NEAR EAST UNIVERSITY
INSTITUTE OF GRADUATE STUDIES
DEPARTMENT OF ECONOMICS

ASSESSING THE ROLE OF TRADE OPENNESS ON ECONOMIC GROWTH IN AFRICAN COUNTRIES 1980 TO 2021: AN EMPIRICAL ANALYSIS OF NIGERIA AND SOUTH AFRICA

M.Sc. THESIS

Winnifred Meni DOE

Nicosia
July, 2023

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Declaration

I, Winnifred Meni Doe, solemnly declare that I personally conducted this research work to obtain a Master of Science degree (MSc) in Economics from the Near East University in Nicosia, Turkish Republic of Northern Cyprus. This declaration is made in compliance with the standards for the degree. The entirety of the borrowed concepts and material utilized in this investigation has been suitably credited and acknowledged in accordance with the protocols that have been established.

Winnifred Meni Doe

10/10/2023

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Winnifred Meni Doe

Abstract

Assessing the Role of Trade Openness on Economic Growth in African Countries 1980 to 2021: An Empirical Analysis Of Nigeria and South Africa

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The research investigated the role of trade openness on economic growth in African countries from 1980 to 2021 with an empirical analysis focusing on Nigeria and South Africa. The Ellott-Rothenberg-Stock point-Optimal (ERS point) unit root test was applied to the study's data from the World Bank to check for stationarity. The long-run relationship between the variables under investigation was ascertained using the ARDL bond test. To examine the stability of the data, a number of econometric methods including the normality test, heteroskedasticity test, serial correlation test, CUSUM, and CUSUMsq were used. The ARDL model was employed in the study's computations.

The findings indicated that trade openness has a short-term favourable impact on the Nigerian economy but a long-term detrimental one with no impact. Numerous factors, including an increase in imports, population growth, trade policy, politics, domestic currency instability, etc., may have contributed to this unfavorable long-term outcome. According to the findings for South Africa, there is a considerable link between trade openness and both short- and long-term economic growth. This indicates that free trade has a significant impact on South Africa.

According to the concept, Nigeria should promote investment in industries that produce wealth, particularly in the vital infrastructure needed to support actual output. This will result in a decrease in the volume of imported goods, which will likely have a favorable impact on the trade openness index and spur economic growth. The South African government should continue to promote measures that promote increased trade openness across the country. By using different time series data with the same variables and time period and by using the ERS unit root to test for stationarity, the research added to the body of knowledge.

Keywords: trade openness, Elliott-Rothenberg-Stock point-Optimal (ERS), economic growth, GDP per capita

Özet

Ticaret Açıklığının Ekonomik Büyüme Üzerindeki Rolünün Değerlendirilmesi Afrika Ülkeleri 1980 - 2021: Ampirik Bir Analiz Nijerya ve Güney Afrika

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Araştırma, Nijerya ve Güney Afrika'ya odaklanan ampirik bir analizle 1980'den 2021'e kadar Afrika ülkelerinde ticari açıklığın ekonomik büyüme üzerindeki rolünü araştırdı. Çalışmanın Dünya Bankası'ndan alınan verilerine durağanlığı kontrol etmek için Ellott-Rothenberg-Stock point-Optimal (ERS puan) birim kök testi uygulanmıştır. Araştırılan değişkenler arasındaki uzun dönemli ilişki, ARDL bağ testi kullanılarak belirlendi. Verilerin kararlılığını incelemek için normallik testi, değişen varyans testi, seri korelasyon testi, CUSUM ve CUSUMsq gibi bir dizi ekonometrik yöntem kullanılmıştır. Çalışmanın hesaplamalarında ARDL modeli kullanılmıştır.

Bulgular, ticari açıklığın Nijerya ekonomisi üzerinde kısa vadeli olumlu bir etkiye sahip olduğunu, ancak hiçbir etkisi olmayan uzun vadeli zararlı bir etkiye sahip olduğunu gösterdi. İthalattaki artış, nüfus artışı, ticaret politikası, politika, yerel para birimi istikrarsızlığı vb. dahil olmak üzere çok sayıda faktör bu olumsuz uzun vadeli sonuca katkıda bulunmuş olabilir. Güney Afrika için elde edilen bulgulara göre, ticari açıklık ile hem kısa hem de uzun vadeli ekonomik büyüme arasında önemli bir bağlantı vardır. Bu, serbest ticaretin Güney Afrika üzerinde önemli bir etkiye sahip olduğunu göstermektedir.

Konsepte göre Nijerya, zenginlik üreten endüstrilere, özellikle fiili üretimi desteklemek için gerekli olan hayati altyapıya yatırımı teşvik etmelidir. Bu, muhtemelen ticari açıklık endeksi üzerinde olumlu bir etkiye sahip olacak ve ekonomik büyümeyi teşvik edecek olan ithal malların hacminde bir azalmaya neden olacaktır. Güney Afrika hükümeti, ülke çapında artan ticari açıklığı teşvik eden önlemleri teşvik etmeye devam etmelidir. Aynı değişkenler ve zaman periyodu ile farklı zaman serisi verilerini kullanarak ve durağanlığı test etmek için ERS birim kökünü kullanarak araştırma, bilgi birikimine katkıda bulundu.

