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We officially confirm that we have read ERNEST K. KAMARA's thesis titled " **THE IMPACT OF EXCHANGE RATE FLUCTUATION ON INTERNATIONAL TRADE IN NIGERIA (1980–2020)**" and that, in our collective opinion, it is fully adequate, in scope and quality, as a thesis for the degree of Master of Social Sciences.

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Declaration

I hereby declare that all information, documents, analysis and results in this thesis have been collected and presented according to the academic rules and ethical guidelines of Institute of Graduate Studies, Near East University. I also declare that as required by these rules and conduct, I have fully cited and referenced information and data that are not original to this study.

ERNEST K. KAMARA

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DEDICATION

This thesis is dedicated to the omnipotent God and to express my gratitude to him for giving me the time and the will power to complete my studies. Furthermore, I'd like to express my gratitude to my wonderful family for their unwavering encouragement, prayers, love, and direction.To my friends, please accept my sincere appreciation for the kindness, understanding, and helpful suggestions you have extended to me over the years. These are all great tools that have helped me a lot.

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ERNEST K. KAMARA

Abstract

The Impact of Exchange Rate Fluctuation on International Trade in Nigeria (1980–2020)

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From 1980 to 2020, this thesis investigates the influence of exchange rate fluctuations on international trade in Nigeria. Because domestic production costs and expenditures are so widely dispersed among foreign and domestic commodities, the exchange rate has an impact on export growth, consumption, resource allocation, employment, and private investments (Takaendesa et al., 2005). As a consequence, Nigeria maintains an open economy with countries all over the world, using foreign currencies in accordance with its status as a vital global trade market. Foreign or international commerce refers to any kind of business that involves the use of a foreign currency. Foreign money may be exchanged between two or more countries via trade (Udoka and Ubom 2003). The exchange rate is the price of one currency in terms of another. It affects the private sector's participation in international trade as well as the competitiveness of both local and foreign commodities. The term "exchange rate fluctuation" refers to the pace at which prices fluctuate over time. The standard deviation of the daily percentage price change is shown in percentage form. For variable cointegration, the bound testing methodology and ARDL are utilized. According to the findings, the exchange rate has a negative influence on Nigeria. International trade benefits from both international commerce and the current account balance. The paper suggests exchange rate and trade policies that promote more currency stability, as well as trade circumstances that boost domestic manufacturing. According to the research, this will increase non-oil exports while decreasing imports. The government's engagement in achieving this goal is best shown through the provision of reliable infrastructure services, notably in the domains of power generation and distribution. To make Nigerian-made goods more competitive worldwide and to ensure a positive trade balance for the country's publicly traded multinational enterprises, the government should encourage and improve the use of local raw resources in manufacturing processes. Those in charge of production should conduct quality checks on things produced by local industries in addition to ensuring that everything satisfies global standards.

Keywords: International trade, Exchange rate, Current account balance, import, Export

Özet

Döviz Kurundaki Dalgalanmanın Nijerya'daki Uluslararası Ticarete Etkisi (1980–2020)

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Aralık,2022 101 Sayfa

1980'den 2020'ye kadar, bu tez Nijerya'daki döviz kuru dalgalanmalarının uluslararası ticaret üzerindeki etkisini araştırıyor. Yerli üretim maliyetleri ve harcamaları yabancı ve yerli mallar arasında çok geniş bir şekilde dağıldığı için, döviz kurunun ihracat artışı, tüketim, kaynak tahsisi, istihdam ve özel yatırımlar üzerinde etkisi vardır (Takaendesa et al., 2005). Sonuç olarak Nijerya, hayati bir küresel ticaret pazarı statüsüne uygun olarak yabancı para birimlerini kullanarak dünyanın her yerindeki ülkelerle açık bir ekonomi sürdürüyor. Yabancı veya uluslararası ticaret, yabancı para biriminin kullanılmasını içeren her türlü işi ifade eder. Yabancı para, ticaret yoluyla iki veya daha fazla ülke arasında değiş tokuş edilebilir (Udoka ve Ubom 2003). Döviz kuru, bir para biriminin diğeri cinsinden fiyatıdır. Özel sektörün uluslararası ticarete katılımını ve hem yerli hem de yabancı emtianın rekabet gücünü etkiler. "Döviz kuru dalgalanması" terimi, fiyatların zaman içinde dalgalanma hızını ifade eder. Günlük yüzde fiyat değişiminin standart sapması yüzde olarak gösterilir. Değişken eş bütünleşme için sınır testi metodolojisi ve ARDL kullanılmıştır. Elde edilen bulgulara göre döviz kuru Nijerya üzerinde olumsuz etkiye sahiptir. Uluslararası ticaret, hem uluslararası ticaretten hem de cari işlemler dengesinden yararlanır. Rapor, daha fazla döviz istikrarını teşvik eden döviz kuru ve ticaret politikalarının yanı sıra yerel üretimi artıran ticaret koşullarını önermektedir. Araştırmaya göre bu durum petrol dışı ihracatı artırırken ithalatı azaltacak. Hükümetin bu hedefe ulaşmadaki katılımı, en iyi şekilde, özellikle enerji üretimi ve dağıtımı alanlarında, güvenilir altyapı hizmetlerinin sağlanmasıyla gösterilir. Nijerya yapımı malları dünya çapında daha rekabetçi hale getirmek ve ülkenin halka açık çok uluslu şirketleri için pozitif bir ticaret dengesi sağlamak için hükümet, üretim süreçlerinde yerel ham kaynakların kullanımını teşvik etmeli ve geliştirmelidir. Üretimden sorumlu olanlar, her şeyin küresel standartları karşılamasını sağlamanın yanı sıra, yerel endüstriler tarafından üretilen şeyler üzerinde kalite kontrolleri yapmalıdır.

Anahtar Kelimeler: Uluslararası ticaret, Döviz kuru, Cari işlemler dengesi, ithalat, İhracat

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Abbreviations

ECM: Error correction mode

FDI: foreign direct investment

GDP: Growth Domestic Products

IMF: International Monetary Fund

ARDL: Autoregressive distributed Lag

ADF: Augmented Dickey-Fuller

UNCTAD: United Nations Conference on Trade and Development

FEM: foreign exchange market (FEM)

CBN: Central Bank of Nigeria

BOP: Balance of Payment

SFEM: Second Tier Foreign Exchange Market

SAP: structural adjustment programme

WDI: world development indicator

REER: Real effective exchange rate

ARDS : Autoregressive Distributed Slack Model

DLS : Distributed Lag Scheme

CHAPTER ONE
INTRODUCTION

The currency rate impact export growth, expenditure, resource allocation, employment, and private investments due to the large dispersion of domestic production costs and expenditures across foreign and domestic commodities (Takaendesa et al., 2005). Therefore, Nigeria keeps an open economy with countries all over the world, using foreign currencies, as befits its status as a major worldwide trade market. The term "foreign" or "international" commerce is used to describe any type of business that involves the usage of a foreign currency. Foreign exchange is made possible through trade between two or more countries (Udoka and Ubom 2003). The value of one currency expressed in terms of another is known as the exchange rate. It modifies the degree to which the private sector engages in international trade and the competitiveness of both native and foreign products. The term "exchange rate fluctuation" is used to describe the pace of fluctuation in the value of a currency over a specific time frame. In percentage form, it represents the standard deviation of the daily percentage price change.

The value of the naira affects the cost of Nigeria's exports, with higher values leading to higher prices and lower values leading to lower ones. Changes in exchange rates have a big effect on both the imports and exports of industrial and agricultural goods. This adds to the uncertainty or risk that comes with international trade. Uncertainty caused by fluctuations in currency rates is harmful to international trade. Significant macroeconomic disequilibrium will ensue from such currency rate fluctuations, leading to a payment balance deficit. Nigeria's economy has been attempting to recover the imbalance in our balance of payments, which leads to a deficit in the balance of payments for the economy as a whole. Currency devaluation was first implemented with the hope of increasing exports and bolstering the economy, but despite the government's best efforts, exports have not increased as a result of the naira's lower value.

In international finance, particularly in developing countries where trade liberalization is increasingly considered important to economic progress, foreign exchange regimes continue to be a topic of intense interest (Obansa et al.,2013). The monetary system of Nigeria has gone through several regime changes, from central planning to free markets and back again. From 1973 to 1979, when agricultural items made up more than 70% of GDP, the naira's exchange rate was quite stable, as

reported by Ewa (2011). This occurred amid Nigeria's oil boom. With the assistance of the (SAP) Structural Adjustment Policy, the federal government shift from a peg regime to a more freely floating exchange rate system in 1986. Since then, the market has been the only one to set the exchange rate. However, the current system is a "managed float," which means that central banks sometimes get involved in the foreign exchange market to reach certain policy goals (Mordi, 2006). The naira's volatility can be attributed in part to policy ambiguity and a lack of uniformity in governing the currency's exchange rate (Gbosi, 2005). However, the naira has been on the slide since the 1980s, despite the government's best efforts to keep the exchange rate stable, as reported by Benson and Victor (2012).

When gauging global competitiveness, the value of the exchange rate is a key measure of the health of the economy as a whole. The competitiveness of a currency is typically measured by its exchange rate, but in Nigeria, the effect is the opposite. Frequently, fluctuations in the value of one currency relative to another have caused large swings in the values of the two currencies themselves. For this reason, some Nigerians blame the Structural Adjustment Program's liberalization of the country's foreign exchange market for the currency's depreciation (SAP). The exports of Nigeria have been severely impacted by the country's lack of investment in infrastructure, lack of mechanization in agriculture, and limited industrialization. Weak exports outside of oil contribute to currency instability, and a lack of confidence in the economy as a whole manifest itself in lenient monetary and fiscal policies, all of which act as restraints on export growth. 2017 (Obadan) Many serious issues need to be addressed immediately, including a dangerous reliance on the volatile foreign currency market, a mountain of debt, a fragile balance of payments, and massive outflows of capital.

People have known for several years that international trade is important for a country's economic growth and development. Foreign exchange research includes not only the global flow of goods and services but also of products and services and their various factors that go into their development, background, and ultimate outcome. Despite the fact that Alfred Marshall saw the merits of international trade (Nosakhare & Milton, 2019), the extent to which such activity contributes to overall economic expansion remains a matter of some contention. The term "international trade" is used to describe economic transactions that occur between countries (Adeleye et al., 2017). A minimal number of countries should be involved in

transnational trade, according to Adeleye et al., (2017). It is possible to gauge a country's economic health in terms of its rate of expansion and the standard of living of its citizens by looking at its domestic production, consumption, and international activities (Oke et al., 2018).

Since Nigeria set up a system where the market decides the exchange rate through the country's secondary foreign currency market, the naira exchange rate has shown signs of chronic depreciation and instability.As the naira continues to lose value on the foreign exchange market, people's standard of living declines., higher production costs, and cost-push inflation. Additionally, it has complicated economic planning and forecasting at both the micro and macro levels, lowering the international competitiveness of non-oil exports. There are several issues
that may be traced back to shifts in the dollar/naira exchange rate, including the suffocation of many small and medium-sized businesses.

Since many businesses in the 20th century were formed from mergers and consolidations, international trade flourished. Growth in financial markets like New York, London, Tokyo, and Frankfurt fueled international trade (Ndu, 2019).

Regardless of the trade and foreign rate regime, keeping the exchange rate reasonable for exporters is the first step toward increasing exports, improving investment planning, and luring significant foreign investment into the country.The fact that Nigeria relies so heavily on imports has contributed to the continued depreciation of the Naira against the US dollar. It's important to remember that the persistent gap between exports and imports has led to multiple devaluations of the naira.

Both the FOREX market and the IBOR (Interbank Forex Market) had their beginnings in 1986, when the Second Tier Foreign Exchange Market (SFEM) was created, both of which have greatly improved the concept of buying and selling foreign currency (IFEM). Therefore, commercial and merchant banks facilitate foreign exchange transactions to facilitate the exchange of domestic money for foreign currency to satisfy the demands of individuals and businesses. In addition to determining the rate of exchange, the foreign exchange market provides hedges against currency fluctuations that can be used by both exporters and importers (Ayobolo, 2018).

The Nigerian government is firm in its belief that the naira's exchange rate should be left to the whims of supply and demand. To boost the value of the naira abroad, the government of Nigeria can either increase supply or or lessen interest in

purchasing foreign currency, despite the efforts of monetary policy to occasionally intervene on the demand or supply side to limit the range within which international currencies exchange. When the currency rate is artificially manipulated, it indicates that routine payments and receipts to the rest of the world are being interrupted.

Under structural adjustment programs, the goal of exchange rate management is to reduce imports, boost agriculture output, promote domestic raw material sourcing, and increase export variety. Before the structural adjustment programme was implemented, many people would never have attempted to source raw materials locally. The inefficiency of our financial system causes a "lag" between the time an overseas buyer pays for products at his bank and the time those funds are deposited in the account of the seller, which causes complications in international transactions. The term "remittance lag" describes the delay in receiving funds that might lead to currency conversion problems. International trade is a crucial factor in the progress of national economies and social structures, especially in less developed nations like Nigeria. Market competitiveness and, by extension, a stable balance of payments, the giving and receiving of gifts, and the dispersal of investment earnings all fall under this category, all necessitate the use of foreign exchange. In the domestic market, it functions as an anchor for prices, keeping everything more or less in check. Helps keep prices steady. It makes it easier to send money home, reinvest earnings, and buy foreign-made products and services (Kalu and Anyanwaokoro, 2020). Foreign exchange, to restate, helps make international trade possible., promotes travel and tourism, and encourages investment abroad. As an added bonus, it facilitates the trading of products and services across countries, as well as the speculation on currency exchange rates. Since the services, assets, and services market connects all economies worldwide, it is safe to say that no country can survive independently in today's globalized world (Akpan, 2018).

Foreign exchange rates have a major impact on international trade and their associated prices. The relative stability of the world's major currencies is essential for facilitating international trade and preserving a healthy balance of payments (Emekekwue, 2016). The Bretton Woods system of fixed currency rates has been in disarray since its breakdown in the 1970s, economies all over the world have faced the effects of currency swings. Researchers and policymakers alike have been fretting over the increasing volatility of currency prices in recent years (IMF, 2019). Most emerging countries, and especially those with monoculture economies like

Nigeria's, are feeling the effects of these events in their GDP. Nigeria's foreign exchange reserves have been strained as a result of the manufacturing sector's push for domestic consumers to rely only on imports to meet their needs (Kalu and Anyanwaokoro, 2020).

Risk-averse merchants limit export/import activity and reallocate production to domestic markets due to fluctuations in the currency rate. Those who aren't willing to take any unnecessary risks will see their overseas trading costs rise and their activity level drop as the currency rate becomes more volatile. Panda and Mohanty argue that sustained high levels of exchange rate fluctuations threatens the solvency of the current account balance, price discovery, and export performance (2015). Rapid shocks could be caused by fluctuations in international oil prices in a country like Nigeria, where the oil market is already unstable (Omojimite and Akpokodje, 2010). Each nation should be completely self-sufficient if there was no such thing as international trade. Then, each nation must rely on domestic production. The same thing would happen to someone who doesn't rely on anyone else for anything, including basic necessities like food and clothing. Any nation that engages in international trade will find it beneficial to focus on the goods and services it does best. Overall production is higher as a result of specialization as opposed to if every country strove for complete independence.The exchange rate of a country over the long term will be more stable and less subject to swings if it earns more money from exports than it spends on imports.

Weaker currency increases exports and decreases trade deficit by increasing the cost of imported goods. On the flip side, a trade deficit may widen if a country has a currency that is particularly strong and imports that are particularly inexpensive. Although it is commonly believed that a stable currency will benefit a country's economy, this may not always be the case. An unjustifiably strong currency may imprison the economy for years, making many industries uncompetitive and threatening the jobs of thousands. Given the close relationship between exports and GDP, lower currencies can actually stimulate the economy (Panda & Mohanty 2015). The opposite is true; if the currency weakens, import prices could rise and spur inflation. The central bank of a country uses the exchange rate to establish interest rates; therefore, any change in the exchange rate has an instant impact on the country's monetary policy. Both domestic and international trade can be impacted negatively by the persistent volatility brought on by the currency rate.

Due to governmental incoherence and inconsistent exchange-rate measures, the naira rate has become increasingly unstable (Ewubare & Dennis, 2019). Notwithstanding the government's best efforts to maintain a stable currency rate during the 1980s and beyond, the naira has steadily lost value since then, as documented by Benson and Victor (2018). Because of this, this study will examine the effects of the naira's fluctuating value on Nigeria's exports and imports.

Problem statement

Udeh (2020) cites Nigeria's struggle to lessen its reliance on foreign goods as an example of the difficulty of pursuing export-led economic strategies. The Nigerian economy has been at a crossroads, from the collapse of agriculture to the current oil-led development, and it urgently needs diversification. Starting in the early 1970s, the selection of exchange rate regime was not influenced by worries about the effect of currency fluctuations on trade flows.

Osuegbu (2018) claims that despite Nigeria's decades-long involvement in international trade, the country has remained disproportionately underrepresented in global commerce. Nigeria did not make the most of the opportunities provided by foreign commerce to boost productivity and speed up the country's economic transition. Currency exchange rate swings are a factor in the imbalance of international trade. The float managed exchange rate system is in place in Nigeria's import-reliant economy. We anticipate that price changes of other currencies in relation to the US dollar will be a hot topic that can shed light on the state of the country's external finances. Most officials today are preoccupied with figuring out how to profit from global trade. Recent developments in global trade and globalization have sparked a policy discussion on the relative merits of various exchange rate systems. The impact of currency fluctuations on international trade is a subject being discussed. A fixed exchange rate has long been favored because of the difficulties that can arise from dealing with a fluctuating exchange rate. While some have argued that this impact is irrelevant due to the fact that there are viable tools to protect against fluctuations in exchange rate fluctuations, others have disagreed.

A number of studies have examined how changes in exchange rates affect global commerce. To put it simply, increasing exchange rate uncertainty may induce countries to reduce their trade volume if they are risk-averse (or even risk-neutral), since they probably don't want to jeopardize their potential trade profits. Uncertainty

and adjustment costs are just two of the direct effects that fluctuations in exchange rates can have on international trade. Indirect impacts on the composition of production, investment, and public policy are also important considerations (Brodsky, 2019). Udeh's (2020) theory suggests that various schools of thought have divergent perspectives on the connection between fluctuations in exchange rates and their effects on international trade. Evidence from some studies indicates a detrimental association between the effects of currency fluctuations and international trade, with some research finding positive results and other research finding no effect at all. The purpose of this investigation is to examine the effects of the naira's fluctuation in value on Nigeria's export and import sectors. The lack of conceptual clarity in the prior literature is another factor motivating our research.

Purpose of the study

Exchange rate fluctuations and their impact on Nigeria's exports and imports will be studied in depth. This research also hopes to accomplish the following:

To investigate and ascertain, to the best of one's ability, the means by which this risk of exchange rate fluctuations can be reduced.

To determine if the government's use of the foreign exchange market (FEM) to implement its structural adjustment programme (SAP) is helping to resolve the tensions arising from the complementary and competitive dynamics of international trade.

To determine the relevance of changes in the value of the Naira to the country's trade surplus and deficit.

