher Chi-square	14.5280	0.1502	5	95

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's presentation from E-views 10.0 statistical software

TABLE 4: Group unit root test (first difference)

Group unit root test: Summary

Series: BOT, BOE, LOC, DLF, ESF

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0 to 3

Newey-West automatic bandwidth selection and Bartlett kernel

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-8.28054	0.0000	5	87
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-8.17337	0.0000	5	87
ADF - Fisher Chi-square	69.2889	0.0000	5	87
PP - Fisher Chi-square	143.793	0.0000	5	90

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Source: Researcher's presentation from E-views 10.0 statistical software

Johansen cointegration test

The outcome of the co-integration test based on the Johansen-Jesulius multivariate approach using the trace statistic and maximum eigenvalue statistic are presented in Table 5 and Table 6. The outcome of the multivariate cointegration examination as reported in Table 5 and Table 6 established three (3) and three (3) cointegrating equations, respectively deploying the trace statistic and maximum eigenvalue statistic. This is so because the trace test and the maximum eigenvalue test statistics values in each of the three (3) and three (3) cointegrating equations respectively were all greater than the critical values at five per cent level of significance.

Since it is established from the multivariate test for cointegration that at least one cointegration equation have been established, the study therefore rejected the null version of the hypothesis that there is no co-integration and, hence, no long run association among the variables in the specified equation and accepted the alternative hypothesis that there is existence of a co-integration relationship among them and hence a long period equilibrium association among the various variables concerned. Based on this result, the study submitted that the variables were co-integrated and, hence, there was a long run association among them.

TABLE 5: Unrestricted cointegration rank test (Trace)

Hypothesized	Trace	0.05		
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.965399	149.8472	69.81889	0.0000
At most 1 *	0.943732	89.29738	47.85613	0.0000
At most 2 *	0.734800	37.50007	29.79707	0.0053
At most 3	0.507649	13.60920	15.49471	0.0943

At most 4	0.046392	0.855048	3.841466	0.3551
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Trace test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher's presentation from E-views 10.0 statistical software

TABLE 6: Unrestricted cointegration rank test (Maximum Eigenvalue)

Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.965399	60.54985	33.87687	0.0000
At most 1 *	0.943732	51.79731	27.58434	0.0000
At most 2 *	0.734800	23.89087	21.13162	0.0199
At most 3	0.507649	12.75415	14.26460	0.0854
At most 4	0.046392	0.855048	3.841466	0.3551

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Researcher's presentation from E-views 10.0 statistical software

Vector error correction model (VECM) test: long run estimates

Since the optimal lag length for the study has been determined, the study therefore proceeded to estimate the VECM. The presence of stationarity of series (variables) at the same order of integration and the existence of one or more cointegrating justify the use and adoption of vector error correction model (VECM) to measure short run as well as long run behaviour of the variables. As an extension of the vector autoregressive (VAR) model, VECM helps to capture and forecast inter-dependency of the non-stationary trends in levels. It introduces the concept of long run relationships and error correction methods of how deviations from the long run relationship are deemed corrected. The VECM analysis result with regards to balance of trade (BOT) as a dependent variable is shown in Table 7.

The VECM long run estimates showed that, BOT in Nigeria would possibly increase as a result of international trade finance risk options (BOE, LOC, DLF, ESF) in Nigeria in the long run. The constant coefficient of the VECM showed that, the level of balance of trade (BOT) in Nigeria is expected to increase by 170.74 per cent as result of international trade finance risk options (BOE, LOC, DLF, ESF) in the long run. Further analysis of the long run estimates in the equation.

$$BOT = 170.74 + 0.15*BOE + 3.29*LOC + 144.98*DLF - 198.24*ESF \quad 4.1$$

Equation 4.1 revealed that, the total value of bills of exchange (BOE) variable will positively influence the level of balance of trade (BOT) in Nigeria in the long run by 0.15 per cent and was found to be non-significant, all things being equal. Furthermore, the total value of letter of credit (LOC) variable will positively influence the level of balance of trade (BOT) in Nigeria in the long run by 3.29 per cent and was found to be non-significant, all things being equal. On the other hand, the total value of direct lending facility (DLF) variable will negatively influence the level of balance of trade (BOT) in Nigeria in the long run by 144.98 per cent and was found to be significant, all things being equal. Lastly, the total value of export stimulation fund (ESF) variable will positively influence the level of balance of trade (BOT) in Nigeria in the long run by 198.24 per cent and was found to be significant, all things being equal.