***Anahtar Kelimeler*:** ticari açıklık, Ellott-Rothenberg-Stok noktası-Optimal (ERS), ekonomik büyüme, kişi başına düşen GSYİ

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List of Abbreviations

ERS	The Elliott-Rothenberg-Stock (ERS)
ARDL	Autoregressive Distributed Lag Model
GDP	Gross Domestic Product
FDI	Foreign Direct Investment
AFCFTA	Africa Continental Free Trade Area
UNCTAD	United Nations Conference on Trade and Development
GVC	Global Value Chain
OECD	Organization for Economic Co-operation and Development
INV	Investment
INFL	Inflation
M3	Broad Money
GOVEXP	Government Consumption Expenditure
OPEN	Trade Open
WDI	World Data Indicator
WTO	World Trade Organization
ATPC	African Trade Policy Centre
GATT	General Agreement on Tariff and Trade
ACP	African, Caribbean, and Pacific
BOP	Balance of Payment
LDC	Less Develop Countries
DC	Develop Countries

CHAPTER I
Introduction

1.1 Background of the study

Enhanced economic output is the fundamental pillar of the economy and long-term development. All nations are concerned with achieving quick and sustained economic development. Until Grossman and Helpman (1990), Romer (1990), and Young (1990), a surge corpus of growth study has concentrated on the significance of trade to economic development. According to the notion of trade-led development, the dilemma would be if trade genuinely performs as a catalyst for development. In line with the 1993 World Investment Report (UNCTAD), which asserts that a multitude of variables contributes to a nation's economic development, trade has been shown to be crucial to economic growth. Trade enables more efficient manufacturing of commodities and services by transferring manufacturing to nations with a substantial cost advantage in creating output, which is determined by the degree of development of the host nations. All of these indicators lead to the expansion of the economy and the creation of new employment inside the nation. No nation has effectively built its economy by ignoring long-term FDI and international commerce, it is asserted (OECD, 2009).

Many less developed nations (LDCs) remain on the road of industrialization by substituting imports (ISI) that they embarked upon after World War II. They do this through exporting fundamental commodities and agricultural products in particular. The global and agricultural trade flow of West Africa is positive, but the food trade balance is negative and has been deteriorating over the last decade. As a result of export earnings, the area can now import a greater quantity of food. The consequence has been a peculiar scenario in which an area with a strong capacity for food production is now importing more food. As a consequence of the LDCs' industrialization strategy of import substitution, more equipment and technology were required to be imported, which boosted the need for a foreign currency more than the rise in export earnings. As a consequence, the LDCs' balance of payments started to experience a deficit. Increasing numbers of LDCs depend on affluent nations to fund their deficits (DCs). The Bretton Woods institutions recommended LDCs liberalize trade and economic policies by opening their economies for the purpose of avoiding financial emergencies and achieving high growth rates (UNCTAD, 2016).

The 1947 establishment of the General Agreement on Tariffs and Trade (GATT) marked the starting point of trade liberalization after the Second World War. 23 nations participated in the 1947 GATT meetings, encompassing 12 industrialized nations and 11 developing nations. The World Trade Organization (WTO) finally superseded the GATT in 1994, with the principal purpose of decreasing trade barriers. (UNCTAD, 2016). The majority of African nations followed the GATT-recommended systemic reforms in order to liberalize their economies and find a remedy for the continent's economic stagnation and decline. Among these initiatives were the rapid and comprehensive legalization, deregulatory, and privatization of economic activities (UNCTAD, 2016). The intensity of trade liberalization is assessed by the extent to which imports and exports have an effect on a nation's GDP. Global trade and an export-driven development strategy are now crucial to the economic aspirations of underdeveloped nations. By promoting the use of imported technological innovation, trade has a tremendous influence on skill development. Since the start of business, the connection between commerce and economic development is being intensively studied. Attempts to demonstrate statistical causality connecting trade openness and growth had also met with a variety of outcomes. Trade flows and economic growth are practically unanimously accepted in hypothetical growth literature, but the details of these impacts are quite complicated in the most basic sense, and there is a broad variety of data on how trade openness influences economic development.

1.2 Statement of problem

In contemporary macroeconomic theory, growth and openness are two of the most important concerns that need to be addressed. There has been a significant amount of research done, and this area of study is continually expanding, in relation to the role of commerce opening on growth. The current state of economic theory unequivocally demonstrates that openness has a good influence on development via improved productivity, enhanced resource allocation, accelerated technology transfer, and expanding economies of scale. In a manner that is analogous, the theory once again argues the case for a lower level of inflation due to the fact that it has the effect of constraining the power that is exercised over monetary policy. Nonetheless, these good features of globalization do not turn out to be especially substantial for economies that are still in the process of developing. Developing economies are typified by exchange rates that are volatile, uneven capital flows, continually decreasing currencies, and

inferior infrastructures than developed ones. In addition, the conclusions of prior research on connecting a nation's level of economic activities and its grade of access to foreign commerce have been inconsistent and unclear. It's possible that this has something to do with the oversimplification of the significance of things like gross capital creation, the level of financial growth, it's quality of incoming FDI. The issue of whether or not the conclusions from the previous research can be substantiated by the interactions of a panel group consisting of African countries subsequently becomes one of empirical evidence. In addition, the research on openness to trade does not suggest how much countries in Africa are more fortunate or less fortunate in the comity of countries when they implement trade policies that are more internationally oriented. In addition, an examination involving the connection between commerce flows and GDP has not yet been successful in determining the similarities and distinctions that exist among African nations in terms of what impact export growth has upon the expansion of their respective economies. In addition to this, it has not been feasible to determine the level of perseverance for growth or recuperation from the impact that commerce has had on the economy of these nations. In addition, openness and growth have become the most important macroeconomic challenges for any country in the most recent years. In this respect, there is a large body of research that has been published and is continually being generated and studied, the interactions between them, and how they interact with a vast number of other variables. On the other hand, the vast bulk of research on these factors has disproportionately concentrated on developed countries. Within the context of the instance of African nations, the link that exists among these variables in its analysis has only seldom been investigated.