To look into what led to Nigeria's deregulation of its exchange rate, and to analyze the currency since its deregulation.

To research how changes in the value of the naira have affected how many goods Nigeria imports and exports.

To analyze key elements influencing Nigeria's foreign exchange rate management.

The study's findings will be used to inform recommendations that would improve Nigeria's currency administration.

Research questions

The following questions were formulated to guide the research and provide a basis for an objective analysis:

To what extent do fluctuations in the value of the naira during international trade impact the cost of living in Nigeria, that is, the cost of purchasing goods and services.

What are the characteristics of the currency exchange market?

How do changes in the value of the naira affect the volume of goods imported and exported from Nigeria?

Since its deregulation, the relative value of currencies in Nigeria has followed what trend, if any?

How much impact has the fluctuation of exchange rates had on Nigeria's trade balance of payment (surplus/deficit)?

Is there a link between the value of Nigeria’s net export and the foreign exchange rate, in a meaningful way?

What are the primary elements influencing Nigeria's foreign exchange rate management?

Significance of the study

The Nigerian Central Bank has gone to great lengths in recent years to maintain a healthy trade surplus and a successful balance of payments, guaranteeing the strength of the naira in foreign exchange markets.

This research follows on the heels of the government's efforts, so that when it's finished, the top institution would have better information with which to formulate policies that will strengthen the Nigerian naira.

Furthermore, the work will educate the general population on the threat that their overwhelming demand for imported commodities poses to the naira. This will also help alleviate the pressure on consumers to buy industrially produced items instead of those prepared at home.

The Nigerian government will be shown the disastrous effects of putting oil imports ahead of exports by analyzing the resulting adjustments to the country's balance of payments and economy.

In addition, knowing how the monetary value of the currency affects foreign reserves allows the government to implement policy changes that will lead to a more stable market.

Statement of hypothesis

For the purposes of this investigation, two hypotheses are developed, the following hypothesis will serve as the basis for the research:

H0: Null

H1: Alternative

HO is not significant, while H1 is significant.

H_0: Nigeria's international trade is not affected by the country's exchange rate.

H_1: Nigeria's international trade is affected by the country's currency exchange rate.

H_0: Nigeria's international trade is not affected by the country's Current account balance.

H_1: Nigeria's international trade is affected by the country's Current account balance.

H_0: Nigeria's international trade is not affected by the country's Export.

H_1: Nigeria's international trade is affected by the country's Export.

H_0: Nigeria's international trade is not affected by the country's Import.

H_1 Nigeria's international trade is affected by the country's imports.

H_0: Nigeria's international trade is not affected by the country's Interest rate.

H_1 Nigeria's international trade is affected by the country's Interest rate.

Limitation

Throughout the course of this investigation, we ran into a variety of roadblocks and restrictions. Data from secondary sources like the World Bank Group's World Development Indicators and the Central Bank of Nigeria were used in this analysis. This is one drawback of the study. Despite this, the research has a number of flaws and restrictions, which may prove to be a rich source of material for the development of new concepts for research in the future. Due to the fact that the result of this study was derived from a country-specific examination that was concentrated on Nigeria, it is possible that the result is not applicable when applied to a more universal setting. Despite this, it is possible that the findings are representative of a wider range of frontier and rising economies than just Nigeria. As a result, future research may concentrate on investigating the connections between

exchange rate, trade-openness, and economic performance of frontier and emerging economies. To ensure that their findings can be applied universally, researchers may engage in a cross-country assessment of these connections in order to ensure the reliability of their findings. There is also the chance of making mistakes in writing.

Definition of terms

(SFEM) The Second Tier Foreign Exchange Market,often known as the Foreign Exchange Market (FEM), is a platform for trading foreign currencies. A replacement (the Free Exchange Rate Mechanism, or (FEM) was developed to allow the naira's value to be set by market forces of demand and supply in Nigeria, as the naira is not convertible to or freely traded with any other currency. Given that the effective demand for dollars is N20 billion and the effective supply of dollars is $ 10 billion, the exchange rate between the two is N2 to $1. The unfettered flow of funds for regular business transactions is currently made possible by most currencies.

Balance of payment (BOP): is a numerical account of a nation's trade with the rest of the world over a specified period.

CURRENCY: The term "currency" is used to describe any medium of exchange that is widely accepted. Physical forms of currency are the coins and banknotes issued by a certain government.

Depreciation of naira: This occurs when the purchasing power of one naira is reduced relative to its value before the depreciation. An important factor in this shift is the rising need for imported products and services, which is driving up their prices on the foreign exchange market.

Central bank: A country's central bank is the government agency responsible for issuing currency, controlling the money supply, and determining interest rates. The commercial banking sector of a country is usually within the purview of the central bank as well.

Exchange rate: exchange rates are the prices at which one currency can be purchased with another, Currency exchange rate fluctuations are the changes in exchange rates over a specified time frame.

Reserve currency: The term "reserve currency" is used to describe a currency that is held in large quantities as part of the foreign exchange reserves by a variety of governments and institutions. It is also the currency most commonly used in the pricing of commodities and internationally traded goods like oil, gold, etc.

Foreign reserve: Holdings of a central bank or other monetary body consisting of foreign currency. Forex reserves, or FX reserves, refer to a company's available funds in a foreign currency. However, in everyday usage, it encompasses not only foreign money but also gold, SDRs, and IMF reserve positions.

CHAPTER TWO

Literature review

Conceptual Review

Exchange Rate

One of the main goals of this section of the report is to explain the effects of fluctuations in the value of the exchange rate on Nigeria's external trade. A conceptual review (i.e., a review of the topic's central ideas like exchange rate, international trade, etc.) and a theoretical review are necessary for any good research paper (i.e., a review of the various theories that are related to the topic of this research and can be used to explain the topic of this research).This chapter gives a theoretical overview and analysis of the research issues that were brought up in the last section.

In international finance, the concept of the exchange rate is crucial. It shows how much one currency is worth in terms of another. Another way of looking at it is as the present worth of one currency in terms of another (Jhingan 2018). Obadan (2017) argues that the exchange rate is a critical macroeconomic signal for guiding broad economic policy.In order to keep a healthy trade surplus and stimulate exports while discouraging imports, exchange rates are critical, bringing together different nations' pricing systems, and allowing price comparisons among businesses. In the 1970s, before the advent of the modern monetary system, Fluctuations in international trade were the primary factors influencing the value of the currency. Adewuyi (2018) defines foreign exchange as "any international transaction in which one country exchanges its currency for the currency of another," with the process being overseen by a network of financial institutions.

In its most basic form, the definition of an exchange rate is the value of one currency expressed in terms of another. The rate of exchange is the amount by which one Nigerian naira can be exchanged for one euro (such as the euro used in Ireland). The following are the values in euros, U.S. dollars, and British pounds for one naira (UK). According to Obadan (2017), making a judgment on foreign transactions requires making a policy on currency rates. Therefore, the policy of exchange rates is a part of the methods of macroeconomic management used by the monetary authorities in each country to achieve the medium-term domestic balance. For this purpose, "internal balance" means the level of economic activity

consistent with a desired rate of inflation control. Alternatively, long-term capital inflows are linked to deficit funds that originate outside of the current account or to stable current-account funds. As most people know, the price of one country's currency compared to another can have a big effect on inflation. The value of one currency in ralations to another remains the same if there is no foreign exchange rate. An effective exchange rate, in contrast to a fixed base date, determines the value of an entire currency by making reference to a number of different currencies. The aim of this is to determine the market value of the currency. The currency and relative priority are used to specify a value or unit of measurement for each of these calculations (weight). The Central Bank of Nigeria bases its indicators with regards to the worth of the naira as measured by the Military Exchange Rate Model (MERM) of the International Monetary Fund (IMF).

The current state of the global economy, as stated by Momodu (2017), is centered on the necessity of overcoming poverty barriers for rising markets and international trade. Decisions about the government's foreign policy or regime are also influenced by the government's political ideology. According to Momodu, "exchange rate" means the value of swapping one currency for another (2017). Although there may be various methods, exchange rates are typically employed when comparing the value of one currency to another. What is now used to set the exchange rate or policy has a major impact on the naira's worth. Currency fluctuations have an effect on consumer spending, the trade deficit, and the overall trade balance, products' costs, international trade networks, and earnings from exports, tax revenue, government revenues, and foreign reserves.

Umoru and Osema analyzed the effects of foreign exchange and trade shocks on Nigeria (2017). Nigerian data and the vectors adjusting technique were used to examine the effect of the J-curve. The results of this study show that due to trade deficit and the real depreciation of the naira move in tandem with one another in a cyclical fashion. However, forecasts show that the trade surplus will rapidly deteriorate into a deficit. However, the J-curve theory predicts that cyclical commerce will be tested and evaluated in a controlled environment. Evidence suggests that shifts in the value of one currency relative to another affects international trade. The current situation could benefit from a significant adjustment in the monetary value of the currency. An increase in the country's trade imbalance is inevitable, but it will soon improve, and the cost will rise immediately. The real

devaluation in Nigeria has not resulted in a J-curve in the country's trade balance. As a result, a clear J-curve forecast for Nigeria in the near future is not readily available. Inflation's impact on the country's currency worth is cited as a major difficulty in managing economic policy worldwide by Bada et al. (2017), and this difficulty is exacerbated in nations that are still emerging from or developing economically. A country's competitiveness will suffer as a result of changes in its currency rate, which will cause economic distortions at home. Because of the potentially disastrous effects of currency misalignment, both media outlets and governments are cautious about making changes to the exchange rate.

International trade

Goods and services are traded internationally between nations. It's simply the buying and selling of merchandise and services across international borders. It involves exchanging goods and services across international boundaries. It's common parlance that if something is "exported," it's being sold outside the country, whereas if it's "imported," it's being brought in from somewhere else.

The products that are exported from one country and imported into another are known as exports and imports, respectively. In some cases, "A exports "could be considered "B imports". "' Imports and exports are the backbone of international commerce, and important concepts like trade terms and trade balance help to frame the industry. The current account and balance of payments of a country might provide insight into this (E-Finance Management, 2017).

Free movement of goods and services across national borders promotes economies around the world by exposing them to novel concepts, providing access to previously unavailable resources, and minimizing the likelihood of a global economic meltdown. Without globalization and commerce, exporters would have had to limit their sales to the domestic market. One of the advantages of being an exporter is the opportunity to increase one's financial resources through the receipt of foreign cash. The use of a foreign currency allows for the importation of goods. This has far-reaching effects on the global economy and society, particularly on growth and international trade prospects.

Never before has a nation prospered without some form of international trade assistance. Since trade is the driving force behind development and growth, bettering people's standard of living is essential (Oke et al., 2018). Therefore, international

trade is crucial in reshaping the economic and social makeup of less-developed nations. The import and export processes involved in international trade transcend territorial boundaries (Kanu and Nwadiubu, 2020).

Importance of international trade

Because of variations and shortages in available resources, no single nation can meet the needs of its inhabitants without engaging in international trade. Because of the nature of this trade arrangement, governments must rely on exports of goods and services to create the cash necessary to pay for imports from other countries (Adeleye et al., 2017). There is a lot of evidence in the field of finance that demonstrates how important international trade is to a country's economy and its long-term prosperity. The field of international trade studies the reasons for and results of trade across national borders, as well as the global circulation of workers involved in the production of these goods. Although Alfred Marshall was confident in international trade's positive effects, the correlation between it and rising living standards is still up for debate (Nosakhare & Milton, 2019).

Therefore, international trade includes things like buying and selling goods and services across national borders. They suggest that just a select number of countries be included on the list of activities associated with international trade. Production, consumption, and international trade were analyzed to determine their effects on the expansion of the economy and the incomes of its individuals (Oke et al., 2018). As a result, the economic and social composition of any country is profoundly affected by international trade, especially in emerging markets.

International trade and exchange rate Fluctuation

Because of globalization and standardization, no country's economy can function on its own, and this makes currency exchange a key factor in international politics. The current state of a nation's BOP can be somewhat determined by observing its exchange rate. It has the potential to be a mechanism for nominal anchoring of price stability if done correctly (Oladipupo and Onotaniyohuwo, 2011). Interest rate, inflation, unemployment, availability of capital, etc., are all other economic factors to consider (Babatunde & Adekunle, 2017). In light of these figures, it is clear how crucial the current exchange rate is to the economies of both countries, paving the way for more effective cross-border trade. The rationale for this

is that when two countries trade goods with each other, the exchange rate helps to level the playing field by allowing for a more precise comparison of prices. To put it another way, it eliminates the gap between the U.S. market and its international counterpart. The rate of exchange has a major impact on BOP, because it influences both exports and imports. Governments require an exchange rate strategy to keep their balance of payments and other macroeconomic goals in the black (BOPs).

The volume of global trade in Nigeria is in large part determined by the exchange rate because of its direct impact on domestic prices, profits, resources allocated, and investments in traded commodities and services. Exchange rate stability is good for business and the payments made and received (Emekekwue, 2016). Since the dissolution of the Bretton Woods agreement in the 1970s, which established a fixed exchange rate regime, most nations have experienced currency fluctuations. A growing number of economists and politicians throughout the world have expressed alarm in recent years concerning the volatility of the forex market (IMF, 2019). This trend has been impacted by the majority of developing economies, especially monocultural ones like Nigeria's. Since Nigeria's daily exchange reserves are so low, the manufacturing sector has argued that the country should instead rely solely on imports (Kalu and Anyanwaokoro, 2020).

Because of the increased volatility of foreign exchange rates, businesses are more reluctant to engage in international trade and are instead focusing on home markets. Higher exchange rate volatility means more expensive travel and less international business for those who choose to avoid taking chances.Panda and Mohanty (2015) state that fluctuations in the currency market that are relatively large negatively affect pricing results, export outcomes, and the long-term viability of the current-account balance. An economy as large and diverse as Nigeria's is extremely vulnerable

to the whims, delusions, and shocks of global oil prices (Omojimite and Akpokodje, 2010). Thus, exports and imports form the backbone of international trade; a quick explanation of each is provided below.

Exports

As one of its main objectives, international trade seeks to guarantee the transport of products from one country to another for the purpose of future sales or trade. Foreign exchange, or the buying and selling of goods and services between

private parties and/or national governments from different countries, can help stimulate economic development and growth. The terms "import" and "export" are examples of international commerce activity (Cole and Aminu, 2018). Countries with a lower standard of living, like Nigeria, put a disproportionate amount of time, effort, and money into international trade. Trade, economic expansion, and development all contribute to the whole in a complementary way. Many developing countries, Nigeria included, have adopted export-driven trade policies in an effort to diversify their economies and boost their GDP (Cole and Aminu, 2018).

Products and services produced in one country that are sold in another are known as exports (Shehu, 2008). When moving money or goods from a country with lower trade obstacles (such as tariffs or subsidies), the initial step is usually to export those goods. To paraphrase Lequiller and Blades, exports are defined as "products and services leaving a country through its port" (2019). To clarify, an importer is someone who buys these goods and services from another country, whereas an exporter is someone who sells them. Exports are typically considered a domestic accounting transaction despite the fact that they may involve foreign parties (sales, barter, gifts, or grants). Calculating exports must account for smuggled goods. As a result, the country's export services take into account the money that foreign tourists spend within the country's main economic hub. The "domestic account" measures the overall revenue a country receives from the sales of its exported goods and services. A global analysis of the trafficking of illegal services across national borders is also very important. Electronic mail, facsimile transmissions, and phone calls all count as exports (Ojukwu, 2019). Products that are exported legally and typically for commercial reasons are said to be economic exports. The number of nations engaged in international trade is rather large.

Kiprop (2020) claims that crude oil sales account for the bulk of Nigeria's export earnings. More than 92% of the country's petroleum exports occurred in 2018. Oil refineries make up the third largest sector, with revenues of $774M, behind crude oil ($35.6B) and gas ($6.47B). Unfortunately, due to a lack of refineries and aging infrastructure, Nigeria is forced to export crude oil and import refined oil. Because of its reliance on oil imports, as a result of price fluctuations, the country is vulnerable to inflation and sudden economic benefits. Political instability, technological backwardness, legislation, uneven growth, insurgencies, and corruption are all results of Nigeria's inability to produce large amounts of natural gas for internal and export

usage (Kiprop, 2020). Nigeria has the ability to export cocoa and rubber. They were all fruitful, contributing to the country's rising prosperity.

The country's economy thrives on the backs of agriculture, commerce, telecommunications, industry, and the private sector.

Trade policy's effect on agricultural exports from Sub-Saharan Africa was first analyzed in depth by Sekkat and Varoudakis (2020). Research into the impact of fluctuating currency rates and misaligned panels on export success was conducted between 1970 and 1992 by academics in both CFA and non-CFA countries. Exports of textiles and chemicals from countries that aren't part of the CFA are very sensitive to changes in the exchange rate, whereas exports from CFA countries experience a little impact for the better. Due to the study's limitations, the findings are not transferable to other eras (this is the time of both fixed and floating exchange rates.) How external volatility, both real and nominal, affects exports was studied by Chowdhury (2017). The Goldstein-Khan bicountry model was found to have an overarching effect on both cases when a flexible slack model was employed. Whatever the outcome, the measurement will not change in terms of size or direction. The effects of anticipated fluctuations in the foreign exchange rates, Real and nominal exchange volatility, however, show significant temporal variations.

Imports

Imports are the commercial acquisition of goods and services from outside of Nigeria, whereas exports are the commercial transfer or sale of commodities and services from Nigeria to other countries. There are a number of government agencies in Nigeria that keep tabs on the import trade, and each one has its own set of rules and regulations (Resolution law firm, 2020). The term "import," which describes the process of bringing commodities from a port to a distant country, comes from the word "port." Therefore, the concept of importing arises from the movement of products and services over international borders. One party is a "importer," while the other is a "exporter" (Mohan, 2019). Therefore, goods and services that are transported legally from one country to another are known as imports. It's something that was imported for commercial sale from another country (Arthur and Steven, 2018).

Goods and services produced abroad are purchased by domestic consumers. In order for a country to benefit from an import, the country from where the import is made

must treat the import as an export. The demand for imports is increased when the domestic market is unable to supply the needs of consumers or when the selling price of the commodity is lower in some other market. In terms of value, the top five countries that export goods to Nigeria are: China ($15.5B), the Netherlands ($5.91B), India ($3.76B), the United States ($3.32B), and Belgium ($2.81B). Nigeria spends $10 billion annually on its five largest import categories: refined petroleum ($1.5 billion), autos ($1.48 billion), wheat ($1.32 billion), packaged medications ($1.32 billion), and laboratory glassware ($1.45 billion) (Lawrence, 2020).

Balance of trade

Trade balance is an economic concept. Many terms can be used interchangeably to refer to a country's net exports, including the balance of trade, international trade balance, and trade deficit/surplus (Kenton and Boyle, 2020). The trade balance measures how much a country earns from exports minus how much it spends on imports.

Since the BOP is used to track all international transactions, it is the most important factor. As all goods and services must go through customs, the total is simple to calculate (Amadeo and Brock, 2020). A nation's economic trade balance mirrors that of its trading partners. In order to have a trade surplus, a country must export more products and services to foreign markets than it imports.