Analysis of VECM error correction term (ECT) and short-run estimates

Given that the variables were mutually integrated, that is, the variables were integrated at order I(1) suggests that the estimation of the VAR model in its level form cannot be carried out. The estimation was then done using the difference form of VAR using the vector error correction model (VECM) variant of the structural VAR specification.

As depicted in Table 7, the error correction variable did not have the expected negative coefficient and was also statistically non-significant in line with theoretical expectations. The magnitude of the coefficient of 0.4529 implies that approximately 45.29 per cent of the disequilibrium in the system could not be corrected each year; indicating a move away from the adjustment from the disequilibrium in the short run to equilibrium in the long run but was non-significant against theoretical expectations.

TABLE 7: Vector error correction model (VECM) results

Standard errors in () & t-statistics in []	
Cointegrating Eq:	CointEq1
BOT(-1)	1.000000
LBOE(-1)	-0.152460 (2.72852) [-0.05588]
LLOC(-1)	-3.298375 (2.02649) [-1.62763]
LDLF(-1)	144.9836 (7.65093) [18.9498]
LESF(-1)	-198.2419 (13.7838) [-14.3822]
C	-170.7441

Error Correction:	D(BOT)	D(LBOE)	D(LLOC)	D(LDLF)	D(LESF)
CointEq1	0.452942 (0.16509) [2.74361]	0.015296 (0.00732) [2.08887]	0.000899 (0.01617) [0.05557]	-0.004900 (0.00137) [-3.57933]	0.002969 (0.00152) [1.95760]
D(BOT(-1))	-0.803355 (0.27835) [-2.88615]	0.003443 (0.01235) [0.27888]	0.037397 (0.02727) [1.37142]	0.002969 (0.00231) [1.28622]	-0.000845 (0.00256) [-0.33049]
D(LBOE(-1))	-10.53929 (10.2396) [-1.02927]	0.531598 (0.45418) [1.17047]	1.751078 (1.00314) [1.74560]	0.026111 (0.08491) [0.30750]	0.130418 (0.09406) [1.38659]
D(LLOC(-1))	-2.342919 (2.39364) [-0.97881]	-0.128291 (0.10617) [-1.20836]	-0.351074 (0.23450) [-1.49714]	0.003735 (0.01985) [0.18815]	-0.008824 (0.02199) [-0.40134]
D(LDLF(-1))	-19.48975 (24.8494) [-0.78431]	2.099588 (1.10219) [1.90492]	-0.336670 (2.43441) [-0.13830]	0.056750 (0.20607) [0.27540]	0.157624 (0.22826) [0.69055]
D(LESF(-1))	27.47700 (64.8007) [0.42402]	-1.955803 (2.87423) [-0.68046]	-13.20481 (6.34829) [-2.08006]	-0.203340 (0.53737) [-0.37840]	-0.544604 (0.59524) [-0.91494]
C	-1.015078 (6.60728) [-0.15363]	0.020189 (0.29306) [0.06889]	1.350648 (0.64729) [2.08662]	0.094497 (0.05479) [1.72465]	0.101132 (0.06069) [1.66632]
R-squared	0.703374	0.517939	0.470855	0.622165	0.380619
Adj. R-squared	0.541578	0.254996	0.182230	0.416073	0.042775
Sum sq. resids	3734.481	7.347053	35.84138	0.256816	0.315100
S.E. equation	18.42548	0.817260	1.805078	0.152797	0.169250
F-statistic	4.347286	1.969778	1.631372	3.018872	1.126611
Log likelihood	-73.55583	-17.47624	-31.73948	12.70703	10.86624
Akaike AIC	8.950647	2.719582	4.304386	-0.634114	-0.429582
Schwarz SC	9.296903	3.065838	4.650642	-0.287858	-0.083326
Mean dependent	-0.856667	0.018010	0.199181	0.083260	0.071648
S.D. dependent	27.21360	0.946849	1.996091	0.199956	0.172990
Determinant resid covariance (dof adj.)		0.002721			
Determinant resid covariance		0.000232			
Log likelihood		-52.38198			
Akaike information criterion		10.26466			
Schwarz criterion		12.24327			
Number of coefficients		40			