The latter study strives to close the empirical gap in the trade-led-growth nexus literature by making comparisons to trade ties in Nigeria and South Africa using more current methodological advancements, longer data sets, and a wider range of variables. This study will accomplish this by comparing the trade-growth relationships in Nigeria and South Africa using more current methodological advancements. The results will add to the body of information on the link between trade and long-term development in African countries, meanwhile, they will offer evidence that will enhance empirical analysis in ways that were otherwise impossible if we relied solely on merged or separate time series data. This is because the results will show how openness and economic development are linked in Nigeria and South Africa.

1.3 Purpose of the study

The goal of the research input to some scholarly body of knowledge is an addition to theoretical learning that may be classified in any one of three ways: policy, theoretical, or empirical. The conclusions of this study will be beneficial for researchers, economists, and public officials who are trying to understand how trade openness influences economic growth. With this information, they are in a position to formulate policies that are pertinent and successful in order to keep the degree of global trade openness at levels that can improve domestic production. Because many different empirical methods of study on the correlation involving economic growth and trade liberalization continue to provide inconclusive results, policymakers should be assured of the existence of this correlation.

This study will raise both the government's and the populace's awareness of recent developments and the major consequences on their home economies of trade openness, as well as the possibilities and obstacles of doing so, and the measures that should be done to reduce these challenges. The analysis will also assist in identifying possible future paths for these African nations. This research intends to increase company and the private sector's comprehension of how business owners can prevail in the rising levels of both domestic and international trade by focusing on the nature of the investment, mechanization, the asset allocation of industrial production, agricultural production, and non-oil exports. Specifically, the research will investigate: The survey would progress theoretical and empirical knowledge of the conceptual debate between theories of Global trade and economic expansion concepts concerning the economic consequences of trade openness. It would also determine the extent to which Nigeria and South Africa, at least within the study area, are more open to foreign commerce, no comparable statistical investigation of the openness-growth relationship exists. In addition, the information presented in this study can motivate other academics to do more research on the openness-growth dilemma in order to contribute to the conversations that are now taking place over the subject.

1.4 Research Questions

What effect does trade openness have on the economic progress of South Africa and Nigeria? It is the primary research topic that emerged from the previous debates. In this regard, the below specific study topics were formulated:

i. How does economic development in both countries respond to an increase in trade openness?
ii. Is there a long-term correlation between trade and the expansion of the economies of South Africa and Nigeria?
iii. Does trade liberalization influence economic expansion differently in Nigeria and South Africa?
iv. What aspects of Nigerian and South African trade are more or less open?
v. Does increasing trade have any major impact on both countries' GDP growth?

1.5 Objectives of the study

The general goal is to analyze and compare trade openness's influence on the economy's growth in South Africa and Nigeria based on the study's questions.

Other particular goals include:

i. To examine how economic development is being transmitted in both South Africa and Nigeria in response to an increase in open trade.
ii. To study the connection between trade and economic expansion in both countries.
iii. To compare how openness to trade affects economic expansion in South Africa and Nigeria.
iv. To pinpoint the variables that influence how open South Africa and Nigeria are to commerce.
v. To ascertain whether greater trade openness has any notable effects on the economies of both nations.

1.6 Hypotheses

The following null hypotheses will be examined by the investigation;

Hypothesis 1

H_0: In Nigeria and South Africa, there is no link connecting trade openness to economic development.

H_1: A connection between openness to trade and economic expansion in Nigeria and South Africa exists.

Hypothesis 2

H_0: Investment has no discernible impact on Nigeria and South Africa's economic development.

H_1: Investment has an important impact on Nigeria and South Africa economic development.

Hypothesis 3

H_0: Government spending does not influence the economic development of South Africa and Nigeria.

H_1: Government spending has an influence on the GDP of South Africa and Nigeria.

Hypothesis 4

H_0: Inflation has no influence on economic development in Nigeria and South Africa.

H_1: Inflation has an impact on economic expansion in Nigeria and South Africa.

Hypothesis 5

H_0: Economic expansion in Nigeria and South Africa is unaffected by financial development.

H_1: Economic expansion in both countries is influenced by financial development.

Hypothesis 6

H_0: No long-term or short-term connection exists among variables.

H_1: Variables have a long-run and short-run connection.

1.7 Significance of the Study

With the rise of more globalized commerce and economic cooperation, the link involving globalization and sustainable development has been a heated issue of discussion. There has been a considerable increase in challenge in the correlation between both commerce and economic development in host nations with high unemployment and little technological innovation in recent years (Belloumi, 2014). Over the last several decades, much study has been conducted on the influence of trade expansion on economic development. Trade liberalization, according to certain empirical research on trade and growth, has a favorable effect on a nation's GDP (Chang and Mendy, 2012; Rao and Rao, 2009; Karras, 2003). However, the magnitude of these effects may vary between nations based on characteristics specific to each, such as capital formation, human resources, economic stability, facilities, and trade regulations.