Only if the government enacts protectionist policies is a trade surplus harmful (Kenton and Boyle, 2020). To some extent, importers may reap economic benefits from trade imbalances and use the extra cash to fund development initiatives as reported by (Amadeo and Brock, 2020).

Exchange rate fluctuations and their impact on import volume

The globalization of the retail industry has made it commonplace for consumers everywhere in the world to see products from all over the globe at their neighborhood supermarket or shopping mall. Consumers benefit from the broader selection provided by these imported goods from other countries. Imports help customers stay within their budgets because they are usually cheaper than similar products made in the country of origin (Leslie and Robert, 2021). As a result, the national currency weakens, encouraging exports while simultaneously increasing import prices, leading to a widening trade deficit that can have a depreciating effect

on the value of the currency (Leslie and Robert, 2021). According to Muhia (2018), economic study has received a great deal of interest since the invention of floating systems. Muhia (2018) analyzed the effects of the 1980s-2015 period of fluctuating Kenyan currency rates using a multi-linear log model. Changes in exchange rates are shown to have a substantial impact on imports. In addition, there is a long-term negative effect on exports due to an increasingly lower currency rate, whereas imports are unaffected.

Exchange rate fluctuations and their impact on export volume

With 95% of its exports coming from oil and gas, Nigeria has a fairly diverse import basket as reported by (Nwanosike et al., 2017) Therefore, the total amount of money obtained through exports is highly sensitive to changes in energy prices and the success of a single large industry. Despite an increase in the demand of domestic and imported goods, a drop in petroleum prices, and a decline in output in the Niger Delta region between 2018 and the present, Nigeria's trade surplus has remained small. (Oloye, 2012). In addition, there is typically a negative service balance. This is because the oil industry heavily depends on technical and financial know-how. The two main exports for Nigeria are tourism and corporate services, both of which are still in their infancy.

Ogboru (2020) argues that trade imbalance is a serious issue for developing countries because it makes it harder to innovate domestically and keep the country's economy in the black. In 1978,

Nigeria had a trade deficit of N2147.3m, which was much larger than those of some other developed nations. From 1970 through 1977, Nigeria had a positive trade balance, with surpluses ranging from N130 million in 1970 to N1697.6 million in 1976 and N537 million in 1977. Trade surpluses were recorded in Nigeria. 1981 saw a deficit of N1816.3 m, 1982 had a deficit of N2564.1 m, and 1983 saw a deficit of N1401.2 m for Nigeria's commerce. There was a total of 13 years (1966–1979) of military rule before politics were allowed to take over, the economy was mismanaged at its worst from 1979 to 1983. During that time frame, Nigeria's trade balance was excessively surplus. Nigeria's trade surplus in 1996 amounted to N746,916,8 million (Oloye, 2012). Except for the N85562m deficit in 1998, the period from 1999 to 2006 had trade surpluses of record proportions. Over the course

of the years 2003–2006, they found a total of N100,765,11. In 2004, they found N261,573. The Nigerian Central Bank has stated in (2013).

Theoretical Literature

These hypotheses are addressed in light of the research:

Trade theories

As its name implies, trade theory aims to shed light on the dynamics of international trade, how it affects domestic economies, and what kinds of policy adjustments are required to increase national prosperity.

Adam Smith, author, philosopher, and economist, is sometimes called the "father of modern economics" for his work, particularly his "trade theory." The Wealth of Nations, Smith's masterwork from 1776, is widely read and respected. Nigeria is a country where economic ideas are not widely implemented and where almost nothing is successful. Long-term growth based on economic comparability and inferiority through international trade was a central tenet of conventional trading philosophy. This trade plan suggests that Nigeria, with its vast amounts of arable land and available workforce, should concentrate on agriculture. It's a shame that since oil prices started going up in the early 1970s, the government has stopped investing in farming and manufacturing. Due to the government's and If the economy of trade sectors are solely concerned with the petroleum and natural gas industry, followed by the rest of the economic will suffer from a lack of resources, including money, resources, and event management expertise.

This makes global uncompetitiveness of the country's primary economic sector an attractive investment destination for multinational corporations (Sanusi, 2019). Nigeria's oil industry suffers from inefficiency, Low productivity, foreign dominance that goes unchecked, and endemic corruption all contribute to a toxic environment (Hassan et al., 2017). Now that oil exports account for the bulk of government revenue, the country is especially susceptible to swings in global crude oil prices. Additionally, the nation has an abundance of different types of solid minerals. In a nutshell, the economy puts too much weight on fundamental sectors (such as

environmentally sound farming and mining). This consists of having too little to do, changing one's perspective for the better, reevaluating one's values, and having an

unequal distribution of economic resources. There hasn't been much of a boost to the economy.

The factor proportion hypothesis suggests that although Nigeria does not export a great deal of agricultural produce, a sizable percentage of the country's GDP has been spent on technologically related products, mostly from Western Europe. From 1980 to 1985, machinery and equipment made up about 40% of Nigeria's annual imports, as seen in the country's "Import Profile." As an illustration, out of a total of $3.067 million earned from foreign exchange, $2.755 million (or 89.8%) went into purchasing equipment, replacement parts, and raw materials. The total increased by $3,344,000,000 (93.3%) from 1991's total of $3,584.1,000,000, all of which went toward industrialization via technical transfers (Ogbimi 2019).

The Portfolio Balance Theory

The portfolio balance concept states that individuals' financial well-being is distributed between the money supply, local bonds, and foreign bonds. Originally, the concept was Branson's (2017:264). When these assets are owned by the same number of people, the exchange rate is more stable. If businesses and individuals alike are pleased with their stockpiles of financial assets, then the government's deficit will show up when calculating a portfolio's current account balance. The negative total of the balance of payments widened as the government was unable to sell bonds to foreign investors.

The significance of the exchange rate determination in market adaption or capital transactions is further highlighted by the portfolio balance theory. It contrasts with monetary theory by explaining how changes in exchange rates reflect supply and demand for a variety of assets denominated in a given currency. It is envisaged that people would use a unified strategy for portfolio diversification that incorporates both local and foreign bonds. The only true equivalents are debts and liabilities issued by non-resident governments. The cash on hand, domestic bonds, and foreign bonds

denominated in the home currency make up the net financial value, commonly known as the Portfolio Balance Framework. Assuming that the demand for domestic bonds stays the same, the difference between the foreign currency rate and the interest rate within the home country has a direct effect on how much people want to buy international bonds (Lambe, 2017).

The theory's application to this study

Essentially, these theoretical considerations are of scholarly interest because it provides an explanation for the free flow of capital in trade between Nigeria and other countries. This is due to the fact that transaction fees and financial constraints are not major barriers to entry. This means that changes in the financial markets are reflected instantly in the spot and future exchange rates. The bond market exchange rate responds to supply and demand and broader market conditions. The balance of payments determines whether or not the currency rate will move up or down.

Even though It is interesting to note that Nigeria, a significant rice exporter in the 1960s and significant rice importer in the 2010s, the country is technologically backward and underdeveloped, giving its production life cycle theory little value. In 2008, for instance, Nigeria spent N80 billion on food imports like rice and grains (Ikeokwu, 2018). Trade Theory's goal is to illuminate where the federal government stands with regards to the economy of Nigeria and the types of public policy that contribute to the country's prosperity. Theoretically, it examines how Nigerian authorities may best distribute output around the country to make the most use of all of the country's resources (both human and material ones). There is theoretical merit to the strategy taken. International commerce, proponents say, is good for everyone because it promotes resource efficiency and national specialization. This result is rationalized by appealing to some of the most central tenets of the prevailing theoretical frameworks, including perfect competition, the absence of transaction costs, and diminishing benefits to scale.

Theoretical Framework

Analysis of the literature suggested that this study's focus should be on ideas of international trade. This is due to the fact that the theory gives a leg up to nations whose economies thrive on the export of items that make use of plentiful domestic supplies of relevant factors. When countries' domestic supplies are low, they turn to imports. Trade theory emphasizes similar input costs and competitive advantages once again. It is widely accepted in trade theory that one of the primary motivations for commercial activity is the desire to provide consumers a wider selection of goods and services.

The idea is that boosting exports will help the economy grow in the long run. Nigeria can diversify its economy, increase its tax base, and reduce the likelihood of

trade imbalances by increasing the amount it exports. It's also a stabilizing factor in the economy's ability to absorb shocks. However, international trade has a number of positive effects on Nigeria's economy, including increased access to a wider variety of consumer goods, greater resource efficiency, higher productivity, more jobs, lower prices for consumers, less volatility in trade, and the donation of surplus goods to worthy causes (Onoja, 2020).

Empirical Literature:

The link between currencies and commerce was examined by Auboin and Ruta (2012). Specifically, the influence that exchange rate volatility and currency misalignments have on international commerce is one of the primary concerns that is explored in this study.A decline in international trade is a direct result of fluctuations in exchange rates, even if this impact is not always large. The magnitude of this impact is influenced by a variety of different variables, such as the availability of hedging instruments, the composition of output (such as the percentage of production that is carried out by small enterprises), and the level of economic integration that exists acrossnations.

The second problem includes misalignments in exchange rates, which are expected to have short-run consequences in models that incorporate pricing rigidities. Nevertheless, the precise effect is going to be determined by a variety of factors, such as the pricing strategy that companies use when they participate in international commerce and the significance of global production networks. It is anticipated that this impact will diminish in the long term, unless another kind of economic distortion comes to define the economy. It has been shown via empirical research that short-term impacts may take place; however, the magnitude of these effects and their ability to last over time vary greatly across investigations.

Marc Auboin and Michel Ruta (2011) investigated the influence that fluctuations in exchange rates and currency misalignments have on international commerce. Exchange rate swings typically have a negative impact on trade flows, even if it is not a huge one. The magnitude of this impact is influenced by a variety of different variables, such as the availability of hedging instruments, the composition of output (such as the percentage of production that is carried out by small enterprises), and the level of economic integration that exists across nations. Exchange rate misalignments are projected to have short-run consequences in models

with price rigidities; however, the precise impact is dependent on a variety of variables, such as the pricing strategy of enterprises engaged in international trade and the significance of global production networks. It is anticipated that this impact will go away in the long term, unless some other kind of economic distortion comes to define the economy. It has been shown via empirical research that short-term impacts may take place; however, the magnitude of these effects and their ability to last over time vary greatly across investigations.

Many studies have been conducted to determine how currency fluctuations affect international trade, and many have yielded contrasting results. Economic expansion is sensitive to shifts in the real exchange rate, which has been shown in a number of ways. Thoughts to the contrary suggest no causal link between the currency exchange rate and GDP expansion.

Ikechi and Anthony's research from 2020 explores the effect that fluctuations in the value of the naira have on foreign commerce in Nigeria. The investigation is carried out on the basis of the premise that fluctuations in Currency exchange rates are often thought to affect the amount of exports and imports as a whole. The research included secondary data from 1996 all the way up to 2018. In order to determine associations, econometric methods were used. The findings of the article revealed conflicting correlations among the many factors that were investigated. Although the results of some of the experiments did not give sufficient and accurate information on how exports, imports, and the actual effective exchange rate are related to one another, the results of other experiments did. Estimates obtained using the VAR model point to a connection in the opposite direction between exports and imports as well as REER in the present time period. If there is an increase of one unit in either exports or imports in a given year, the REER will fall by about 0.9% and 0.4%, respectively. An examination of the variation through the lens of variance decomposition hints that the shocks might be to blame for some of the fluctuations in REER as well as in exports and imports. According to the findings of the impulse response analysis, the real effective exchange rate has a negative association with exports and a positive relationship with imports over all 10 time periods. This is in contrast to the positive link that exists between the two variables. As the causal effect demonstrates, imports have an impact on exports but do not directly cause exports. Rather than being a straightforward cause-and-effect relationship, the converse is true here. A first-order Arch effect and a significant GARCH term are present, as

shown by the ARCH modeling strategy. Although the approach builds a non-unique singular covariance matrix, the GARCH coefficient in a mean term is negative.The results show that clustering in REER has a very unpredictable impact on Nigeria's import and export trade operations. This might have serious consequences for Nigeria's economic growth, as a decline in export growth could mean a reduction in the quantity of foreign currency revenues available to finance various development programs. However, domestic production and consumption may be affected by a reduction in imports. If this happens, it could hurt Nigeria's balance of payments. Especially considering how financial shocks frequently enhance volatility in exchange rates, these findings make it abundantly evident that fiscal and monetary policies are required to lessen the inimical effects.

Danladi et al. (2015) looked into how fluctuating exchange rates affected exports and imports from Nigeria. It was confirmed by employing cointegration and Granger causality tests in addition to the error correction model. The stationarity of the variables was examined with the Augmented Dickey-Fuller (ADF), and it was found to be satisfactory (ECM). We are able to see that there has been a link between the variables over time with the use of a co-integration test. The findings of Granger's investigation into the causality of events suggested that there is an innate connection between international trade and variations in the value of different currencies. Data from ECM shows that fluctuations in the value of a currency's exchange rate can hurt international trade. So, the study suggests that the government make decisions about currency rates and trade that lead to more stable exchange rates and trade conditions that increase local output. Government must invest efficiently in infrastructure, such as energy sources, to do this.

To determine the impact of fluctuations in the value of the naira on Nigeria's broad financial indicators, Danmola (2013) employed a correlation matrix, OLS, and the Granger causality test. According to the conclusions of the study, shifts in the value of a nation's currency have an effect on the gross domestic product (GDP), foreign direct investment (FDI), and trade openness of an economy, but they have a negative effect on inflation. The author argued that increasing exports and reducing dependency on the petroleum industry would help diversify the country's revenue base. Petroleum is essential to the functioning of nearly every sector of the economy (Houng, 2020). Another idea put forth to improve trade conditions was to cut back

on unnecessary imports. Similar to how an increase in domestic production would help with the issue of currency rate fluctuations, so too would a boost in exports.

Aloba and Abogan (2013) looked into the trend and the causes of Nigeria's currency rate volatility between 1986 and 2009. Researchers found that the exchange rate in Nigeria was volatile because the standard deviation of the exchange rate went from being very high to being very low over the course of the study period. The high degree of volatility was confirmed by the exchange rate's parametric measure, suggesting a greater danger to a businessperson who fears taking risks. According to the findings, the government needs to keep an eye on the ever-changing currency rate if it wants to keep it under control. Potentially discouraging volatility may be due to the higher risks it poses to Investors on a global scale and at home.

Udeh (2010) says that Nigeria's economy is weak because the country's currency rate is managed by letting it "float" and because the country depends on imports. The financial health of a nation as measured by its balance of payments is very sensitive to fluctuations in the value of its currency. The studies analyzed these questions. This study makes use of a linear specification inside a partial adjustment framework, the Autoregressive Distributed Slack Model (ARDS) and the Distributed Lag Scheme (DLS) (ARDLM) in particular. According to research, the relationship between exchange rate volatility and BOP varies over time, from the short run (SR) to the very long run (VLR). , refuting the literature's characterization of a unidirectional influence (positive or negative) on BOP (VLR). It is adverse to BOP in the near run, beneficial in the LR, and deleterious in the VLR (VLR).

According to research by Edwards and Levy Yeyati (2018), economies with a more flexible exchange rate grew quicker than those without one. A greater range in exchange rates is significantly associated with rapid trade growth (Hausmann et al., 2020). According to Rodrik (2018), real undervaluation increases exports, earnings in the trading sector, and the share of domestic value added that originates from these industries. According to him, the tradable sectors of emerging nations are typically insufficiently large because they are more impacted by institutional and market failures than the non-tradable sectors. The de facto policy of a variable exchange rate could help mitigate the negative effects of this misunderstanding and enhance profitability in the sector. Increased earnings motivate capital expenditure in the marketable sector, which in turn promotes economic expansion.

Harris (2018) used the generalized least squares method to establish this result, which is in line with the competitiveness theory and its implication that swings in exchange rates boost productivity and GDP in the short run. The study by Aghin et al. (2019) shows that variations in exchange rates, which are a function of economic management, have a little impact on real activity. Consistent with the findings of Dubas and Lee (2017), who also discovered that a stable exchange rate is related to economic growth, The result also suggests that the countries of Eastern and Central Europe would do well economically if they joined the European Monetary Union.

Hossain (2020) agreed that the exchange rate affects a country's imports, exports, and balance of payments, which in turn helps to bind the two markets together through their respective pricing structures. According to Rogoffs and Reinhartl (2021), a flexible exchange rate regime would be more beneficial to developing countries.

The findings of Odusola and Akinlo's (2020) study on the impact of monetary policy shifts on Nigeria's output were inconclusive. Currency depreciation may help economic growth in the long run, although its effects are usually minimal in the short term. The findings of both Odusola and Akinio (using VAR and VECM methods) and Rano-Aliyu (using VECM) are mostly supported by these results. This suggests that the different results are due to the different ways the two groups went about their work.

Rano-Aliyu's (2019) study in Nigeria shows that an increase in the value of the country's currency has a positive effect on real economic growth in Nigeria because of the country's involvement in international trade. The economy benefits more when the currency appreciates than when it depreciates, despite the fact that this would cause a decline in competitiveness due to the fluctuation of the Rate of exchange. That's because a higher exchange rate will have a negative effect on inflation, increase domestic investment and savings, and raise living standards.

According to Aliyu (2017), a rising exchange rate leads to fewer exports and more imports, whereas a falling exchange rate increases exports and reduces imports. An additional effect of a falling exchange rate is a preference for home production over imports. As a result, it causes a rebalancing of trade that shifts wealth from countries that import to those that export, which can slow the economies of both the exporting and importing nations.

According to Asher (2017), between 1980 and 2010, currency rate fluctuations had a significant effect on Nigeria's foreign commerce. According to the findings, a higher real exchange rate is associated with faster economic expansion. Similarly, Akpan (2018) looked at the international trade growth in Nigeria and the foreign exchange market, a growing petroleum-based nation, from 1970 to 2003. He had an aha moment when he learned that the exchange rate positively correlates with business across borders.

Additionally, Obansa et al. (2018) looked at the connection between the currency rate and Nigeria's foreign commerce from 1970 to 2010. The conclusion indicated that the exchange rate significantly affects international trade. This study found that exchange rate liberalization helped the Nigerian economy expand. The exchange rate fluctuation on Nigeria's and its impact on international trade performance was also studied by Azeez et al., (2020) between 1986 and 2010. According to their findings, a higher exchange rate is associated with a higher GDP. Trade liberalization is often cited as a driving force behind the growth of the Nigerian industrial sector and the establishment of a stable currency rate between 1970 and 2006, but Adebiyi and Dauda (2019) employed an error correction model to dispute these claims. It was found that the indicator of industrial production was linked to actual exports in a way that was both positive and statistically significant.

The index of industrial production rises by 12.2 percent for every one percentage point in real export growth. This suggests that the deregulation program helped boost exports by lowering the value of the currency.