Source: Researcher's presentation from E-views 10.0 statistical software

Analysis of VECM estimates in Table 7, showed that previous one lagged period of bills of exchange (BOE) had a negative impact on balance of trade (BOT) in Nigeria and was statistically non-significant at five percent significance level. By implication, an increase in the previous lagged period of bills of exchange (BOE) led to a corresponding 10.53 percent decrease in the level of balance of trade (BOT) in Nigeria in the short-run, ceteris paribus. Similarly, the

VECM estimates in Table 7, showed that previous one lagged period of letter of credit (LOC) had a negative impact on balance of trade (BOT) in Nigeria and was statistically non-significant at five percent significance level. By implication, an increase in the previous lagged period of letter of credit (LOC) led to a corresponding 2.34 percent decrease in the level of balance of trade (BOT) in Nigeria in the short-run, *ceteris paribus*.

Furthermore, the VECM estimates in Table 7, showed that previous one lagged period of direct lending facility (DLF) had a negative impact on balance of trade (BOT) in Nigeria and was statistically non-significant at five percent significance level. By implication, an increase in the previous lagged period of direct lending facility (DLF) led to a corresponding 19.548 percent decrease in the level of balance of trade (BOT) in Nigeria in the short-run, *ceteris paribus*. Lastly, the VECM estimates in Table 7, showed that previous one lagged period of export stimulation fund (ESF) had a positive impact on balance of trade (BOT) in Nigeria but was statistically non-significant at five percent significance level. By implication, an increase in the previous lagged period of export stimulation fund (ESF) led to a corresponding 27.47 percent increase in the level of balance of trade (BOT) in Nigeria in the short-run, *ceteris paribus*.

Test of hypotheses

To test these hypotheses, the t-statistics of the individual variables of the VECM system equation were employed with respect to the model.

Test of hypothesis one

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: There is no significant relationship between letter of credit and balance of trade.

H₁: There is a significant relationship between letter of credit and balance of trade.

From the result in Table 8, it be can deduced that letter of credit (LOC) with a calculated t-statistics of -0.978 was less than 2.02 representing the tabulated value, therefore, implying that LOC was non-significant. All things being equal, the study accepted the null hypothesis and therefore concluded that: there is no significant relationship between letter of credit and balance of trade.

Test of hypothesis two

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: There is no significant relationship between bills of exchange and balance of trade.

H₁: There is a significant relationship between bills of exchange and balance of trade.

From the result in Table 8, it be can deduced that bills of exchange (BOE) with a calculated t-statistics of -1.029 was less than 2.02 representing the tabulated value, therefore, implying that BOE was non-significant. All things being equal, the study accepted the null hypothesis and therefore concluded that: there is no significant relationship between bills of exchange and balance of trade.

Test of hypothesis three

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: There is no significant relationship between direct lending facility and balance of trade.

H₁: There is a significant relationship between direct lending facility and balance of trade.

From the result in Table 8, it be can deduced that direct lending facility (DLF) with a calculated t-statistics of -0.784 was less than 2.02 representing the tabulated value, therefore, implying that DLF was non-significant. All things being equal, the study accepted the null

hypothesis and therefore concluded that: there is no significant relationship between letter of credit and balance of trade.

Test of hypothesis four

To test this hypothesis, it is restated in the null and alternative forms as:

H₀: There is no significant relationship between letter of credit and balance of trade.

H₁: There is a significant relationship between letter of credit and balance of trade.

From the result in Table 8, it can be deduced that letter of credit (LOC) with a calculated t-statistics of -1.029 was less than 2.02 representing the tabulated value, therefore, implying that LOC was non-significant. All things being equal, the study accepted the null hypothesis and therefore concluded that: there is no significant relationship between letter of credit and balance of trade.

Discussion of findings

Letter of credit and balance of trade

The VECM result showed that in the short-run and long-run periods, letter of credit was found to have a non-significant effect on balance of trade in Nigeria. Giving the non-significant effects, this finding is in gross disagreement with the studies by Traiyarach and Banyongprasert (2022) which explored the impact of export promotion programs on export competitiveness and the performance of craft products, and showed that the export promotion program has a significant positive relationship with export competitiveness; and Akoto and Adjasi (2021) which examined the influence of external credit (bank finance; and suppliers and customer credit) on exports size of manufacturing firms in Nigeria, and revealed that bank credit is significant and negatively associated with exports size while suppliers and customer credit are positive and significantly drives exports size.