Based on the information obtainable, there is no clear agreement on how trade liberalization influences economic development. Similarly, previous studies assessed trade openness in a variety of ways depending on the proxies used. As a result, the

present research intends to analyze the dynamic link involving export growth and economic development in African countries, with an emphasis on Nigeria and South Africa. The literature review reveals that there is continuous debate over the influence of commerce on economic development and the significance of economic breakthroughs in boosting trade. There is a complete absence of agreement on the role underlying trade policies in economic development, which impedes understanding and makes developing frameworks for policies that promote economic advancement more difficult. Investment and trade imbalances are seen as major impediments to emerging nations' quick growth, and trade and these other variables, which include investment, have come to be important contributors to South Africa's and Nigeria's economic success.

Trade is critical for development and agriculture. Africa possesses enormous commercial potential, both worldwide and within its own area. The preponderance of trade data, however, reveals that the region's income is dependent on the exportation of a set amount of raw commodities. Because of this poorly diversified commerce, the economy has found it difficult to adjust and grow. As a consequence of growing food imports, the food trade balance is deteriorating. The present study's focus on both Nigeria and South Africa seems substantiated by the fact that both countries, which have Africa's two biggest economies, have gone through significant stages of economic transition in recent years. These changes, among other things, have affected both nations' trade policies. According to the European Centre for Development Policy Management (2016), intra-regional commerce in West Africa is low, mostly unofficial, and inadequately recorded, but it is assumed to somehow be controlled around basic foods. However, it has a lot of room to expand in order to accomplish the goals of Ecowas. It went on to explain that trade policy is focused on creating and implementing ways to effectively expand intraregional trade and value chain expansion, both of which are critical for the country's trade advancement. The study outlines a number of key figures and variables that jointly affect national trade balance in order to inform relevant parties and serve as a roadmap for more in-depth policy research.

1.8 Scope of the study

The research looks into the role of trade liberalization on economic expansion in African nations, with a particular emphasis on Nigeria and South Africa. The

research uses both qualitative and quantitative methods to look at secondary data. There are several ways to gauge how open a country's markets are, but this study concentrated on the trade-to-GDP ratio. Since both South Africa and Nigeria have Africa's two biggest economies, they were picked as the study's primary countries of interest. As a result, the chosen nations offer useful case studies that may be applied to other African nations to study how economic growth affects trade openness.

1.9 Limitations of the study

The lack of complete data on more developing nations is the key constraint in this study. Additionally, assessing how trade liberalization affects a country's growth is challenging owing to the absence of accurate data on factors like trade policy, trade barriers, and trade composition. Because some elements, including geography, have not been taken into account, this analysis may be biased in some way by missing variables. Structural breaks were found in the chosen macroeconomic variables while achieving the objectives. Through alternative avenues, such as pressure from international organizations and agreements for regional cooperation, openness can still have a bearing on economic development. Considering these factors is outside the purview of this discussion because it is impossible to find statistics on them.

1.10 Overview of the study

In order to make the research easier to read and comprehend as a whole, it is now being divided into six discrete segments. In the first chapter, you will find an overview of the historical environment in which the study was conducted. This will be followed by an introduction to the inquiry itself in the second chapter. Furthermore, a conception and description of the study's hypothesis which will be investigated to obtain findings that are coherent with the specific purpose that has been set can be discovered in this section. These will be examined to obtain results that are coherent with the purposes that have been set. In addition to that, it provides an explanation of the general arrangement and structure of the research, as well as details on the importance, range, goal, research topics, and limits of the study that it describes.

The second chapter presents a discussion of the pertinent body of previous research, which includes both theoretical and empirical research that examines the nexus of both trade liberalization and African economic development. The study's

problem was discovered after a thorough examination of a large corpus of past literature, and this evaluation will continue until the research gap is filled up.

The third chapter would focus on conceptual frameworks and country details (Nigeria and South. Africa), growing economic activities, and their trade policies and trends. The fourth chapter explains how the data were collected and defines the data and estimation strategies that were used in the study.

Chapter 5 includes thorough data analysis, study periods, and sources. This section should explain the study's sampling procedure, numerical and analytical technique, and study goal or model formulation.

The sixth chapter reports research results, unlike the other chapters. The study's conclusion includes policy suggestions. After a research project is complete, bibliographic references are frequently alphabetized by last name.

1.11 Definitions of key terms

Trade openness

This is how a nation's economy is structured regarding global trade. A measure of how open an economy is can be obtained by looking at the actual volume of its reported imports and exports. Additionally, it refers to how adaptable and accessible the host nation is to foreign investors for international trade.

GDP per capita

These represent a unit of a country's economic production that includes its inhabitants. The national gross domestic product is divided by the total population.

Economic growth-

Indicates a rise in the market value of products produced over time that has been adjusted for inflation.

Balance of Payments (BOP)

In macro affairs, it is the difference between all of the revenue that comes into the country and all of the money that goes abroad for the remaining portions of the globe during a particular stretch of time.

International trade

Involves the flow of capital, products, as well as services to other businesses or regions as a result of a need or demand for commodities or services.

Imports

These are products and services purchased by people of a country from nations other than their own.

Exports

These are goods and services produced in the United States and then sold to customers in other countries.

Exchange rate

In the realm of finance, is the cost of exchanging one currency for another. A national currency is the most frequent type of money.

Foreign Direct Investment

A financial investment a party makes in one nation into a company or other entity located in a different nation with the purpose of building a long-term partnership.

Apartheid

This was an era of organized racial segregation that prevailed in South and South West Africa from 1948 to the early 1990s. It was defined by a political culture built on basket that ensured the country's minority white people-controlled politics, society, and the economy.

Economic integration

This often known as regional integration, is a voluntary agreement reached by countries to minimize or eradicate trade obstacles and reach financial arrangements.