Nonetheless, prior research has found that exchange rate has no noticeable impact on global commerce. According to research by Bosworth et al., (2019), for instance, the real exchange rate hinders international commerce and decreases growth and productivity in a broad sample of emerging industrial nations. Ubok-Udom (2019) draws the conclusion from their research that the unique features of the Nigerian economy make it less likely that the country will reap the benefits of SAP adoption as a outcome of fluctuations in the rate of exchange. Based on his analysis of the connection linking the average Naira exchange rate and GDP growth in Nigeria between 1971 and 1995, he concluded that GDP growth in Nigeria was a linear function of the average Naira exchange rate. To further account for periods of currency depreciation, he also incorporated dummy variables. Empirical results showed that all major explanatory variables had negative coefficients.

The impact of currency changes on Nigeria's exports was also studied by David, Umeh, and Ameh (2019). A negative correlation between the exchange rate and industrial output was discovered using multiple regression econometric methods.

The study was inspired by the contradictory or inconclusive findings and the emphasis on the effect of currency rate fluctuations on foreign commerce displayed in different government policies in Nigeria.

Over short time periods, nominal interest rate metrics have been found to strongly correlate with real output, according to a considerable body of research that has been exemplified by the work of Ben S. Bernanke and Alan S. Blinder (1992). This association is rather perplexing due to the fact that the vast majority of theoretical models found in textbooks relate long-term real rates with output, and it is commonly thought that there is at best an imperfect relationship between short nominal rates and long real rates. In this section, we will define the dynamic interactions that exist between short rates, inflation, and real output by estimating an unconstrained vector autoregression. The VAR-consistent ex-ante long real rate is then computed. Across our sample, we observe striking similarities in the dynamics of the long real rate and the short nominal rate, and we use the dynamic correlations implied by the VAR to provide a reduced-form explanation for why this has been the case. In our sample, the long real rate and the short nominal rate behave in a way that is very similar to what we expected.

Specifically, Sekkat and Varoudakis (2000) wanted to know how exchanging currencies affects sub-Saharan Africa's industrial exports when broken down into their component parts. From 1970 to 1992, researchers looked into the effects of currency rate volatility and misalignment on the export performance of panels of CFA and non-CFA countries. Results showed that exports of textiles and chemicals that were not produced in CFA had a significant negative influence on exchange rate volatility, while exports of CFA products had a minimally positive impact. Incorporating data from two distinct eras into the study introduces a serious methodological issue (that is, the fixed and flexible exchange rate eras). Through the use of panel data, Ghura and Greenes (1993) examined the effect of misalignment and volatility in exchange rates on trade flows between countries in sub-Saharan Africa from 1972 to 1987. The coefficient of variation of the real exchange rate (a measure of exchange rate volatility) was found to have a considerable effect on international commerce, both positively and negatively. The study's limited

applicability can be attributed, in part, to the fact that it was restricted to a predetermined exchange time.

To learn how fluctuations in exchange rates affect Nigeria's exports and imports, Brown and Davidson (2019) conducted research. The methodological approach of this investigation was categorized as semi-experimental. Time-series data played a huge role in the investigation. The statistics used in the study came from the Federal Bureau of Statistics Bulletin and the Central Bank of Nigeria. In order to evaluate the performance of the economy from 1980 to 2014, statistics on the international price level (PL), gross domestic product (GDP), and import and export volumes (IMP/EXP) were utilized. The analysis of the data was carried out with the help of exploratory correlation analysis, ordinary least squares, and the Granger causality test. The employment of these econometric tools was necessary due to the fact that inferences drawn from time series data may be incorrect. The findings of the ECM indicate that the dynamic model provides a satisfactory fit for the data. For one thing, R2 indicates that shifts in the dependent variable are responsible for 56% of the total variation that can be explained by the model. [Citation needed] With an R2 value of 0.564, we are able to deduce that variations in GDP, prices, and exchange rates are responsible for 56% of the wiggle room that exists in international trade. This indicates that we can explain around 56% of the phenomenon with the assistance of this model. When contrasted with the R2 derived using OLS, which was 93%, this figure is a better indicator of the genuine state of the Nigerian economy. In addition, when considering only the short term, an f-statistic of 147.00 is equivalent to 2.132 when using a significance level of 5%. It would appear that the overall magnitude of the regression result is quite significant. Scores on the Durbin-Watson (DW) statistician's instrument that are close to 2.0 suggest low autocorrelation. The error correction term's coefficient is not only substantially negative but also statistically significant at the 5% level of significance. If what appears to be the situation is correct, then around 55 percent of the trade imbalances that were present in international commerce the previous year have been removed this year. As a consequence of this, the ECM possesses the ability to bring about a short- to long-term equilibrium restoration in the dynamic interplay between international trade and the various factors that explain it (exchange rate, gross domestic product, and price level). To wean itself off of its reliance on oil and other items imported from abroad, Nigeria's economy needs to be diversified.

CHAPTER THREE

Introduction

This chapter will explain in detail the source of the data that was used in this thesis. Additionally, this chapter will provide additional information about the variables that were used. Regression analysis will also be explained in this chapter. Model specification and equations will be done in this chapter. Finally, in order to provide a better understanding, this chapter will go over all of the tests that were used for analysis in detail.

Data

The secondary data used in this thesis was collected and analyzed after the primary data collection phase was complete. In this context, "secondary data" means information that is readily available from other sources but was originally collected by those same sources. Information like this can be obtained more rapidly and cheaply than the original data. They can also be gotten when the source data can't be gotten at all. On the other hand, secondary data analysis involves making use of information that was gathered by a different party for a different objective. In this scenario, the researcher poses questions that are answered through the examination of information gathered by another party. Information was not collected with the intention of answering the research questions provided at the outset; rather, it was amassed for a different reason. This clarifies why the same dataset could be categorized as primary by one researcher and secondary by another. In order to learn how changes in exchange rates affected Nigeria's international commerce from 1980 to 2020, We scoured the World Bank's website for the necessary information. Databases are an essential resource that affect everyday operations and support key management decisions at the World Bank. When rules and standards that everyone agrees on are used, a stable and consistent body of knowledge is made.

Variables

Trade in services (% of GDP)- To determine the value of trade in services in terms of current U.S. dollars, add up the sum of the export and import values of services and divide that number by the GDP value. Trade in services refers to the process of keeping track of the monetary worth of services exchanged between citizens and

noncitizens of a given economy. Services provided by non-economically constituted foreign affiliates are also included. This metric calculates the value of exports, imports, and net trade as a percentage of GDP and in millions of US dollars.

Real effective exchange rate index (2010 = 100)- To determine the real effective exchange rate, one has just divide the nominal effective exchange rate by a price deflator or cost index. The real effective exchange rate is calculated by adjusting the nominal effective exchange rate for changes in national price or cost indexes. To adjust for variations in the cost of living in the host country, some other countries, and the Euro Area, an index has been created. A weighted geometric average of exchange rates across a basket of countries and the Eurozone can be used to derive the nominal effective exchange rate index, which is then divided by the index of the average exchange rate for a given time period (stated on a base of 2010 = 100). The resulting metric is the effective nominal exchange rate index. The majority of a country's GDP can be attributed to international trade in manufactured goods between other industrialized nations. That's the situation with wealthy nations, actually. These estimates are based on the utilization of two different cost indicators, an index of nominal effective exchange rates and a cost indicator of relative normalized unit labor costs in manufacturing. The amount of trade in manufactured goods and primary products with trading partners or competitors provides an index of the nominal effective exchange rate for other countries. A rise in the real effective exchange rate index indicates a local currency appreciation in these countries, as it is the nominal index adjusted for changes in consumer prices.In a market economy, the way goods and services are priced relative to each other (like the real exchange rate, real wages, and real interest rates) affects how scarce resources are used. Decisions made by these parties are reflected in large part in the relative pricing structure. As a result, relative prices reveal essential data on how various economic actors collaborate or compete inside a given country and across international borders. Because of how they are conceptualized and the lack of data, changes in actual effective exchange rates require careful examination.

Current account balance (BoP, current US$)- Economists define a country's current account balance as the amount of money left over after subtracting the value of all goods and services exported from the value of all goods and services imported. All figures are presented in US dollars, the currency of record. The balance of payments (BoP) is a form of double-entry accounting that records the inflow and

outflow of a country's goods and services, as well as any real resources or financial claims given or received from the rest of the world free of charge, such as donations and grants, and any subsequent changes in the resident government's claims on and liabilities from the government's nonresident clients. A country's BOP also includes a breakdown of its incoming and outgoing products and services, as well as its transfers of real resources and claims on foreign currency. One copy of each transaction contains the details pertaining to the credit, while the second copy contains the details pertaining to the debit. While a zero net balance is ideal, in reality, accounts rarely balance without the addition of a balancing item to account for net mistakes and omissions. All numbers and terminology are consistent with the latest version of the Balance of Payments Manual published by the International Monetary Fund (BPM6). From 2005 forward, the balance of payments data will be compiled using BPM6.. The last year of data for the historical BPM5 series is 2008, and this data may be accessed through the World Development Indicators database. The balance of payments is a report on a country's international trade and investment activities. The current account includes records of purchases and sales of goods and services as well as primary and secondary revenue, whereas the capital and financial account includes records of purchases and sales of fixed assets and liabilities. One of the most reliable indicators of a worldwide imbalance that can be plugged into analytical models is the current account balance. Balance of payments accounts are important because they show how important it is to fix any external imbalances. Choosing a cutoff point requires an analytical evaluation of the degree of disproportion that most clearly demonstrates the need for adjustment. The term "analytical goal" and its close relatives have many different common meanings. The trade balance measures how much a country earns from exports minus how much it spends on imports. The analytical distinction between products and services is a false dichotomy. For instance, a freight company's net gain in foreign currency is equivalent to that of a product exporter's net gain in foreign currency. Although the trade balance has its drawbacks, it is nonetheless useful since it provides an early warning of changes in the current account balance. Statistics on product trade are typically available from customs authorities well before information on service trade is available. It is possible for the balance of payments to be inaccurate because there is no central repository for such data and hence no mechanism to guarantee data consistency. Data can be found in a variety of places, such as official records of

exchange rates and customs data, financial system monetary accounts, external debt records, business reports, surveys designed to estimate service transactions, and so on. The net mistakes and omissions resulting from the different collection methods can be affected by a number of factors, including the timing of the collection, the definitions of residency and ownership, and the currency rate used to value transactions. Also, it's possible that smuggling and other forms of illegal or murky commerce won't be caught or won't be recorded accurately.

Export volume index (2000 = 100)- When calculating the export volume index, one must divide the export value index by the unit value index, which is computed with the help of UNCTAD's volume index series. Unit value indices are computed using data from nations that are deemed to be of sufficient quality by UNCTAD. Additionally, previous year's trade values at the three-digit level of the Standard International Trade Classification are utilized in order to give an appropriate level of weighting to these estimates. The average price indexes for the three-digit product categorization of the Standard International Trade Classification version 3 are constructed using data from UNCTAD's Commodity Price Statistics, international and national sources, and estimates from the secretariat. This is done in order to improve data coverage. At the level of the country, unit value indices are computed by employing the trade values of the current year as weights, particularly for the most recent periods. In the event that UNCTAD is unable to provide export data for a particular nation, the International Monetary Fund will make use of the export volume indexes found in their International Financial Statistics (line 72).

Import volume index (2000 = 100)- The UNCTAD series of volume indexes is used in the calculation of the import volume index. This index is calculated as the ratio of the import value index to the import value index per unit. Estimates from UNCTAD based on the previous year's trade values at the three-digit level of the Standard International Trade Classification are used as weights to create unit value indices from data provided by countries that meet the quality requirements set forth by UNCTAD. These indices are derived from data provided by countries that meet the quality requirements set forth by UNCTAD. Average price indices are constructed for each three-digit product classification of the Standard International Trade Classification revision 3, and unit value indices are calculated at the country level using trade values from the current year as weights, both of which are based on data collected by UNCTAD. This helps improve data coverage. When there are no

statistics available from UNCTAD, we use the import volume indexes that are provided by the IMF (line 73 of the International Financial Statistics).

Interest rate spread (lending rate minus deposit rate, %)- The interest rate spread is determined by making a comparison between the interest rate that is paid on deposits such as demand, time, and savings accounts by commercial or equivalent banks and the interest rate that is offered by banks on loans to customers in the private sector. However, it is difficult to make a direct comparison because the conditions and terms of these rates differ from nation to nation. It is possible to assess the effectiveness of intermediation by looking at the interest rate spread, which is defined as the difference between the cost of mobilizing commitments and the returns on assets. The cost of investment capital, which is crucial to the growth of any economy, is reduced when the margin between buying and selling is modest. Growth, which is supported by both the banking and financial systems, is a critical component in eradicating poverty. The commercial banking sector is dominant when economic growth is low, whereas domestic stock markets thrive when growth rates are higher. It is becoming increasingly important to keep an eye on the health of financial institutions in light of the size and volatility of global money flows. Even though strong financial institutions have the potential to increase economic activity and prosperity, they are vulnerable to disruption from volatility, which can have severe negative effects on the economy. Since countries use a wide variety of sample designs, interest compounding algorithms, averaging approaches, and data displays, there is no universally standardized methodology for presenting interest rate indices or other time series data. According to the Monetary and Financial Statistics Manual published by the International Monetary Fund (IMF), accurate and representative data on financial assets and markets, as well as market prices and effective (rather than nominal) interest rates, are essential.

Model specification:

Model specification refers to the process of deciding which independent variables should be used in a regression model and which should be left out. The definition of a regression model should give more weight to theoretical issues than to empirical or methodological ones. Specification is the process of transforming a theory into a regression model in regression analysis and related subjects such as econometrics. This procedure includes determining an acceptable functional form for

the model as well as deciding which variables to include.

In keeping with the preceding explanation, using co-integration and error-correction models, we identified a long-term relationship between Nigeria's exchange rate and its external trade. The following models were changed and specified:

$Tt = \beta_0 + \beta_1 REERt + \beta_2 CABt + \beta_3 EVIt + \beta_4 IRt + \beta_5 IVI + \varepsilon_t$.....1

Where,

T = stand for international trade

REER = stand for real effective exchange rate

CAB = stand for current account balance

EVI = stand for export volume index

IVI = stand for import volume index

IR = stand for interest rate

β= stand for beta it is constant for the perimeter

t = stand for the time from the research from (1980-2020)

$\beta 1$ ….5 *is the constant of the peremater*

Descriptive Statistics

The generation of summaries regarding data samples is the focus of descriptive statistics, which is a technique for characterizing aspects of a data collection. The primary objective of descriptive statistics is to provide information about a data set. It is often represented as a summary of the data that is displayed and explains the contents of the data.

Stationary test

The mean and variance of a time series are considered stationary if they remain constant during the course of the series. A dataset is considered non-stationary if it exhibits either a discernible trend or seasonality. Stationarity is fundamental to time series analysis. In case you need a fast (but in-depth) introduction to the topic and the reasons why it is crucial, I recommend reading my former blog piece on the subject. The statistical properties of a time series (or, more correctly, the process that generates them) are said to be stationary if they do not vary over the duration of the series. Many useful analytical methods, statistical tests, and models are built on the idea that things stay the same over time. Understanding how to determine if a time series is stationary is, therefore, vital. This typically refers

to being able to determine with high certainty that a series is formed by a stationary process rather than having to choose between two strict alternatives. In statistics, a unit root test determines whether a time series variable has a unit root or not. If there is no unit root, then the null hypothesis holds. Depending on the type of test, the competing hypotheses could involve stationarity, trend stationarity, or an explosive root.

ADF unit root test

The stationarity and order of integration of a set of variables are tested by applying the unit root test via the Augmented Dickey-Fuller (ADF) process (the stationary level). In 1979, David Dickey and Wayne Fuller of the United States came up with the Dickey-Fuller test to determine if an autoregressive model has a unit root (a trait that may pose problems with statistical inference). Asset prices and other time series with discernible trends are particularly amenable to this strategy. Despite the fact that the Dickey-Fuller test is the most fundamental method for determining a unit root, the complex and ever-changing structure of most economic and financial time series outstrips the capabilities of a standard autoregressive model. Those familiar with the Dickey-Fuller concept will have no trouble grasping the idea that an advanced Dickey-Fuller exam (ADF) is simply a more refined version of the standard test. To accommodate models with greater complexity and uncertain order, the same statisticians revised their fundamental autoregressive unit root test (the Dickey-Fuller test) in 1984. (the augmented Dickey-Fuller test). The enhanced Dickey-Fuller test, similar to the classic Dickey-Fuller test, analyzes a time series sample in search of a unit root. Both econometrics, the study of how mathematics, statistics, and computer science can be applied to economic data, and more general statistical study make use of the test.

The primary distinction between the two assessments is that the ADF is used for a broader and more complex set of time series models. The result of the ADF test, which is meant to improve upon the original Dickey-Fuller statistic, is negative. When it's negative, it shows how much of a skeptic the person is about the concept of a unit root. This is only true to a certain extent, of course. However, if the ADF test statistic is positive, then there is no reason to reject the null hypothesis of a unit root.

PP unit root test

The Phillips-Perron test (named after Peter C. B. Phillips and Pierre Perron) is a unit root test in statistics. It is used in time series analysis to test the null hypothesis that a time series is integrated of order 1. Statistics professors Peter C.B. Phillips and Pierre Perron created the Phillips-Perron (PP) unit root test in 1988. Though the PP unit root test and the ADF test are similar, the main distinction is how the tests handle serial correlation. The ADF utilizes a parametric autoregression to simulate the structure of errors, while the PP test ignores any serial correlation. Despite their variations, both tests often result in the same findings.

ARDL BOUND TEST

To make an informed decision when selecting a time series model, it is essential to verify the outcomes of stationarity and cointegration tests. For the purpose of testing for cointegration, the autoregressive distributed lag (ARDL) bounds testing method proposed by Pesaran and Shin (1995) was implemented. We employed a method for assessing cointegration based on the distributed lag (ARDL) constraints proposed by Pesaran and Shin (1995). The novel method has a number of benefits over earlier estimation strategies including those proposed by Engle and Granger (1987) and Johansen (1988). (1991). It can be used regardless of whether the regressors are integrated in the first or second order (I(1) or I(0)), and it is a more statistically significant method of investigating correlation with small data sizes than other methods, which require vast data volumes for validity to hold. In addition, unlike previous approaches, it permits optimal delays to vary depending on the value of a particular variable. Ultimately, the technique utilizes a single reduced form equation to determine both long- and short-term connections (Babajide & Lawal, 2016; Babajide et al., 2015; Bahmani-Oskooee & Ng, 2002; Kyophilavong et al., 2013; Odhiambo, 2010; Pesaran & Shin, 1999). After explaining why the ARDL model is necessary, this study use a bound test to determine if the variables in question are truly cointegrated. We utilize the ARDL framework to investigate the following questions about the cointegration of the variables in Equation (1). Consistently checking stationarity and cointegration test results is a must before settling on a time series model. The Autoregressive Distributed Lag (ARDL) Bounds

Testing method proposed by Pesaran and Shin (1995) was used to test for cointegration. Testing for cointegration was done using the accelerated random walk with distributed lags (ARDL) method developed by Pesaran and Shin (1995). There are a number of benefits to using the new method as opposed to older ways to estimation, such as those proposed by Engle and Granger (1987) and Johansen (1988). (1991). In contrast to other techniques, which necessitate extremely large data sets in order to draw accurate conclusions, this one can be employed regardless of whether the regressors are integrated in the first or second order (I(1) or I(0)). In addition, it allows optimal delays to change depending on a number of factors, which is not possible with other methods. Finally, a single reduced form equation is used in the method to compute both long- and short-term relationships (Babajide & Lawal, 2016; Babajide et al., 2015; Bahmani-Oskooee & Ng, 2002; Kyophilavong et al., 2013; Odhiambo, 2010; Pesaran & Shin, 1999). This research uses a bound test to establish cointegration after first discussing the merits of the ARDL model.