Bills of exchange and balance of trade in Nigeria

The VECM result showed that in the short-run and long-run periods, letter of credit was found to have a non-significant effect on balance of trade in Nigeria. Giving the non-significant effects, this finding is in gross disagreement with the studies by Traiyarach and Banyongprasert (2022) which explored the impact of export promotion programs on export competitiveness and the performance of craft products, and showed that the export promotion program has a significant positive relationship with export competitiveness; and Akoto and Adjasi (2021) which examined the influence of external credit (bank finance; and suppliers and customer credit) on exports size of manufacturing firms in Nigeria, and revealed that bank credit is significant and negatively associated with exports size while suppliers and customer credit are positive and significantly drives exports size.

Direct lending facility and balance of trade in Nigeria

The VECM result showed that in the short-run periods, direct lending facility was found to have a non-significant effect on balance of trade in Nigeria. Giving the non-significant effect, this finding is in gross disagreement with the study by Gospel et al. (2015) which examined the impact of export financing on the performance of the export sector in Nigeria, and showed that there is a significant positive relationship between export financing and exports in Nigeria.

On the other hand, the VECM result showed that in the long-run periods, direct lending facility was found to have a significant effect on balance of trade in Nigeria. Giving the non-

significant effect, this finding was in agreement with the study by Jindal (2018) which examined the significance of export promotion programmes in export performance of firms, and clearly showed that export promotion programmes have a significant direct effect on export performance of the firms.

Export stimulation fund and balance of trade in Nigeria

The VECM result showed that in the short-run periods, export stimulation fund was found to have a non-significant effect on balance of trade in Nigeria. Giving the non-significant effect, this finding is in gross disagreement with the study by Veinbergs and Skadina (2020) which analysed the impact of trade promotion organizations (TPO) on business in Latvia and its usefulness for export activities as well as contribution of TPO program to GDP growth in Latvia, and indicated that organizations which promote and support Latvian export positively influence activities and high-quality cooperation with exporting companies and entrepreneurs who want to trade abroad.

On the other hand, the VECM result showed that in the long-run periods, export stimulation fund was found to have a significant effect on balance of trade in Nigeria. Giving the non-significant effect, this finding is in agreement with the study by Jindal (2018) which examined the significance of export promotion programmes in export performance of firms, and clearly showed that export promotion programmes have a significant direct effect on export performance of the firms.

Summary of findings

The findings of this study were summarized thus:

1. The result revealed that in the long-run and short-run, the effects of letter of credit on balance of trade in Nigeria were non-significant respectively.
2. The result revealed that in the long-run and short-run, the effects of bills of exchange on balance of trade in Nigeria were non-significant respectively.
3. On the other hand, the result revealed that in the long-run, the effect of export stimulation fund on balance of trade in Nigeria was significant, while in the short-run, the effect of export stimulation funds on balance of trade in Nigeria was non-significant.
4. Lastly, the result revealed that in the long-run, the effect of direct lending facility on balance of trade in Nigeria was significant, while in the short-run, the effect of direct lending facility on balance of trade in Nigeria was non-significant.

Conclusion

In the light of the above findings, the study concluded that the overall effect of international trade finance on balance of trade in the long-run period was positive, while the overall short-run effect was negative, all things being equal. Specifically, only the direct lending facility variable was found to have a non-significant positive effect on balance of trade in the short-run, while bills of exchange, letter of credit and export stimulation fund all impacted balance of trade negatively and non-significantly. Lastly, bills of exchange, letter of credit and export stimulation fund will in the long-run impacts balance of trade positively, while the reverse will be the outcome for direct lending facility, *ceteris paribus*.

Recommendations

The following recommendations have been made on the basis of the findings of this study:

1. The government should use its letters of credit (LCs) to reduce risk and reassure commercial partners, since certain product exports are more resilient than others in times of more uncertainty.
2. The Central Bank of Nigeria should strengthen its export bills of exchange capabilities through NEXIM Bank in order to assist deposit money banks (DMBs) in supporting exporters by providing pre- and post-shipment finance.
3. The government should basically revamp and broaden exporters' access to low-interest loans, as well as provide them with more chances to grow and develop their companies and become more competitive.
4. The government should assist exporters in meeting their export sales targets by offering working capital, facilities, and financing for the purchase of equipment in both local and foreign currencies up to more than 80% of the total project cost.

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