Macroeconomic Stability

This is when an economy’s exposure to shocks from outside sources has been reduced, which improves the economy's chances of experiencing sustainable growth.

Trade imbalance

This is when, for a given period, a country's imports outpace its expo

CHAPTER II

Literature Review

Research related conceptual definitions, descriptions and information related to the subject that already exists in the literature are given in this chapter. Over the last three decades, both conceptual and statistical research has focused on the correlation involving open trade and economic development. However, there is not much agreement on whether increased commerce boosts economic progress. When a country seeks to trade with a different country, it would manufacture products in which it has a comparative advantage, according to the comparative advantage notion. It focuses on sectors where it has larger factor endowments and produces more of those items. This will increase production and exports in this industry, fueling overall economic development. A greater degree of openness in a country has a better capacity to utilize the technologies that are used in developed economies, which allows it to grow faster than a nation with a lower level of openness. According to Edwards (1998), the price of imitation is one component in the link between commerce and growth. When the imitation value of creativity is lower in emerging countries rather than in mature economies, developing economies will grow faster than advanced economies, with a trend toward convergence. All of these facts point to the notion that commerce between emerging and sophisticated technology countries benefits both sides.

Contrary to popular belief, theoretical literature reveals multiple possible links between globalization and development, according to Grossman and Helpman (2015). To begin with, integrating people and cultures allows the interchange of ideas across international boundaries since foreign notions may contribute to the invention of new products, the upgrading of available ones, and the low-cost manufacture of commodities. The opportunity to relocate to a market with larger potential and maybe better profitability, even when it means going up against international rivals, is enabled by the economic integration of product markets. Third, international market incorporation has an impact on the overall balance of material costs and product comparative pricing. These cost discrepancies have an impact on the expenses of creativity as well as the allure of various industrial studies methodologies. Not to mention, global contacts increase the incentives for knowledge and technological innovation, which has an impact on product diversity.

In accordance with Solow's (1956) concept, technological innovation is endogenous, and trade policies have no effect on economic development. Modern theories of economic development, on the other hand, contend that trade policies may be coupled and that technological innovation is an endogenous component (Zahonogo, 2016). From Adam Smith until the early twentieth century, several economists believed that a free-market approach had been the key to attaining long-term economic success. It was supposed that in affluent economies with no government interference, market players choose how resources are dispersed. Although it provided a plethora of analytical knowledge on economic development, it ignored the demand for continuous, fundamental industrial and technical improvement that separates modern economic growth from prehistoric economic development (Kuznets,1966).

2.1 Openness

The post-World War II liberal order that had been in place since 1945 was strengthened with the development of the Bretton Woods Institutions, the General Agreement on Tariffs and Trade (GATT), the UN system, and, most crucially, the World Trade Organization (WTO). Particularly Several UN-specialized groups had a role in the propagation of liberal principles. Promoting cooperation among member nations for growth and development has been the agencies' primary goal (Amadi, 2020). The idea of globalization has been established for thousands of years, but only recently has its importance increased noticeably. Trade become more liberalized following the turn in the majority of developing nations' growth strategies from an inward- to an outward-focused one between the latter 1970s and the mid-1980s (Nayyar, 2006).

In 1975, the African, Caribbean, and Pacific (ACP) region was formed to improve how well poor countries were incorporated into efforts for the purpose of sustainable development and fight poverty. The focus objective of the member countries was to further their trade-based integration into the world economy. As a result, every signatory nation joined the European Union in signing the Cotonou Agreement. Trade liberalization was supposed to get off to a fast start when it was signed by 23 countries, much like the Geneva round of the GATT, which was initially ratified in 1947. There were 102 signatures at the 1973 Tokyo round and 123 at the 1986 round of Uruguay (WTO, 2012). Because of commerce and the infusion of foreign wealth since the 1980s, the globe has grown more linked.

Out of the 193 sovereign governments that are currently recognized by the international community, 164 are members of the WTO, which officially replaced the GATT in 1995. (WTO, 2012). There are additional options for Free Trade Agreements (FTAs), for instance, the African Growth and Opportunity Act (AGOA), which was enacted in 2000 and extended in June 2015. The ratio of global commerce to GDP has increased as a result of these advancements in trade. In 1980, there was around 38.72 percent of world trade to GDP. As time went on, this increased, reaching 42.76% in 1995, 49.81 percent in 2000, and 55.88 percent in 2010, respectively. Global trade as a whole expanded by 13% in 2019 and by 25% in 2020 before the COVID-19 pandemic, hitting a high record of $28.5 trillion by 2021. 2022) (UNCTAD).

2.2 Product life cycle approach

New theories of international commerce were needed to represent alternate causes for trade flows since it was discovered that the pre-existing theories were unable to describe the shifting pattern of trade flows. This was particularly true in the 1960s, as a result of the expansion of MNEs and the significance of technological innovation (Leontief, 1966). Meanwhile, it was found that the international trade product life cycle theory offered a significant and useful framework for comprehending and forecasting patterns of international commerce as well as the expansion of MNEs. Vernon (1966), is credited with the development of the product life cycle theory, with a focus on consumer goods, to combine international trade with foreign investment.

The product life cycle hypothesis states that a product's life span should include three stages. These stages of the product lifespan show how the nation's new products have been made possible through cutting-edge technological innovation. The domestic market for those products is subsequently expanded through export and foreign subsidiaries in countries with a big pool of unskilled and semi-skilled laborers and low labor costs, especially in emerging nations. This is how FDI happens: production shifts from the developed home country to the relatively low-cost developing country. The exporter becomes an importer after the production and items are standardized and exported to the nation that originated the idea. These stages of the product's production, export, import, and domestic and international consumption are acknowledged. The premise that market growth and technological development are the primary forces behind trends in international trade can be summed up as the global product life cycle.