ARDL model

The newest ARDL framework developed by Pesaran and Shin (1995, 1999), Pesaran et al. (1996), and Pesaran is used by the authors to illustrate the interdependence of the study's variables (1997). In several crucial ways, our strategy is superior to the conventional Johansen (1998) and Johansen and Juselius (1990) approaches. As opposed to the several equations required by the traditional cointegration methodology, the ARDL method just requires a single reduced-form equation to forecast long-run connections. This is because the ARDL technique does not incorporate multivariate analysis (Pesaran & Shin, 1995). Since the ARDL approach does not utilize any pre-testing variables, the test on the pre-existing relationship between variables in levels is valid regardless of whether the underlying regressors are fully I(0), entirely I(1), or a combination of the two. This is because there are no outside variables that could affect the results of the test. Intricacies of the cyclical components of the data make even the most cutting-edge unit root tests for determining the order of integration highly speculative. This is due to the fact that these traits are what make the conventional cointegration strategy unsuitable on their own. Furthermore, the ARDL technique eliminates the requirement to fulfill extra criteria, which is needed by the traditional cointegration test.

Among them are the number of deterministic components that must be controlled, the number of delays that must be provided, and the number of endogenous and

exogenous variables that must be incorporated (if any). The empirical results are often quite sensitive to both the technique utilized and the several different options evaluated during the estimation phase (Pesaran & Smith, 1998). The traditional cointegration test does not allow for independent variables to have various optimal delays, but the ARDL does. Since Narayan (2004) used Eviews to make the first set of critical value thresholds, the model can be used with a small sample size of 30 to 80 observations.

The first and most important step in the ARDL method for figuring out cointegration is estimating the conditional error correction (EC) version of the ARDL model for economic development and the factors that affect it (Pesaran et al., 2001): based on equation (1) the ARDL model equation has been developed as under:

$$\Delta T_t = \beta_0 + \sum_{i=1}^{p} \gamma_1 \Delta T_{t-i} + \sum_{i=0}^{q1} \beta_1 \Delta REER_{t-i} + \sum_{i=0}^{q2} \beta_2 \Delta CAB_{t-i} + \sum_{i=0}^{q3} \beta_3 \Delta EVI_{t-i} + \sum_{i=0}^{q4} \beta_4 \Delta IR_{t-i} + \sum_{i=0}^{a5} \beta_5 IVI + \varepsilon_t \ldots\ldots 2$$

Therefore, the equation 2 has been modified to develop error correction model equation as under:

$$\Delta \boldsymbol{T_t} = \mathrm{Q_0} + \sum_{\boldsymbol{i=1}}^{\boldsymbol{p}} {}_1 \Delta \boldsymbol{T_{t-i}} + \sum_{\boldsymbol{i=1}}^{\boldsymbol{q1}} \mathrm{Q_1} \Delta \boldsymbol{REER_t} + \sum_{\boldsymbol{i=0}}^{\boldsymbol{q2}} \mathrm{Q_2} \Delta \boldsymbol{CAB_t} + \sum_{\boldsymbol{i=0}}^{\boldsymbol{q3}} \mathrm{Q_3} \Delta \boldsymbol{EVI_t} + \sum_{\boldsymbol{i=0}}^{\boldsymbol{a4}} \mathrm{Q_4}\, \boldsymbol{IR} + \sum_{\boldsymbol{i=0}}^{\boldsymbol{a5}} \mathrm{Q_5} \boldsymbol{IVI} \lambda + ECM_{t-1} + \mathrm{s_t} \ldots\ldots \boldsymbol{3}$$

Where:

T = stand for international trade

REER = stand for real effective exchange rate

CAB = stand for current account balance

EVI = stand for export volume index

IVI = stand for import volume index

IR = stand for interest rate

β= stand for beta it is constant for the perimeter

t = stand for the time from the research from (1980-2020)

$\beta 1 \ldots .5$ *is the constant of the peremater*

ECM is the error correction method

Residual Diagnostic tests

Serial correlation test

Serial correlation in a time series occurs when there is evidence of a relationship between two variables in the series, one at each time point. Serial correlation describes the relationship between two variables in which one affects the other. “Technical analysts use this relationship to evaluate an investment's past price as a predictor of its future price. Serial correlation is a statistical concept that describes the link between repeated measurements of the same variable over time. There is no correlation if there is no correlation between observations or if the serial correlation of a variable is zero. If the serial correlation of a variable tends toward one, it means that the observations are related to each other and that the values of observations next to each other affect the values of observations next to them. For all intents and purposes, a serially linked variable exhibits order and is not completely unpredictable. Inconsistent results in practical contexts result from applying a flawed paradigm. Serial correlation in the error term occurs when error terms across multiple (typically contiguous) time periods (or cross-section data) are correlated. In time series analysis, a serial correlation happens when mistakes from one period spread to the next periods. For example, if you overestimate the rate at which stock dividends will grow in one year, you'll also overestimate their growth in succeeding years.

Heteroskedasticity

When the variance of the residuals varies in a non-uniform fashion across a sample of values, we say that the data is heteroskedastic. Residual dispersion in a regression analysis is skewed by heteroskedasticity (also known as the error term). The most common source of heteroskedasticity in regression models is faulty data collection. It has been shown that heteroskedasticity is more prevalent in models with a large range of values because of the large gaps between the minimum and maximum points. The presence or absence of heteroscedasticity in a regression model can be determined with the Breusch-Pagan test.

The following hypotheses, both null and alternate, are tested:

The "Null" Hypothesis, or H0: Homoscedasticity, exists (the residuals are distributed with equal variance).

Heteroscedasticity is a counterfactual, which says that the residuals do not have the same variance spread out.

Normality test

It is possible to explicitly examine the assumption of normality in a sample by employing a hypothesis test. The null hypothesis implies that the population does not have a normal distribution, in contrast to the alternative hypothesis. The p-value of the test must be less than the level of significance before a conclusion about the lack of normalcy can be drawn. When the p-value is higher than the threshold for rejection of the null hypothesis, this suggests that the hypothesis itself is not false. When the sample size is large, even a slight departure from normality can produce a significant p-value, but with a small sample, it may be difficult to detect non-normality. It's not wise to depend solely on the hypothesis test; instead, you should look at the normal plot and use your best judgment. To some extent, the central limit theorem insulates many statistical tests and estimators from non-normality. If the sample data's skewness and kurtosis are in line with those of a normal distribution, then the Jarque-Bera test can be used as a goodness-of-fit assessment. Always positive, the Jarque-Bera test statistic indicates that sample values do not follow a normal distribution if they are extremely far from 0.

Granger Causality Test

Based on the idea that causes exist before their consequences, G-causality is able to anticipate the latter. Clive Granger (Granger, 1969) has utilized the idea given

by Norbert Wiener to create linear vector autoregressive (VAR) models of random time series data. John Geweke and others have contributed significantly to this field (Geweke, 1982). For the most part, regression models (VARs) are straightforward mathematical constructions, where the value of a variable at a given time is explained as a (linear) weighted sum of data points in the past (typically across a number of discrete time steps) and the value of a group of additional variables. Each variable in a vector random process stores a time series. The variables used to represent these processes are also unique. The right weights should be chosen before fitting a VAR model in order to minimize estimate errors.

Many approaches may be taken. When X's past may be used to predict Y's future, we say that X is "g-caused" by Y. the sum of Y and whatever was previously known about Y (including any "conditioning" elements Z). If X and Y are able to share and receive information with one another, then the goal will be met. G-causality, which provides an estimate of transmitted entropy, has been deemed adequate for usage by Barnett et al. (2009). Shannon's measure of similarity is used in this program. Shannon's similarity measure evaluates how statistically connected two variables are.

$$\Delta InT_t = \lambda_0 + \sum_{i=1}^{m} \lambda 1i\, \Delta In\, T_{t-i} + \sum_{i=1}^{n} \lambda 2i \Delta REER_{t-i} + \sum_{t=1}^{p} \lambda 3i \Delta CAB + \sum_{i=1}^{q} \lambda 4i \Delta InEVI_{t-i} + \sum_{i=1}^{q} \lambda 4i \Delta InIVI_{t-i} + \mu_t \quad \text{.....5}$$

$$\Delta InT_t = \lambda_0 + \sum_{i=1}^{m} \lambda 1i\, \Delta In\, T_{t-i} + \sum_{i=1}^{n} \lambda 2i \Delta \mathrm{RE}ER_{t-i} + \sum_{t=1}^{p} \lambda 3i \Delta CAB_{t-i} + \sum_{i=1}^{q} \lambda 4i \Delta InEVI_{t-i} \sum_{i=1}^{q} \lambda 4i \Delta InIVI_{t-i} + \varepsilon_t \quad \text{.....6}$$

Stability tests

Because of the existence of structural changes in all variables as a result of single or many structural breakdowns, Brown et al. advised utilizing the CUSUM and CUSUMSQ tests to check the consistency of the coefficients over both the short and long periods (1975). The CUSUM and CUSUMSQ lines of international commerce have reached 5% significance over time, validating the ARDL model's stability and fitness.

CHAPTER FOUR

Introduction

This chapter provides in-depth information on the interpretation of each of the tests that were discussed in the chapter that came before this one. In this section, the many kinds of data that are evaluated include descriptive statistics, the stationary test, and the ADF unit root test, which is performed in conjunction with the stationarity. The chapter also interpreted some residual diagnostic tests, including the serial correlation test, the normality test, and the heteroskedasticity test; and finally, all of these tests were carried out with success using the EViews 12 software. The ARDL bound test is used for cointegration, and both the ARDL short run test and the ARDL long run test are run and interpreted in this section.

Table 4.1 Descriptive Statistics

	CAB	EVI	IRS	IVI	REER	TIS
Mean	5.10E+09	111.2169	6.314442	240.4646	151.3957	5.851043
Median	1.20E+09	108.6452	6.777500	235.9625	100.5760	5.782916
Maximum	3.65E+10	187.6372	11.06417	489.5706	536.8903	14.01142
Minimum	-1.70E+10	67.36635	0.316667	62.86181	49.74471	2.080370
Std. Dev.	1.21E+10	25.65493	2.776057	147.9004	117.7697	2.652285
Skewness	0.880260	0.655957	-.569006	0.257072	1.784395	0.676149
Kurtosis	3.882318	3.557278	2.538905	1.507400	5.414266	9.422780
Jarque-Bera	6.624774	3.470783	2.575623	4.257507	31.71512	3.429403
Probability	0.036429	0.176331	0.275874	0.118986	0.000000	0.180017
Sum	2.09E+11	4559.893	258.8921	9859.050	6207.224	239.8927
Sum Sq. Dev.	5.87E+21	26327.03	308.2596	874980.6	554788.1	281.3847
Observation	41	41	41	41	41	41

Source: This study calculations

According to the import mean, which is 240.4646 and is the highest mean for this category, the current account balance mean, with a value of 5.10E+09, is the lowest mean for this category.

In Nigeria, the greatest unit of commerce is 14.01142, which indicates that the country's trade value reached its highest point during this study period at 14%. The value of the skewness for each of the variables is relatively low, indicating that the skewness is of satisfactory quality. The value of the kurtosis indicates that the variables do not display a normal distribution. This is shown by the value of the kurtosis. These numbers do not vary from one another in a manner that is statistically significant. A measurement is made of the skewness of the histogram, as well as a measurement of the kurtosis of the tail shape of the histogram. Both of these measurements were taken. In the context of kurtosis, a value of three is referred to as mesokurtile, while a number that is less than that is called playtyturtile, and a value that is larger than that is called leptokurtic. The degree to which a variable deviate from being equal to zero is referred to as the variable's skewness. This is the test to determine whether or not the distribution is symmetrical. The bench for kurtosis, on the other hand, is based on how close the variable is to having a value of three. This is determined by the variable's proximity.

Stationary test

Time series data with a constant and variation are referred to as stationary data. Non-stationary data is defined as having a substantial trend or seasonality. The concept of stationarity is fundamental to time series analysis. Check out my previous blog post on the subject for a fast (but in-depth) introduction to the subject and why it is so important. "Stationarity" is the state in which the statistical properties of a time series (or, more specifically, the process by which they change) do not change over the history of the series. Stationarity is fundamental to numerous practical analytical methods, statistical tests, and models. So, checking the stationarity of a time series is essential. Rather than having to pick between two unbending options, it is typically assumed that one can determine with a high degree of certainty that a series is created by a stationary process.To check for non-stationarity and the presence of a unit root in a time series variable, statisticians employ a test known as the unit root test. Assuming the existence of a unit root (the "null hypothesis") is the starting point for the vast majority of statistical analyses. Either trend stationarity or an explosive root are other possibilities, both of which are unfavorable.

Table 4.2 ADF and PP unit root test

	ADF		***PP***	
Variables	*Level*	*1st difference*	*Level*	*1st difference*
CAB	*0.0701*	*0.000*	*0.3035*	*0.000*
T	*0.0715*	*0.042*	*0.1041*	*0.000*
EVI	*0.0111***	*-0-*	*0.0142*	*-0-*
IRS	*0.2326*	*0.000*	*0.3094*	*0.000*
REER	*0.3098*	*0.001*	*0.2614*	*0.001*
IVI	*0.5826*	*0.000*	*0.5826*	*0.000*

Source: This study calculations

*Note: Akaike info criterion, significant level 1*** 5** 10**

Both the level and the first difference of the variables are stable, as shown in Table 4.2, which displays the results of the ADF and PP unit root test. Level p-values for only one variable export is 0.0111(0.0142) The current account balance, interest rate, real effective exchange rate, trade and import all seem to remain stable at p-values of 0.0000(0.000), 0.0000(0.000), 0.0013(0.0013), 0.0428(0.0000) and 0.0000(0.0000), respectively. Based on these findings, it appears that the alternative hypothesis is more plausible than the null hypothesis when it comes to the investigated factors.

ARDL BOUND TEST

When choosing a model for a time series, it is essential to take into account the outcomes of any stationarity or cointegration tests that have been run. Based on the method of autoregressive distributed lag (ARDL) limits testing proposed by Pesaran and Shin, we conduct a test of cointegration in this investigation (1995). There are a number of advantages to using this technique as opposed to more traditional approaches to estimating, such as those proposed by Engle and Granger (1987) and Johansen (1989). (1989). (1988). (1988). (1991). (1991). In contrast to other strategies that require large data sizes for their validity to persist, it can be used regardless of the order in which the regressors are integrated (I(1) or I(0)). Moreover, it provides a more statistically significant way of examining correlation when dealing

with small data sizes.Also, unlike previous systems, it allows optimal delays to change based on the parameters. In the end, the technique uses a single reduced-form equation to determine temporal and immediate relationships between variables (Babajide & Lawal, 2016; Babajide et al., 2015; Bahmani-Oskooee & Ng, 2002; Kyophilavong et al., 2013; Odhiambo, 2010; Pesaran & Shin, 1999). After discussing the merits of the ARDL model, the authors of this study use a bound test to look for evidence of cointegration between the variables under consideration.

Table 4.3 ARDL long run bound test

Model	*Lag.*	*F-Statistic*	*Decision*
T, EVI, IRS, REER, IVI, CAB	*(3,3,2,3,4,4)*	*6.169010*	*Co-Integration Exist*
Bound Critical Value			
		I (0)	*I (1)*
Sign.	*10%*	*2.08*	*3*
	5%	*2.39*	*3.38*
	2.5%	*2.7*	*3.73*
	1%	*3.06*	*4.15*

Source: This study calculations

*Note: **at 1percent level of significance **at 5percent level of significance *at 10percent level of significance Source: Akaike info criterion (AIC) Pesaran et al. suggest the critical value bounds (2001)*

The ARDL long-run bound test results are shown in Table 4.1. The ARDL model's F-statistic (6.1690010) performs better than the crucial values of Pesaran et al. (2001) and Kripfganz and Schneider (2018) for the minimum, as determined by the 5% significant threshold (0). For all significant levels, the estimated absolute value of the t-statistic is greater than the crucial values of the lower limit provided by the previous authors. The fact that the null hypothesis is not accepted indicates that the variables are cointegrated, which is supported by the arguments that were presented earlier in this section. As a result, it is not unreasonable to draw the conclusion that the exchange rate and the other factors are associated throughout the course of a lengthy period of time.

ARDL TESTS

Table 4.4 the ARDL long and short run tests

ARDL LONG RUN

Variables	*Coef.*	*P value*
CAB	*3.11E*	*0.0019*
EVI	*0.297*	*0.0005*
IRS	*1.943*	*0.003*
IVI	*-0.0318*	*0.0057*
REER	*-0.0328*	*0.0020*

ARDL SHORT RUN

T	*-0.493*	*0.0016*
CAB	*1.22E-11*	*0.0082*
EVI	*0.297*	*0.0000*
IRS	*0.435*	*0.0108*
IVI	*-0.0274*	*0.0007*
REER	*-0.0328*	*0.0001*
ECM	*-0.360*	*0.0000*

Source: This study calculations

Note ****represent significance at,1%*** 5%** and *10% respectively Source: Long-Run ARDL. Note ****represent significance at ***1% and **5% 10%*respectively Source: ECM

In Table 4.4, we can see that both the long-term and the short-term ARDL tests found a statistically significant correlation between the variables. Nigeria's commerce, both in the long and short term, benefits from the country's positive current account balance. The findings of this research provide credence to Ousseini and Aboubacar's (2017) view that trade and the current account balance are crucial factors. We conducted an extensive empirical research of the effects of the WAEMU

trade and current account balance on M2, the real exchange rate, income, inflation, investment, and consumer spending from 1980 to 2013.Income and money supply are now part of the B/P because of research into the monetary and absorption systems (M2). In most cases, the traditional elasticity method recommends using exchange rates. The panel VAR method, which involves simulated Variance dissipation and impulse response tasks, is employed to analyze the propagation of shocks and draw additional conclusions. Statistical analysis shows that the trade deficit is adversely affected by both the money supply and family consumption expenditures. The trade surplus was found to be positively and significantly affected by the real exchange rate, income, inflation, and investment. There is a strong negative correlation between M2 money supply, investment, and the current account balance. The actual exchange rate, revenue, inflation, and consumer spending all contributed to a healthier current account balance. Since exchange rates are a major factor in trade balances, WAEMU satisfies the Marshall-Lerner criteria. There is a statistically significant negative relationship between the exchange rate and both short- and long-term trade for Nigeria. In line with this finding, Currency rate volatility raises exchange rate risk, making it harder to make decisions about international commerce and investment, as stated by Danladi et al., (2015).The purpose of this study is to examine the impact of fluctuations in the value of the Nigerian Naira on the country's external trade using annual data from the World Bank Development Indicators between 1980 and 2013. (WDI). Exchange rate volatility and international commerce were analyzed using a variety of variables, including GDP, investment, interest rates, imports, and exports, to ascertain both the long-term and short-term correlations between the two. Studies show that currency fluctuations hinder international trade.The initial step of the empirical research was to conduct an Augmented Dickey-Fuller (ADF) test for stationarity. Then, we put the cointegration, Granger, and ECM models through their paces (ECM). The Granger causality test indicated that variations in exchange rates are caused by international business. On the other hand, the co-integration test just showed that the variables were related across time. The Granger causality test was conducted. According to the findings of the ECM study, fluctuations in the value of currencies have a detrimental impact on international trade. As a consequence of this, the report recommends that the government adopt policies regarding exchange rates and trade in order to foster exchange rates that are more stable and trade circumstances that are more beneficial

for domestic producers. In order to accomplish this objective, the government will need to provide funding for the construction of reliable utilities such as power plants. The ECM has a rate of adjustment that is 36% between the short term and the long term, which makes it a significant component. The interest rate has a positive impact on Nigeria's trade with other countries, and its significance may be demonstrated by statistical analysis.

RESIDUAL DIAGNOSTIC TESTS

Table 4.5 residual diagnostic tests

Name of tests	***Tests***	***Statistic***	***P value***	***Results***
Breusch Godfrey LM test	*Serial correlation*	*1.277*	*0.3206*	*No serial correlation*
Jarque-Bera test	*Normality*	*0.870*	*0,4904*	*Normal distribution*
Greusch-pagan test	*Heteroskedasticity*	*4.004*	*0.1350*	*No heteroskedasticity*

Source: This study calculations

The hypothesis predicts a normal distribution with a lack of serial correlation and no conditional heteroskedasticity. This finding fits the hypothesis. Despite alternate assumptions, the null hypothesis shows that the model lacks serial correlation.Probability here is 0.3049, which is greater than 5%. This leads us to reject the alternative hypothesis of a sequential connection and accept the null. When tested at the 5% significance level, the null hypothesis of no heteroskedasticity is supported. Indeed, at the 5% threshold of significance. After testing, this model does not maintain its 5% accuracy. And if 0.9649 is greater than 0.05, then things are even worse than we thought. The lack of heteroskedasticity in the model has to be inferred because we cannot accept the null hypothesis at a 5% significance level. The data set should exhibit a normal distribution with a mean and standard deviation of 5-10% if the null hypothesis is correct. Five percent of the entire thing is leftovers. The probability calculated by Jarque-Bera is not statistically significant because it is more than 0.05 percent. It doesn't even register on the scales of statistics. If the cointegration null hypothesis is correct, the residuals will follow a normal distribution at the 5% significance level. We can infer that the data follows a normal distribution.

Table 4.6 Granger Causality Test

Null Hypothesis:	***Obs***	***F-Statistic***	***Prob.***
EV does not Granger Cause CAB	*39*	*0.50677*	*0.6069*
CAB does not Granger Cause EVI		*1.44866*	*0.2490*
IRS does not Granger Cause CAB	*39*	*0.04647*	*0.9547*
CAB does not Granger Cause IRS		*0.79421*	*0.4601*
IVI does not Granger Cause CAB	*39*	*0.23338*	*0.7931*
CAB does not Granger Cause IVI		*1.19114*	*0.3162*
REER does not Granger Cause CAB	*39*	*0.26699*	*0.7673*
CAB does not Granger Cause REER		*0.51741*	*0.6007*
TIS does not Granger Cause CAB	*39*	*0.40655*	*0.6691*
CAB does not Granger Cause TIS		*1.75754*	*0.1878*
IRS does not Granger Cause EVI	*39*	*0.67813*	*0.5143*
EVI does not Granger Cause IRS		*0.20301*	*0.8173*
IVI does not Granger Cause EVI	*39*	*1.87579*	*0.1688*
EVI does not Granger Cause IVI		*1.97028*	*0.1550*
REER does not Granger Cause EVI	*39*	*2.0007 1*	*0.1509*
EVI does not Granger Cause REER		*3.70844*	*0.0349****
TIS does not Granger Cause EVI	*39*	*0.07235*	*0.9303*
EVI does not Granger Cause TIS		*0.97065*	*0.3891*
IVI does not Granger Cause IRS	*39*	*0.69298*	*0.5070*
IRS does not Granger Cause IVI		*2.00381*	*0.1504*
REER does not Granger Cause IRS	*39*	*3.99374*	*0.0277****
IRS does not Granger Cause REER		*1.26244*	*0.2959*
TIS does not Granger Cause IRS	*39*	*0.25994*	*0.7726*
IRS does not Granger Cause TIS		*2.03020*	*0.1461*
REER does not Granger Cause IVI	*39*	*4.68006*	*0.0160****
IVI does not Granger Cause REER		*0.84626*	*0.4379*
TIS does not Granger Cause IVI	*39*	*0.73347*	*0.4877*
IVI does not Granger Cause TIS		*1.10125*	*0.3440*
TIS does not Granger Cause REER	*39*	*0.03098*	*0.0695*
REER does not Granger Cause TIS		*3.86193*	*0.0308****

Source: This study calculation

Results in table 4.5 suggest a unidirectional causal link between the factors. While trade does influence the real exchange rate, which is currently 0.0308, the real exchange rate is not caused by trade. Interest rates are also influenced by the exchange rate, although import does not affect the rate of exchange. The import price is not affected by a rise in the exchange rate, but exports certainly are.

Stability tests

Figure 4.1 CUSUM TEST

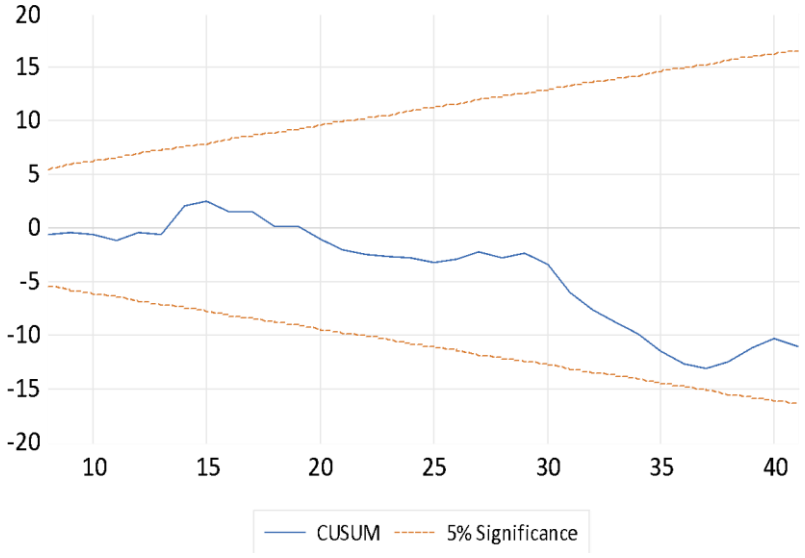
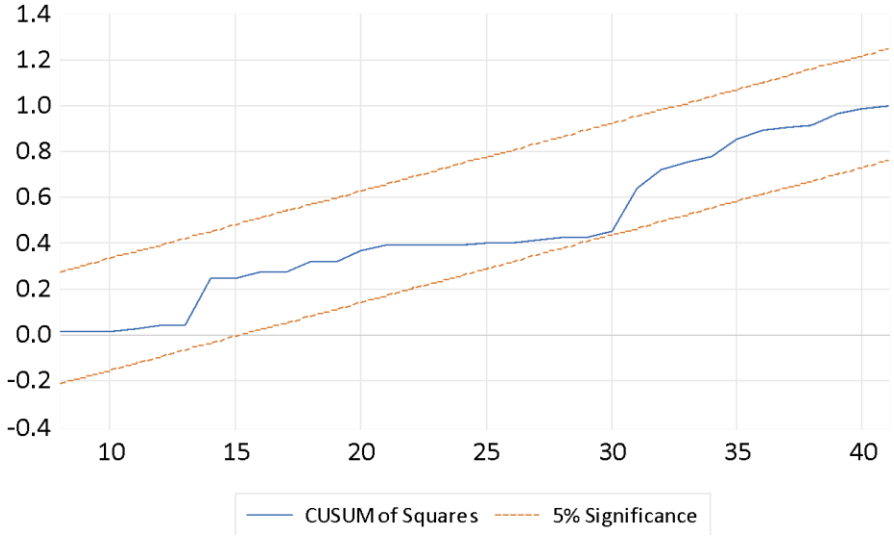


Figure 4.2 CUSUM of square test



This study used the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) tests to evaluate the consistency of the short-run and long-run coefficients provided by Brown et al., given the existence of structural changes in all

variables as a result of single or multiple structural breakdowns (1975). A long-term statistical significance of 5% was obtained for the CUSUM and CUSUMSQ rice varieties, validating the ARDL model's stability and fitness. Figures 4.1 and 4.2 show the findings of CUSUM and CUSUMSQ. The model passes the stability tests for CUSUM and CUSUMSQ at the 5% critical limits, confirming that the estimates are stable across the research period.

CHAPTER FIVE

Overview, Conclusion and Recommendations

Overview

This thesis looks at how changes in the value of the naira have affected Nigeria's external trade from 1980 to 2020. Changes in exchange rates affect the overall allocation of a country's production resources and spending between foreign and local goods, as well as export expansion, consumption, resource allocation, employment, and private investment (Takaendesa et al.,2005). Because of Nigeria's prominence in international commerce, the country has made the conscious decision to preserve the adaptability of both its economy and currency toward the rest of the world. Businesses that operate in numerous countries, make use of more than one currency, and engage in commerce beyond national boundaries are all examples of "foreign" or "international" commerce. Another way that currency can be exchanged is through trade transactions between two or more countries (Udoka and Ubom 2003). To put it another way, the cost of one currency expressed in terms of another currency is what is referred to as an "exchange rate." It has an effect on both the degree to which the external sector is competitive in international trade and the degree to which the prices of domestic and imported goods are comparable. In addition, the rate of change in prices over a specific amount of time is referred to as the "exchange rate fluctuation" in the context of this article. On a yearly basis, it is computed and published as the standard deviation of the daily percentage change expressed as a percentage. This statistic is expressed as a percentage.

Nigerian exports see a boost in value when the naira appreciates and a reduction when its value declines. The cost of exports and imports in the industrial and agricultural sectors rises and falls in response to swings in the exchange rate, introducing an element of uncertainty or risk into international trade. Uncertainty caused by variations in the exchange rate hurts trade flows, and the changes to the payment balance that result can have a big effect on the economy as a whole. Disequilibrium in our balance of payments has led to a deficit in the Nigerian economy, which has led to efforts to restore external and internal equilibrium. It was hoped that a weaker naira would boost exports and the economy as a whole, but the opposite has happened. Even though the government has been working hard to fix the economy, the devaluation of the naira has made it harder.

More and more countries are adopting trade liberalization as a necessary prerequisite for economic success, making exchange rate regimes a hotly disputed topic in international finance and emerging markets. Nigeria's exchange rate has gone through periods of government control and deregulation over the years. From 1973 to 1979, when agricultural items made up more than 70% of GDP, the naira's exchange rate was quite stable, as reported by Ewa (2011). This occurred amid Nigeria's oil boom. Following the Federal Government's implementation of Structural Adjustment Policy (SAP) in 1986, the country transitioned from a pegged currency rate regime to a flexible exchange rate regime in which the exchange rate is solely determined by market forces. Managed float, in which central banks routinely interfere in the forex market to advance policy aims, is the current norm nonetheless. The instability of the naira can be traced back to the policymakers' lack of resolve and the absence of uniformity in the rules governing the currency's exchange rate. While various governments have tried to keep the value of the naira stable since the 1980s, Benson and Victor (2012) report that their efforts have been unsuccessful.

The value of the exchange rate is a key macroeconomic statistic that demonstrates how competitive the world is. In most economies, the exchange rate is used to determine the competitiveness of a currency, but in Nigeria, it has the reverse effect. The value of one currency relative to another has increased or decreased on multiple occasions due to fluctuations in the value of the underlying currency. Consequently, some members of the public believe that the devaluation of the Nigerian naira resulted from the creation of nigeria's foreign exchange market as part of the Structural Adjustment Program (SAP). The lack of infrastructure investment, lack of mechanization in agriculture, and limited industrialization in Nigeria have all had a significant impact on the country's exports. Constraints on export growth can be attributed to a combination of factors, including low levels of foreign direct investment, a production system that is highly reliant on imported goods, a surplus of demand for foreign exchange relative to supply, a lack of a solid economic foundation, and weak exports overall outside of oil. Currency instability is exacerbated by a lack of confidence in the economy as a whole, which manifests itself in lax monetary and fiscal policies and a low level of production. 2017 (Obadan). The country's perilous dependency on oil is one of the most serious issues on the volatile foreign currency market, the size of its debt, the state of its balance of payments, and the amount of money leaving the country.

Since 1986, both the FOREX market and the IBOR have existed, when the Second Tier Foreign Exchange Market (SFEM) was created, both of which have greatly improved the concept of buying and selling foreign currency (IFEM). Therefore, commercial and merchant banks facilitate foreign exchange transactions to facilitate the exchange of domestic money for foreign currency to satisfy the demands of individuals and businesses. The foreign exchange market does more than just set the exchange rate. It also gives exporters and importers ways to protect themselves from currency fluctuations (Ayobolo, 2018).

The Nigerian government is firm in its belief that the naira's exchange rate should be left to the whims of demand and supply. The Nigeria government can increase the supply of foreign exchange or decrease demand to improve the value of the naira overseas; however, monetary authorities occasionally intervene on either the demand or supply side to limit the range within which international currencies fluctuate. When the currency rate is artificially manipulated, it indicates that routine payments and receipts to the rest of the world are being interrupted. The thesis relied heavily on secondary sources to complete its research. When people talk about "secondary data," they're referring to information that has already been collected and is readily available from other places. These data are available in less time and at a lower cost than the original data. They can also be obtained when the source data is unavailable. On the other hand, secondary data analysis involves making use of information that was gathered by a different party for a different objective. In this study, the researcher asks probing inquiries that are addressed by analyzing data that was collected by someone else. Data were not collected with the specific goal of answering the researcher's research questions; rather, the data were compiled for another objective. Because of this, one researcher may view the same data collection as the primary data set while also being considered the secondary data set by another researcher. This analysis uses data downloaded from the World Bank's website to shed light on how shifts in the value of the naira have affected inputs and exports in Nigeria from 1980 to 2020. The databases of the World Bank are vital resources that influence the institution's daily business and underpin essential management decisions. When universally accepted norms and guidelines are applied, a stable and consistent body of knowledge is produced. A time series is said to be stationary if its mean and variance remain constant across time. It is determined that the data is not stationary if there is any detectable trend or seasonality. The concept of stationarity is

central to time series analysis. You may read my prior blog post about this to get a quick (but in-depth) overview of the issue and the reasons why it's important. A time series is said to be stationary if its statistical features are the same (or, more precisely, the process that produces them) do not change during the course of the series. Many useful analytical methods, statistical tests, and models depend on stationarity. Consequently, the capability of determining if a time series is stationary is crucial. This often requires conclusive evidence that a series is generated by a steady process rather than a tight choice between two alternatives.Statisticians can ascertain whether or not a time series variable is non-stationary and has a unit root by conducting a unit root test. The absence of a unit root serves as the null hypothesis, while stationarity, trend stationarity, or an explosive root serve as the alternative hypotheses, any of which can be tested independently. In order to establish the order of integration for the Augmented Dickey-Fuller (ADF) test, all variables are subjected to the unit root test to establish whether or not they are stationary (the stationary level). In order to determine whether or not an autoregressive model has a unit root, statisticians David Dickey and Wayne Fuller of the United States developed the Dickey-Fuller test in 1979. (a trait that may pose problems with statistical inference). If you have a time series that has a trend, like asset prices, the algorithm can help you analyze it. Although the Dickey-Fuller test is the most fundamental technique for finding a unit root, the complex and dynamic structure of most economic and financial time series exceeds the capabilities of a standard autoregressive model. Simply put, an ADF is an enhanced version of the Dickey-Fuller exam, which may be deduced from familiarity with the test's underlying idea.These same statisticians updated their basic autoregressive unit root test (the Dickey-Fuller test) in 1984 to accept models with higher degrees of complexity and ambiguous order (the augmented Dickey-Fuller test). When choosing a model of time series, it is essential to double-check stationarity and Results of the cointegration test. Testing for cointegration within autoregressive distributed lag (ARDL) restrictions was recently proposed by Pesaran and Shin, and we implement that method here (1995). Compared to methods used in the past for estimating values, such as those developed by Engle and Granger (1987) and Johansen, this one is an improvement (1988). (1988). (1991). (1991). Two of its main advantages are that (1) it may be employed regardless of whether the regressors are integrated in the first or second order (I(1) or I(0)) and (2) it is a more statistically significant

technique for assessing correlation when dealing with small data sizes. It also allows for distinct optimal delays for each variable, which is not achievable with other approaches.The method's reduced-form equation is used to find both stable and transitory associations between variables (Babajide & Lawal, 2016; Babajide et al., 2015; Bahmani-Oskooee & Ng, 2002; Kyophilavong et al., 2013; Odhiambo, 2010; Pesaran & Shin, 1999). Following a discussion of the ARDL model and its merits, this research uses a bound test to explore the possibility of cointegration between the relevant variables. Here are certain tests that need to be run: Time series exhibit serial correlation when it is found that two variables, one at period T and its lag version (for instance, a variable at periods T and T-1) are related. When one variable's value affects another variable's value, a serial correlation has occurred in the cyclical phenomenon. In the financial sector, technical analysts investigate the accuracy of past prices in predicting future ones. Heteroskedasticity occurs when there is a continuous range of values for the residual variance. Heteroskedasticity in a regression analysis is represented by residuals that deviate significantly from normality (also known as the error term). Numerous factors can lead to heteroskedasticity in regression models; however, problems with the dataset are the most common source. A hypothesis test allows one to state with certainty whether or not the data in question follows a normal distribution. The null hypothesis is that the population is regularly distributed, while the alternative hypothesis is that it is not. The null hypothesis that the data are normally distributed can be rejected if the test's p-value is smaller than the significance level you choose. For a hypothesis test, the null cannot be rejected if the p-value is larger than the significance level. It may be easy to identify non-normality with a large sample, but with a small sample, even a slight departure from normality could result in a statistically significant p-value. The normal plot and your own judgment should replace blind reliance on the hypothesis test. The central limit theorem ensures that many statistical tests and estimators can handle data that deviates somewhat from normality. The Jarque-Bera test is a goodness-of-fit test used by statisticians to see if sample data have skewness and kurtosis that are consistent with a normal distribution. Data from a sample that fails to normalize with a Jarque-Bera test statistic greater than zero suggest that the data are not normally distributed. Given the presence of structural changes in all variables as a result of single or many structural breakdowns, Brown et al. (2009) suggested utilizing the cumulative sum (CUSUM) and cumulative sum of squares