The world economy has expanded consistently during the past two centuries in a positive direction, and at the same time, trade between countries has accelerated at an even greater rate. Trade may have a significant influence on economic development. It is possible to attribute a country's development to its use of commerce, which is advantageous to everyone else. In countries with faster GDP growth rates, trade as a share of output frequently increases more quickly. This has been proven by economists in the past. The main outcomes of free international trade (i.e., trade without barriers) include increased specialized knowledge, efficient factor input consumption, foreign exchange formation, consolidation of superior external innovation, the establishment of an outlet for stockpile products, competition for intermediate goods manufacturing, job creation, and improved government revenues. This consensus was shared by both classical and neoclassical economists. A sizable majority of trade economists also agree that these benefits could be lost if overseas trade is restricted (Lee, 1995). Although the traditional theories of trade were the ones that gave rise to global commerce models. These ideas were based on the presumptions of perfectly competitive and consistent scale return. By enabling perfect competition, the advantages of commerce could manifest as higher efficiency (Havrylyshyn, 1990). However, more recent international trade theory, such as those advanced by Krugman—have put into question the veracity of models that assume perfect competition in international trade (1979, 1981). For numerous reasons, current global business theories refute the concept of completely competitive marketplaces.

The new hypotheses claim that there is insufficient competition in the marketplaces. This inadequate competitiveness is a direct outcome of scale economies. Due to the existence of economies of scale, countries can benefit from trade in specific ways. Higher welfare in the trading nations could be one of these benefits of trade arising from economies of scale (Krugman, 1979). The most recent theories, such as the endogenous growth model, support the idea that openness to trade boosts economic development. The endogenous growth paradigm postulates that trade openness affects economic growth in other ways, including through the diffusion of technology (Karras, 2003). Factor migrations and technical transfers are therefore more common in a free market as opposed to a closed one Trade liberalization may impact economic expansion by enabling a flow of capital across borders and redistributing endowments to much more profitable sectors. By affecting labor productivity and export capacity, trade openness can affect economic growth in addition to facilitating factors and

capital flows. This hypothesis contends that increased trade openness increases the likelihood of increased specialization and the division of labor, which would increase output and export capacity (Constant and Yaoxing, 2010).

2.3 Trade Policy and Economic Trend in Africa

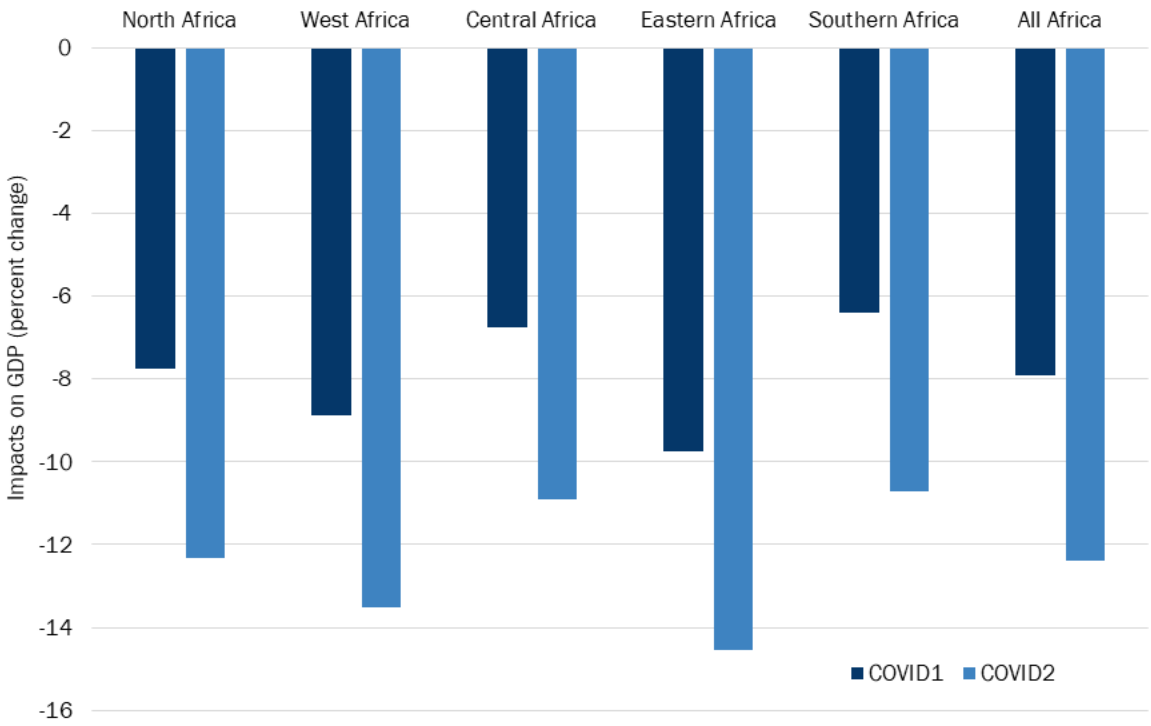
The African Trade Policy Center (ATPC), a non-profit organization, was founded in June 2003. The Center, located inside the ECA Headquarters in Addis Ababa, received money from the Canada Fund for Africa when it was first established. The Center has received support from the Danish government and UNDP. Since its inception, the Center's primary objective has been to strengthen African governments' institutional and human capacities so they can create and implement sound trade policies and participate more successfully in bilateral, regional, and global trade debates. For research, training, information distribution, and advisory services to create consensus and provide inclusive results, other relevant parties from the corporate sector, civic society, and academia should be involved. From this current perspective, ATPC continues to place a strong emphasis on providing evidence-based analysis of the extent to which diversification improvements have coincided with Africa's export expansion, the key difficulties these African nations are currently encountering in this area, and the policies that need to be put in place to better take advantage of new opportunities. To highlight how regional integration and the "rise of the South" may be essential for Africa's development aim, the ATPC also focuses on identifying the synergies and complementarities among Africa's potential partnerships at the international, regional, and South-South levels.