(CUSUMSQ) tests to evaluate short-run and long-run coefficient stability (1975). The ARDL model's consistency and fitness have been confirmed by the fact that the CUSUM and CUSUMSQ international trade lines have achieved 5% significance over time. The results of the ADF unit root test are provided in Table 4.1; they show that the variables are level and the first difference is stable. While the p-value for export is 0.0111, the p-value for trading is 0.0115 at this significance level. Moreover, the p values for the current account balance, interest rate, real effective exchange rate, and import are all near zero, suggesting that they do not fluctuate over time. Because of these findings, we can conclude that the variables do in fact exist, rejecting the null hypothesis. Examining the ARDL long-run bound yields the results shown in Table 4.1. I find that the ARDL model's F-statistic (6.1690010), at the 5% level of significance, performs better than the crucial values of Pesaran et al. (2001) and Kripfganz and Schneider (2018) for the lower bound (0). The estimated t-statistic value is larger than the critical values of the lower limit given by the previous authors at all significant levels. The above evidence suggests that the variables are co-integrated, so the null hypothesis must be rejected. This suggests a long-term relationship between the exchange rate and the other variables considered. The long- and short-run ARDL test results are displayed in Table 4.3, and they show that the variables are strongly correlated in both time frames. The current account balance has a positive and statistically significant effect on Nigeria's economy. Ousseini and Aboubacar's (2017) argument that trade and the current account balance are crucial drivers is bolstered by their findings. Between 1980 and 2013, we analyzed the effects of the WAEMU trade and current account balance on M2, the real exchange rate, income, inflation, investment, and consumer spending. Why income and money supply are included in the balance of payments can be gleaned from an examination of the monetary and absorption systems (M2). The conventional approach to elasticity analysis typically suggests making use of prevailing exchange rates. We employ the panel VAR method, which involves simulated variance decompositions and impulse response functions, to analyze the propagation of

shocks and draw additional conclusions. The trade deficit had a detrimental impact on both the money supply and household expenditure. We also discovered that shifts in income, inflation, and investment had sizable effects on the trade surplus. Reducing investment and increasing the current account deficit are common outcomes of expanding the money supply. A positive and sizeable influence on the

current account balance was contributed by the real exchange rate, income, inflation, and consumer spending. WAEMU satisfies the Marshall-Lerner criterion due to the considerable effect of exchange rates on trade deficits and surpluses. Furthermore, both short-term and long-term trade with Nigeria are negatively correlated with the exchange rate. According to Danladi et al.,(2015) the result is consistent with Currency rate volatility that increases exchange rate risk, making it more challenging to make decisions on international commerce and investment.This study makes an effort to analyze the effect of currency rate variations on international commerce in Nigeria using annual data from World Bank Development Indicators between 1980 and 2013. (WDI). The long-run and short-run relationships between exchange rate volatility and international commerce were evaluated using GDP, investment, interest rates, imports, and exports. The studies show that currency rate fluctuations hinder international trade. An Augmented Dickey-Fuller (ADF) test for variable stationarity was the first step in the empirical analysis, followed by tests of co-integration, Granger causality, and the Error Correction Model (ECM). Although the Granger causality test showed no association between international commerce and exchange rate volatility, the co-integration test found that the variables are co-integrated, implying a long-run link. The study by ECM discovered that fluctuations in currency exchange rates are bad for international trade. As a result, the research suggests that the government should adopt exchange rate and trade policies that promote more stable exchange rates and trade circumstances that benefit domestic manufacturing. For this to occur, the government must invest in reliable utilities like reliable energy supplies. The ECM has a sizeable component of long-term-to-short-term adjustment (36% to be exact). Rates of interest have a statistically significant, beneficial effect on Nigeria's commerce with other countries. This hypothesis predicts a normal distribution free of serial correlation and conditional heteroskedasticity. This result seems to lend credence to the theory. Despite competing hypotheses, the absence of serial correlation is evident in the model under consideration here (the null hypothesis). With a 5% chance, the probability is 0.3049. We reject the alternative hypothesis of a serial correlation and accept the null. At the 5% level, the absence of heteroskedasticity is consistent with the null hypothesis. Under the assumption of a significance threshold of 5, the model still has a failure rate that is greater than 5% after rigorous testing. Things are substantially worse than expected if 0.9649 > 0.05. The failure to reject the null hypothesis at the 5% level

suggests a lack of heteroskedasticity in the model. The data set should have a normal distribution with a mean and standard deviation of 5-10% if the null hypothesis is valid. Garbage accounts for about 5% of the whole. Jarque-probability Bera's is not statistically significant because it is greater than 0.05 percent. In terms of statistical significance, it is completely insignificant. For a 5% level of significance, the residuals will have a normal distribution if the cointegration null hypothesis is correct. In this example, a normal distribution best describes the data. It was determined how stable the short-run and long-run coefficients given by Brown et al. were by applying the cumulative sum (CUSUM) and cumulative sum of squares (CUSUMSQ) tests, respectively, due to the existence of structural changes in all variables as a result of single or multiple structural breakdowns (1975).Rice production lines CUSUM and CUSUMSQ, both of which met the 5% significance threshold, attest to the longevity and viability of the ARDL concept. Figures 4.1 and 4.2 show the CUSUM and CUSUMSQ output, respectively. The CUSUM and CUSUMSQ stability tests at 5% critical limits indicate that the model produces stable estimates throughout the study period. Naira volatility has increased as a result of government incoherence and inconsistent currency rate measures (Ewubare & Dennis, 2019). Despite the government's best efforts to maintain a stable exchange rate during the 1980s and beyond, the value of the naira has been steadily declining, as shown by Benson and Victor (2018). As a result, this study will analyze how Nigeria's trade has been impacted by the naira's fluctuating value.

Conclusion

This thesis investigates the influence of currency rate variations on foreign business in Nigeria from 1980 to 2020. The Nigerian government is certain that the naira's exchange rate should be determined by supply and demand. The government of Nigeria may either enhance or reduce demand for foreign currency to improve the value of the naira overseas, despite the fact that monetary authorities periodically interfere on the demand or supply side to restrict the range within which international currencies move. When the exchange rate is artificially altered, it complicates international monetary transactions.The purpose of currency rate management in structural adjustment programs is to minimize imports, enhance agricultural production, encourage local raw material sourcing, and diversify exports. Prior to the structural adjustment program, many people would never have thought to look in

their own communities for raw materials. Our financial system's inefficiency produces a "lag" between the time an overseas buyer pays for things at his bank and the time those monies are placed in the seller's account, complicating international transactions. The phrase "remittance lag" refers to the delay in receiving cash that may result in currency conversion issues. When it comes to national economies and social structures, international trade is crucial, especially for developing nations like Nigeria.

This category includes market competitiveness and, by extension, a stable balance of payments, the giving and receiving of gifts, and the distribution of investment returns, all of which entail the usage of foreign money. In the domestic market, it serves as a price anchor, keeping everything more or less in check. It contributes to price stability. It promotes remittances to the home nation, reinvestment of profits, and the purchase of products and services exported from other countries (Kalu and Anyanwaokoro, 2020). To summarize, foreign currency facilitates international commerce, promotes travel and tourism, and stimulates foreign investment. It also promotes the transfer of goods and services across borders, as well as currency exchange rate speculation. Because the market for services, assets, and services links all economies globally, it is reasonable to argue that no nation can live on its own in today's globalized world (Akpan, 2018). Both domestic prices and the amount of international business are significantly affected by the current exchange rate. If we want to promote international trade and keep our balance of payments stable, we need stable exchange rates (Emekekwue, 2016). Since the Bretton Woods system of fixed exchange rates collapsed in the 1970s, the world has been dealing with the repercussions, with most countries experiencing currency fluctuations. Currency price volatility has been a source of concern for both researchers and policymakers in recent years (IMF, 2019). The repercussions of these events are being felt in the GDP of most rising nations, particularly those with monocultural economies like Nigeria's. Nigeria's foreign currency reserves have been stretched as the industrial sector has pushed local consumers to depend solely on imports to satisfy their demands (Kalu and Anyanwaokoro,2020).

Because of currency rate changes, risk-averse merchants restrict export and import operations and reallocate manufacturing to local markets. As the currency rate becomes more unpredictable, those who are unwilling to take undue risks will see their overseas trade expenses increase and their activity level fall.Panda and Mohanty

(2015) argue that excessive currency fluctuation hinders export efficiency, price discovery, and the long-term viability of the current account balance. In a country like Nigeria, where the oil market is already unstable, fluctuations in global oil prices could cause sudden shocks. If there were no international commerce, each country should be entirely self-sufficient. Each country must therefore depend on its own production. Someone who does not depend on anybody else for anything, even basic requirements like food and clothes, would have the same outcome. Any country that participates in international commerce will benefit by concentrating on the items and services that it excels in. Overall output is greater as a consequence of specialization than if each nation strived for full independence. A country's currency rate will be more stable and less volatile in the long term if it generates more money from exports than it spends on imports. The study's findings serve as the foundation for this thesis. According to the ADF unit root test, both the level and the first difference of the variables are stable, as shown in Table 4.1. The p-values for two variables, trade and export, were 0.0115 and 0.0111, respectively. Meanwhile, the current account balance, interest rate, real effective exchange rate, and import each have p values of 0.0000, 0.0000, 0.0013, and 0.0000, and appear to be quite constant. These results indicate that the alternative to accepting the null hypothesis for the variables is more likely. Table 4.1 shows an example of the ARDL long-run bound test. The ARDL model's F-statistic (6.1690010) is greater than the critical values of the bottom limit, I, from Pesaran et al. (2001) and Kripfganz and Schneider (2001) at a 5% level of significance (2018). (0). At all significance levels considered, the absolute value of the t-statistic produced is bigger than the critical values of the lower limit reported by the previous writers. Based on the data presented above, it is evident that the null hypothesis is wrong and that the variables are co-integrated. As a result, it is acceptable to conclude that the exchange rate and the other variables are connected throughout time. The results of the ARDL tests are shown in Table 4.3, and they show a substantial association between the variables in both the short and long terms. There is statistical evidence that the current account balance benefits both long-term and short-term commercial activity in Nigeria. This study supports the findings of Ousseini and Aboubacar (2017), who discovered that the trade balance and current account balance were important contributors. We examined how changes in the WAEMU's trade and current account balance affected the money supply (M2), real exchange rate, income, inflation, investment, and household consumption

spending from 1980 to 2013. Along with income and money supply, an analysis of the monetary and absorption systems is included in the balance of payments (M2). The typical elasticity technique advocates the use of currency rates. We employ the panel VAR approach to describe shock transmission and supplemental deductions, which entails conducting a simulation of variance decompositions and impulse response functions. According to the data, both the money supply and household consumption expenditures have a negative impact on the trade balance. Factors such as the current currency rate, income, inflation, and investment all had a favorable impact. The amount of money in circulation, the level of investment, and the current account balance are all inextricably linked. The real exchange rate, income, inflation, and consumer spending all had a positive impact on the current account surplus. Waemu meets the Marshall-Lerner criterion because the exchange rate is important in determining trade surpluses and deficits. Furthermore, the currency rate has a statistically significant negative long-term correlation with Nigerian business. This finding is supported by According to Danladi et al., (2015), exchange rate risk increases when currency rates fluctuate, making international trade and investment decisions more difficult. The effect of changes in the exchange rate on Nigerian exports and imports between 1980 and 2013 is analyzed using data from the World Bank's Development Indicators. (WDI). Different variables, including GDP, investment, interest rates, imports, and exports, were used to analyze the long- and short-term connections between exchange rate volatility and international commerce. According to the research, fluctuations in exchange rates hurt international commerce. An Augmented Dickey-Fuller (ADF) test for variable stationarity served as the starting point for the empirical investigation, which also included tests of co-integration, Granger causality, and the Error Correction Model (ECM). The results of the Granger causality test demonstrate a direct connection between international trade and exchange rate volatility, whilst the results of the co-integration test demonstrate a long-term association between the variables. According to the ECM study, fluctuations in the value of a currency's exchange rate can have serious consequences for international trade. The report suggests that the government should adopt policies on exchange rates and trade in order to improve the economic climate for indigenous producers. As a result, the government must finance dependable utilities such as energy production. There is a noticeable ECM, with a 36% speed difference between short and long runs. The interest rate also has a statistically

significant impact on Nigerian-to-other-country trade. The hypothesis states that the data should be normally distributed, with no conditional heteroskedasticity or serial correlation. This is the expected outcome, according to the hypothesis. The lack of serial correlation in the model is shown by the null hypothesis regardless of the alternative assumptions. The probability of 0.3049 means that it is greater than 0.05%. We reject the alternative hypothesis that there is a serial relationship and instead accept the null. At the 5% level of significance, the lack of heteroskedasticity predicted by the null hypothesis is confirmed. With the presumption of a significance level of 5, yes. Unfortunately, our testing revealed that this model failed to sustain the 5% cutoff. If 0.9649 is larger than 0.05, then things are worse than we thought. Since the null hypothesis cannot be accepted at the 5% level, we must conclude that the model is heteroskedastic. A normal distribution with a standard deviation of between 5 and 10% is assumed if the null hypothesis is accepted. Close to five percent of everything is wasted. If Jarque's likelihood for Bera's is more than 0.05 percent, it is not statistically significant. There is zero proof that it is meaningful in any way. The cointegration null hypothesis predicts a normally distributed 5% level of residuals. This situation lends itself to a normal distribution assumption.The study's findings serve as the foundation for this thesis. According to the ADF unit root test, both the level and the first difference of the variables are stable, as shown in Table 4.1. The p-values for two variables, trade and export, were 0.0115 and 0.0111, respectively. Meanwhile, the current account balance, interest rate, real effective exchange rate, and import each have p values of 0.0000, 0.0000, 0.0013, and 0.0000, and appear to be quite constant. These results indicate that the alternative to accepting the null hypothesis for the variables is more likely. Table 4.1 shows an example of the ARDL long-run bound test. The ARDL model's F-statistic (6.1690010) is greater than the critical values of the bottom limit, I, from Pesaran et al. (2001) and Kripfganz and Schneider (2001) at a 5% level of significance (2018). (0). At all significance levels considered, the absolute value of the t-statistic produced is bigger than the critical values of the lower limit reported by the previous writers. Based on the data presented above, it is evident that the null hypothesis is wrong and that the variables are co-integrated. As a result, it is acceptable to conclude that the exchange rate and the other variables are connected throughout time. The results of the ARDL tests are shown in Table 4.3, and they show a substantial association between the variables in both the short and long terms. The

current account balance has been shown statistically to improve Nigeria's trade both in the long and short term. Ousseini and Aboubacar (2017) found that the trade balance and current account balance were significant factors; this research corroborate their findings. Between 1980 and 2013, we analyzed the effects of the WAEMU's trade and current account balance on the M2 money supply, the real exchange rate, income, inflation, investment, and consumer spending. The balance of payments includes an investigation of the monetary and absorption systems in addition to an examination of income and money supply (M2). In the standard elasticity method, exchange rates are used. By simulating variance decompositions and impulse response functions, we use the panel VAR method to describe shock transmission and supplementary deductions. According to the numbers, the trade deficit is exacerbated by increases in the money supply and personal consumption expenditures. Positive effects were seen from things like the current exchange rate, income, inflation, and investment. The amount of money in circulation, the level of investment, and the current account balance are all inextricably linked. The real exchange rate, income, inflation, and consumer spending all had a positive impact on the current account surplus. Waemu meets the Marshall-Lerner criterion because the exchange rate is important in determining trade surpluses and deficits. Furthermore, the currency rate has a statistically significant negative long-term correlation with Nigerian business. This finding is supported by According to Danladi et al., (2015), exchange rate risk increases when currency rates fluctuate, making international trade and investment decisions more difficult. The World Bank's Development Indicators data are used to examine the impact of exchange rate fluctuations on Nigerian exports and imports between 1980 and 2013. (WDI). To determine both long-term and short-term relationships, exchange rate volatility and international trade were examined using a variety of variables such as GDP, investment, interest rates, imports, and exports. Variations in exchange rates, according to the study, have a negative impact on global trade. The empirical inquiry began with an Augmented Dickey-Fuller (ADF) test for variable stationarity and advanced to tests of co-integration, Granger causality, and the Error Correction Model (ECM). While the co-integration test results show a long-term relationship between the variables, the Granger causality test results show a direct relationship between international trade and exchange rate volatility. Fluctuations in the value of a currency's exchange rate, according to the ECM study, can have a significant negative impact on international

trade. According to the study, for the economy to thrive, the government should implement exchange rate and trade policies that create more stable exchange rates and favorable trade conditions for domestic manufacturers. As a result, the government must finance dependable utilities such as energy production.With a 36% variation in velocity between short and long runs, the ECM is clearly present. Currency exchange rates between Nigeria and other countries are also significantly affected by the interest rate. If the data are normally distributed, then there shouldn't be any serial correlation or conditional heteroskedasticity, as stated by the hypothesis. According to the theory, this is the predicted result. The lack of serial correlation in the model is shown by the null hypothesis regardless of the alternative assumptions. The probability of 0.3049 means that it is greater than 0.05%. We reject the alternative hypothesis that there is a serial relationship and instead accept the null. At the 5% level of significance, the lack of heteroskedasticity predicted by the null hypothesis is confirmed. With the presumption of a significance level of 5, yes. Unfortunately, our testing revealed that this model failed to sustain the 5% cutoff. If 0.9649 is larger than 0.05, then things are worse than we thought. Since the null hypothesis cannot be accepted at the 5% level, we must conclude that the model is heteroskedastic. A normal distribution with a standard deviation of between 5 and 10% is assumed if the null hypothesis is accepted. Close to five percent of everything is wasted. If Jarque's likelihood for Bera's is more than 0.05 percent, it is not statistically significant. There is no evidence that it has any significance. If the cointegration null hypothesis is correct, residuals at the 5% level will have a normal distribution. We can assume that the data follows a normal distribution in this case. Researchers used Brown et al.'s short-run and long-run stability tests (CUSUM and CUSUMSQ) to investigate the possibility of structural changes in all variables as a result of a single or multiple structural breakdowns. The CUSUM and CUSUMSQ rice production lines have proven the stability and fitness of the ARDL model by meeting the 5% significance threshold over time. Figures 4.1 and 4.2 display the outcomes of CUSUM and CUSUMSQ, respectively. The model is stable at the 5% critical limits, as shown by the CUSUM and CUSUMSQ tests, and the estimates are consistent over the duration of the study. Given that no nation's economy can function autonomously due to standardization, currency conversion plays a crucial role in international dynamics. One possible indicator of a country's healthy balance of payments is the currency exchange rate (BOP). It can serve as a mechanism for

nominal anchoring of price stability if done correctly (Oladipupo and Onotaniyohuwo, 2011).

Recommendations

Strategic mediation is required due to the detrimental effects of fluctuating exchange rates on Nigeria's exports and imports,balancing monetary and fiscal policies to limit its impact.This is because financial shocks tend to increase volatility in currency markets.

In order to stabilize exchange rates and improve trade conditions that favor domestic industry, the report recommends a number of policy changes. There will be a net increase in non-oil exports and a decrease in imports, according to the study. The government's role in achieving this goal is best illustrated by the provision of reliable infrastructure services, especially in the areas of power generation and distribution.

To make Nigerian-made goods more competitive abroad and ensure a positive trade balance for the country's publicly traded multinational corporations, the government should encourage and increase the usage of local raw materials in manufacturing processes. In addition to making sure everything is up to par with global norms, the people in charge of manufacturing should conduct quality checks on the goods produced by domestic industries.

Governments should encourage trade-related excess balances, a trade-friendly environment, the appropriate level of security, effective fiscal and monetary policies, and infrastructure facilities for foreign investors because exchange rate fluctuations have a significant impact on the quantity of exports. For economies to become less reliant on the international market and less vulnerable to fluctuations in exchange rates, it is essential for the government to forge connections between basic commodities and industrialization.

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Appendice

	CAB	EVI	IRS	IVI	REER	TIS
Mean	5.10E+09	111.2169	6.314442	240.4646	151.3957	5.851043
Median	1.20E+09	108.6452	6.777500	235.9625	100.5760	5.782916
Maximum	3.65E+10	187.6372	11.06417	489.5706	536.8903	14.01142
Minimum	-1.70E+10	67.36635	0.316667	62.86181	49.74471	2.080370
Std. Dev.	1.21E+10	25.65493	2.776057	147.9004	117.7697	2.652285
Skewness	0.880260	0.655957	-0.569006	0.257072	1.784395	0.676149
Kurtosis	3.882318	3.557278	2.538905	1.507400	5.414266	3.422780
Jarque-Bera	6.624774	3.470783	2.575623	4.257507	31.71512	3.429403
Probability	0.036429	0.176331	0.275874	0.118986	0.000000	0.180017
Sum	2.09E+11	4559.893	258.8921	9859.050	6207.224	239.8927
Sum Sq. Dev.	5.87E+21	26327.03	308.2596	874980.6	554788.1	281.3847
Observations	41	41	41	41	41	41

UNIT ROOT TEST

Null Hypothesis: CAB has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.782343	0.0701
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Null Hypothesis: D(CAB) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.019630	0.0000
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

EVI

Null Hypothesis: EVI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.566250	0.0111
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.

IRS

Null Hypothesis: IRS has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.135105	0.2326
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.
Null Hypothesis: D(IRS) has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-6.634847	0.0000
Test critical values:	1% level	-3.615588	
	5% level	-2.941145	
	10% level	-2.609066	

*MacKinnon (1996) one-sided p-values.

IVI

Null Hypothesis: IVI has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.379475	0.5826
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

Null Hypothesis: D(IVI) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-5.531054	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

REER

Null Hypothesis: REER has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.943375	0.3098
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.
Null Hypothesis: D(REER) has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-4.366347	0.0013
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

TIS

Null Hypothesis: TIS has a unit root
Exogenous: Constant
Lag Length: 8 (Automatic - based on t-statistic, lagpval=0.9, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.786386	0.0715
Test critical values:	1% level	-3.653730	
	5% level	-2.957110	
	10% level	-2.617434	

*MacKinnon (1996) one-sided p-values.
Null Hypothesis: D(TIS) has a unit root
Exogenous: Constant
Lag Length: 8 (Automatic - based on t-statistic, lagpval=0.9, maxlag=9)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-3.033133	0.0428
Test critical values:	1% level	-3.661661	
	5% level	-2.960411	
	10% level	-2.619160	

PP UNIT ROOT TEST

CAB

Null Hypothesis: CAB has a unit root
Exogenous: Constant
Bandwidth: 10 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-1.958103	0.3035
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.
Null Hypothesis: D(CAB) has a unit root
Exogenous: Constant
Bandwidth: 36 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-5.736077	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

EVI

Null Hypothesis: EVI has a unit root
Exogenous: Constant
Bandwidth: 6 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-3.467973	0.0142
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.

IRS

Null Hypothesis: IRS has a unit root
Exogenous: Constant
Bandwidth: 7 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-1.944321	0.3094
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.
Null Hypothesis: D(IRS) has a unit root
Exogenous: Constant
Bandwidth: 38 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-12.06727	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

Residual variance (no correction)	3.149375
HAC corrected variance (Bartlett kernel)	0.243999

IVI

Null Hypothesis: IVI has a unit root
Exogenous: Constant
Bandwidth: 0 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-1.379475	0.5826
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

*MacKinnon (1996) one-sided p-values.
Null Hypothesis: D(IVI) has a unit root
Exogenous: Constant
Bandwidth: 2 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-5.527068	0.0000
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

REER

Null Hypothesis: REER has a unit root
Exogenous: Constant
Bandwidth: 4 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-2.059710	0.2614
Test critical values:	1% level	-3.605593	
	5% level	-2.936942	
	10% level	-2.606857	

Null Hypothesis: D(REER) has a unit root
Exogenous: Constant
Bandwidth: 16 (Newey-West automatic) using Bartlett kernel

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-4.350614	0.0013
Test critical values:	1% level	-3.610453	
	5% level	-2.938987	
	10% level	-2.607932	

*MacKinnon (1996) one-sided p-values.

T

Null Hypothesis: TIS has a unit root
Exogenous: None
Lag length: 0 (Spectral OLS-detrended AR based on t-statistic, lagpval=0.2, maxlag=1)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-1.590674	0.1041
Test critical values:	1% level	-2.624057	
	5% level	-1.949319	
	10% level	-1.611711	

Null Hypothesis: D(TIS) has a unit root
Exogenous: None
Lag length: 0 (Spectral OLS-detrended AR based on t-statistic, lagpval=0.2, maxlag=1)

		Adj. t-Stat	Prob.*
Phillips-Perron test statistic		-6.624462	0.0000
Test critical values:	1% level	-2.625606	
	5% level	-1.949609	
	10% level	-1.611593	

ARDL BOUND TEST

F-Bounds Test — Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	6.169010	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

ARDL LONG RUN

ARDL Long Run Form and Bounds Test
Dependent Variable: D(TIS)
Selected Model: ARDL(3, 3, 2, 3, 4, 4)
Case 2: Restricted Constant and No Trend
Date: 11/18/22 Time: 15:59
Sample: 1 41
Included observations: 37

Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.78340	3.879201	4.584294	0.0006
TIS(-1)*	-0.360531	0.239248	-1.506936	0.1577
REER(-1)	0.017397	0.009674	1.798259	0.0973
IVI(-1)	0.033138	0.007098	4.668789	0.0005
IRS(-1)	1.943651	0.394196	4.930670	0.0003
EVI(-1)	-0.364796	0.076915	-4.742830	0.0005
CAB(-1)	3.11E-10	7.83E-11	3.970735	0.0019
D(TIS(-1))	-0.493393	0.248001	-1.989478	0.0699
D(TIS(-2))	-0.428445	0.207015	-2.069628	0.0607
D(REER)	-0.032858	0.008366	-3.927588	0.0020
D(REER(-1))	-0.046324	0.013536	-3.422255	0.0051
D(REER(-2))	-0.037564	0.011183	-3.359025	0.0057
D(IVI)	-0.027473	0.009016	-3.046949	0.0101
D(IVI(-1))	-0.031874	0.009491	-3.358375	0.0057
D(IRS)	0.435387	0.232216	1.874922	0.0853
D(IRS(-1))	-0.665069	0.234324	-2.838251	0.0149
D(IRS(-2))	-0.305476	0.197695	-1.545183	0.1483
D(EVI)	0.045783	0.024839	1.843222	0.0901
D(EVI(-1))	0.297519	0.062921	4.728430	0.0005
D(EVI(-2))	0.121647	0.033877	3.590870	0.0037
D(EVI(-3))	0.034263	0.017677	1.938288	0.0765
D(CAB)	1.22E-10	5.41E-11	2.258963	0.0433
D(CAB(-1))	-5.72E-11	6.16E-11	-0.929529	0.3709
D(CAB(-2))	3.29E-11	5.17E-11	0.637140	0.5360
D(CAB(-3))	1.98E-10	6.46E-11	3.067715	0.0098

ARDL SHORT RUN

ARDL Error Correction Regression
Dependent Variable: D(TIS)
Selected Model: ARDL(3, 3, 2, 3, 4, 4)
Case 2: Restricted Constant and No Trend
Date: 11/18/22 Time: 16:02
Sample: 1 41
Included observations: 37

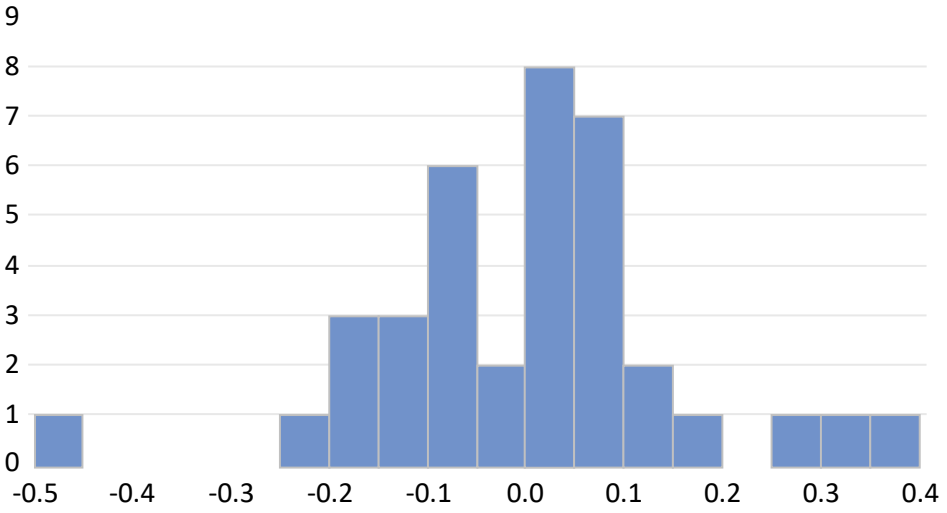
ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(TIS(-1))	-0.493393	0.121879	-4.048214	0.0016
D(TIS(-2))	-0.428445	0.125383	-3.417090	0.0051
D(REER)	-0.032858	0.005782	-5.683200	0.0001
D(REER(-1))	-0.046324	0.008849	-5.235179	0.0002
D(REER(-2))	-0.037564	0.008313	-4.518918	0.0007
D(IVI)	-0.027473	0.006069	-4.526529	0.0007
D(IVI(-1))	-0.031874	0.007058	-4.515686	0.0007
D(IRS)	0.435387	0.144573	3.011531	0.0108
D(IRS(-1))	-0.665069	0.177512	-3.746613	0.0028
D(IRS(-2))	-0.305476	0.147812	-2.066645	0.0610
D(EVI)	0.045783	0.014285	3.204965	0.0076
D(EVI(-1))	0.297519	0.044878	6.629555	0.0000
D(EVI(-2))	0.121647	0.025933	4.690839	0.0005
D(EVI(-3))	0.034263	0.013550	2.528710	0.0265
D(CAB)	1.22E-10	3.87E-11	3.161229	0.0082
D(CAB(-1))	-5.72E-11	3.68E-11	-1.556904	0.1455
D(CAB(-2))	3.29E-11	3.51E-11	0.936758	0.3674
D(CAB(-3))	1.98E-10	4.12E-11	4.809682	0.0004
CointEq(-1)*	-0.360531	0.044796	-8.048267	0.0000

Residual tests

Breusch-Godfrey Serial Correlation LM Test:
Null hypothesis: No serial correlation at up to 2 lags

F-statistic	1.277360	Prob. F(2,10)	0.3206
Obs*R-squared	7.529011	Prob. Chi-Square(2)	0.0232



Series: Residuals	
Sample 5 41	
Observations 37	
Mean	-3.46e-15
Median	0.013425
Maximum	0.379623
Minimum	-0.476057
Std. Dev.	0.156970
Skewness	-0.159645
Kurtosis	4.579824
Jarque-Bera	4.004927
Probability	0.135002

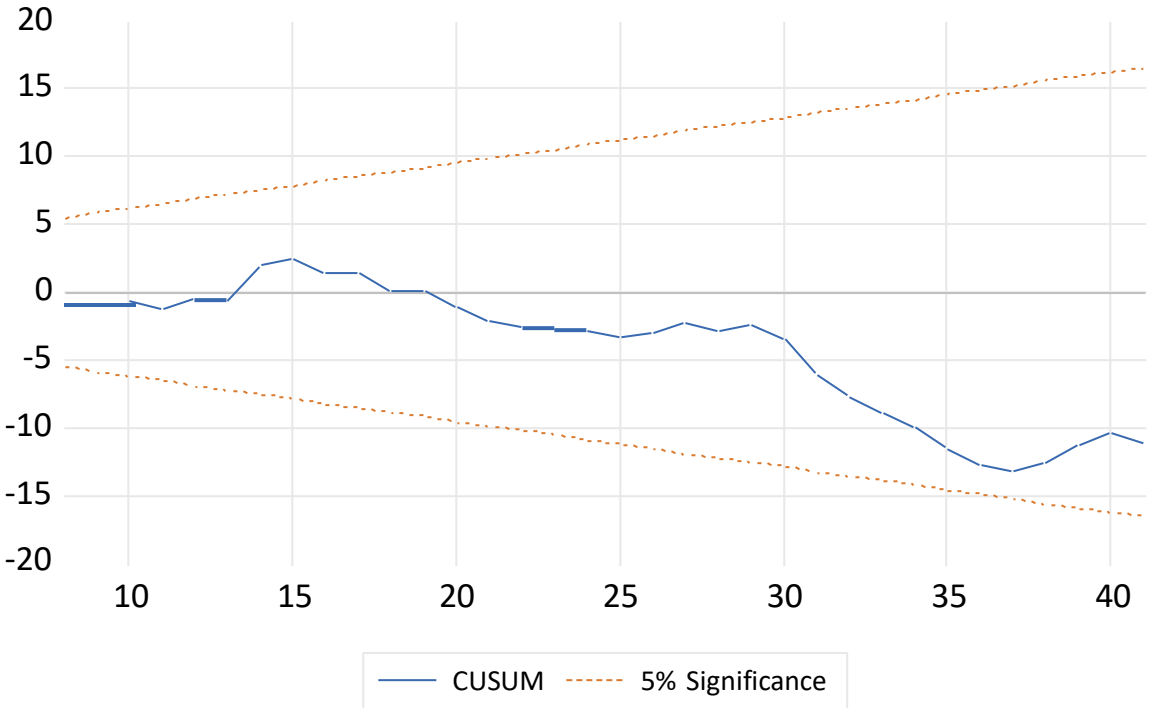
Heteroskedasticity Test: Breusch-Pagan-Godfrey
Null hypothesis: Homoskedasticity

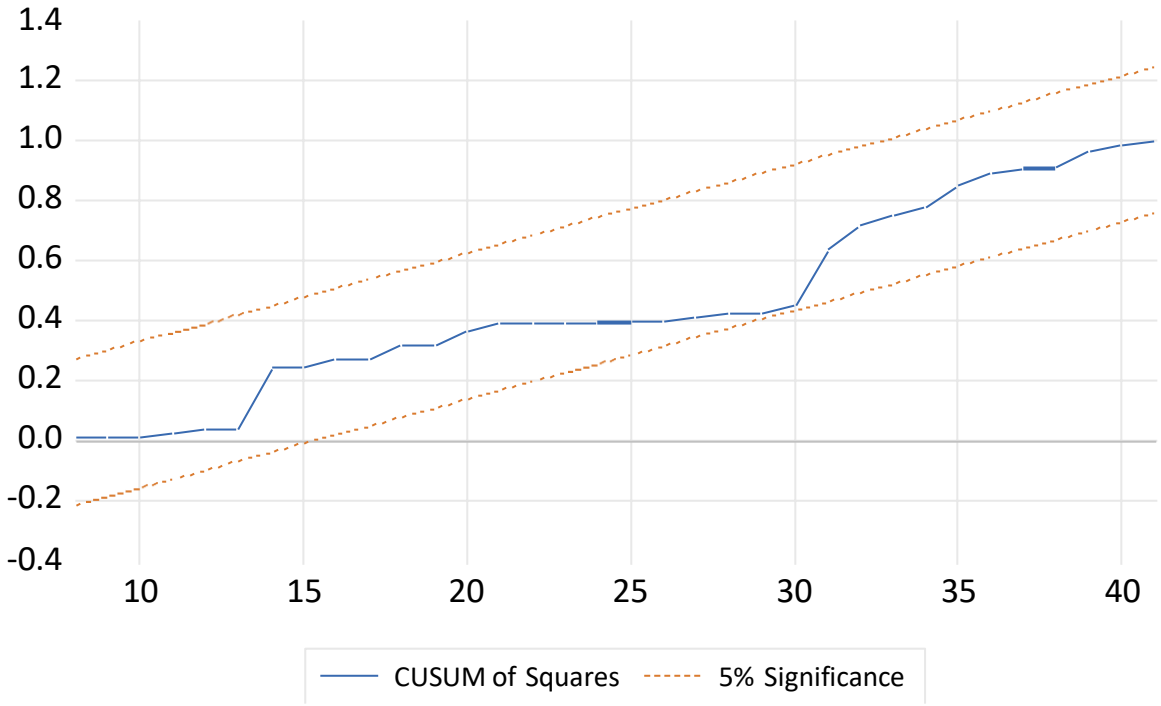
F-statistic	0.870551	Prob. F(24,12)	0.6298
Obs*R-squared	23.50178	Prob. Chi-Square(24)	0.4904
Scaled explained SS	6.130235	Prob. Chi-Square(24)	0.9999

Pairwise Granger Causality Tests
Date: 12/09/22 Time: 19:24
Sample: 1 41
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
EVI does not Granger Cause CAB	39	0.50677	0.6069
CAB does not Granger Cause EVI		1.44866	0.2490
IRS does not Granger Cause CAB	39	0.04647	0.9547
CAB does not Granger Cause IRS		0.79421	0.4601
IVI does not Granger Cause CAB	39	0.23338	0.7931
CAB does not Granger Cause IVI		1.19114	0.3162
REER does not Granger Cause CAB	39	0.26699	0.7673
CAB does not Granger Cause REER		0.51741	0.6007
TIS does not Granger Cause CAB	39	0.40655	0.6691
CAB does not Granger Cause TIS		1.75754	0.1878
IRS does not Granger Cause EVI	39	0.67813	0.5143
EVI does not Granger Cause IRS		0.20301	0.8173
IVI does not Granger Cause EVI	39	1.87579	0.1688
EVI does not Granger Cause IVI		1.97028	0.1550
REER does not Granger Cause EVI	39	2.00071	0.1509
EVI does not Granger Cause REER		3.70844	0.0349
TIS does not Granger Cause EVI	39	0.07235	0.9303
EVI does not Granger Cause TIS		0.97065	0.3891
IVI does not Granger Cause IRS	39	0.69298	0.5070
IRS does not Granger Cause IVI		2.00381	0.1504
REER does not Granger Cause IRS	39	3.99374	0.0277
IRS does not Granger Cause REER		1.26244	0.2959
TIS does not Granger Cause IRS	39	0.25994	0.7726
IRS does not Granger Cause TIS		2.03620	0.1461
REER does not Granger Cause IVI	39	4.68006	0.0160
IVI does not Granger Cause REER		0.84626	0.4379
TIS does not Granger Cause IVI	39	0.73347	0.4877
IVI does not Granger Cause TIS		1.10125	0.3440
TIS does not Granger Cause REER	39	0.03098	0.9695
REER does not Granger Cause TIS		3.86193	0.0308

Stability Test





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