To fully take benefit from knowing by doing an economy of scale in a market that is becoming more and more globalized, integrating global and regional value chains (VCs and GVCs) is becoming more vital. In turn, this is essential to promote innovation, penetrate new markets, and stand a chance of succeeding in the global race. From this perspective, connecting with VGC can prove to be extremely important for furthering the revolutionary agenda that Africa has already begun. As a result, ATPC is taking the initiative to identify the obstacles that keep more African companies from joining GVCs and RFCs as well as to identify the best possible entry points for Africa to connect to GVCs. Due to Africa's continued development concerns and desire to take advantage of growing trade opportunities, focused and ongoing

efforts are necessary to realize these aspirations. African countries are making an effort to participate in regional and international trade debates to ensure that the trade regulations put in place support growth and their objectives to increase their market share globally. Success is seen as requiring both regional integration and local initiatives to boost production capacity. The international community has supported Africa's efforts in this critical area through ATPC and other channels.

ESTIMATED VARIATION IN AFRICAN TRADE AND GDP UNDER WORLD GDP DROPS OF 4% (COVID1) AND 8% (COVID2)

Figure 1:



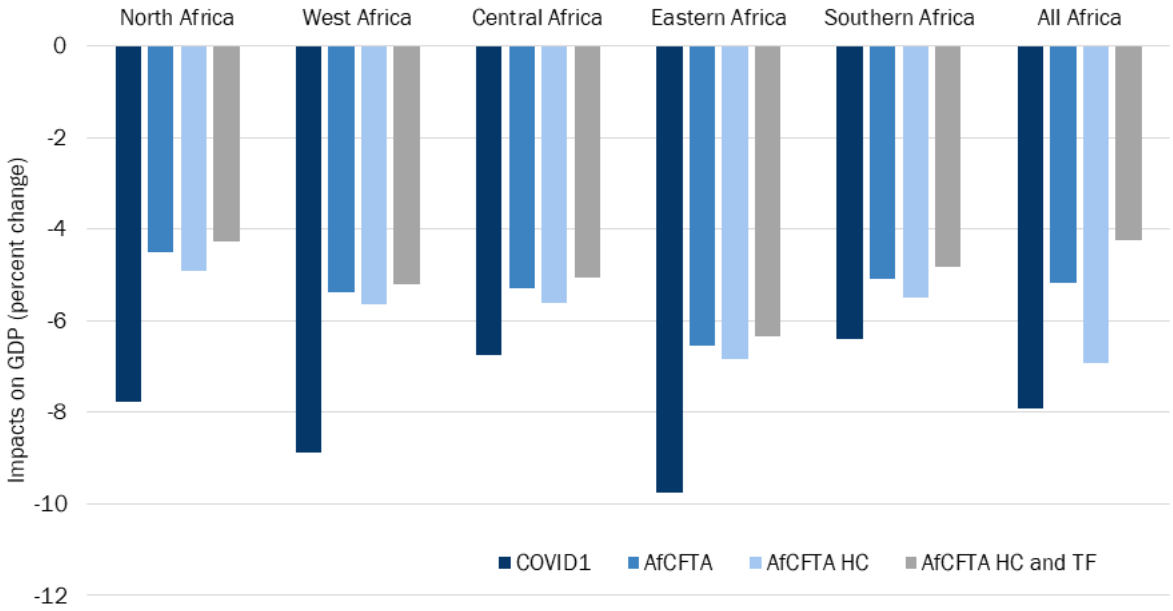
Source: PEP recursive dynamic version, authors' simulations

The most recent estimates from World Economic Outlook, a publication of the International Monetary Fund reveal a 3% basis points shrinkage in global Gross domestic product in 2020, a 1.6% subtraction in sub-Saharan Africa during the same time frame, a 4.7 % decrease in SSA's development in comparing to the 3.1% growth assumption for 2019. The graph presents two possibilities that could have an impact on African economies: first, a worldwide recession that reduces world GDP by 4%; second, a more serious scenario where the pandemic lasts the entire year and reduces world GDP by 8%. A more severe global recession would not translate linearly to these

countries due to the peculiarity of several African economies being tiny, vulnerable to external shocks (products, transfers, ecotourism, etc.), and having little monetary and fiscal policy flexibility. The overall picture of the graph indicates that, given world development at -4%, Africa is likely to face a 7.9 % drop in GDP if the situation worsened more than expected (Figure 1). In the event of the second scenario, we compute a deficit of 12.31% points. Without a doubt, the declining global market for African exports will cause the world GDP to significantly decline. Given the unique characteristics of African economies, the detrimental effects would be excessive. The consequences will be exacerbated with commerce as Africa and the rest of the globe grows. Figure 1 shows that Eastern and Western Africa will be struck the most, with GDP losses of -9.76 and -8.87 % in the first scenario and -14.55 and -13.51 % in the second. As a result, the AfCFTA will have the benefit of increasing intra-African trade, helping to mitigate Africa's fast loss in GDP.

Figure 2:

ESTIMATED VARIATIONS UNDER DIFFERENT SCENARIOS



Source: PEP recursive dynamic version, authors' simulations.

Both a supply and demand shock are present in COVID-19. Because of the magnitude of both disruptions, the COVID-19 disaster might result in a substantial rearrangement of global value chains (GVCs), perhaps leading to a larger dependence on regional

value chains (RVCs). Given the possibility for the African Continental Free Trade Area (AfCFTA) to be a key financial drive for the continent, lawmakers should uphold the energy for its execution. The region will be better prepared to deal with the economic shock that the AfCFTA will (and already is) inflicting (Figure 2). If all African states adopt the AfCFTA immediately, or if 90% of intra-African tariffs are reduced in accordance with the AfCFTA modalities, the decrease in Africa's GDP would be -5.2 percentage points rather than -7.9% in the situation of a 4% decline in world GDP ("COVID1" versus "AfCFTA" in Figure 2). Due to the elimination of intra-African trade tariffs, increased export opportunities across the continent for African economies somewhat offset the declining global demand. Customs green lanes, particularly for products used in medicine, pharmaceuticals, and food, could promote this acceleration of tariff dismantlement in terms of immediate priority.

2.4 Some Microeconomics Determinants of Economic Growth

Multiple opportunities for growth drivers have been discovered, but without first mapping reliable development routes, it has been challenging to examine any of them (Romer, 1986). A wide range of factors frequently complicate economic results, and more explanations for per capita income have been offered Moreover, there are political scientists, sociologists, economists, legislators, and political leaders put together. Factors such as basic demographics, education, finances, and technology influence growth potential. Sometimes, instead of laissez-faire, regulation, public intervention, or even redistribution is required to eliminate progress' roadblocks. This section goes into greater detail about the elements that affect economic growth. Trade openness, which was covered in the part above, as well as net foreign direct investment, investment, technology, human capital development, and financial development are a few of these elements.

2.4.1 Foreign Direct Investment (FDI)

It has grown in importance in recent years as emerging countries work to expand their economies. FDI, which also generates jobs and enables the purchase of new technologies, makes it feasible to increase productivity and export levels. Romer (1986) discovered several linkages between commerce and FDI. FDI may either replace trade or act as a trade supplanter when investing in nations with high tariffs (When referring to intra-firm commerce)). From this backdrop, numerous academics

have reached diverse conclusions regarding the relationship between trade barriers and FDI, even while reduced FDI barriers themselves are linked to increased FDI. By the observation that international multinational firms usually outperform domestic enterprises in terms of technology, evidence implies that the potential growth impacts of foreign direct investment might outperform that of locally funded investments (UNCTAD, 2016).

2.4.2 Savings and Investment

Capital accumulation occurs when a part of the actual salary is preserved and deposited in order to improve production and revenue in the future. With the addition of new industries, technology, software, and supplies, a country's entire total physical productive capital's net real value products rise, and so does the physical capital stock, allowing greater production levels to be achieved (Todaro & Smith, 2009). Roads, electricity, water and sanitation, communications, and other such projects enhance these immediately productive investments by enabling and integrating economic activity.

Typically, national savings and net foreign investment make up the majority of the funding for capital investments. There hasn't been much empirical research directly relating trade to savings. An economy's net investment is the sum of all private, public, and business investments in infrastructural, social, and economic development, taking into account capital depreciation. One of the few economic factors that have a strong and positive correlation with economic growth is investment. Through the utilization of economies of scope as well as technology transfer, global commerce promotes investment and allows for increased specialization. For an innovative company to break even, significant upfront investments and a sizable market are required. The market possibilities required for investment and the introduction of the resulting innovations into the marketplace are frequently provided via trade. As a result, open economies are more lucrative, which is another factor in the greater investment rate of open economies.

2.4.3 Technological Progress

The plan, or blueprint, of a brand-new good or service, is what is referred to as technological knowledge. It can be used and carried with a product if it is embodied in one. Domestic innovation and global technology dissemination both contribute to

the level of technical literacy in a nation. From the standpoint of economic development, in developing nations with low levels of domestic innovation, the worldwide dissemination of technology is more significant (UNCTAD, 2016).

More ideas are exchanged in freer markets. The degree of income disparity between nations is significantly influenced by variations in how resources are used. Technological know-how is one of the elements that explain such variations between nations. By compelling less productive businesses must implement new efficiency, reduce current activities, and exit the industry, increased exposure to imports may increase productivity. Some studies have discovered these benefits on productivity, but others have not. There is evidence to suggest that technological knowledge has an impact on productivity that partially crosses national boundaries while also remaining partially within the country of the invention.

2.4.4 Human Capital Development

Higher wages for both people and societies are a well-established result of education. Investments become more fruitful with the support of education, which boosts growth. In spite of the well-established direct connection with both economic development and increases in human capital, the perception of Hong Kong, Korea, Singapore, and Taiwan, the East Asian Tigers, which has gone through significant rises in school enrollment and employment levels as well as unexpectedly high integration into the global economy while remaining surprisingly relaxed compared to other emerging nations, suggests potential links between openness, the creation of employment, and participation in the workforce (Barro, 1991).

2.4.5 Level of Financial Development

The banking firm's capacity to mobilize and deploy resources for investment is enhanced by trade in financial services. In economic literature, Goldsmith's (1969) comparison of the financial and macroeconomic statistics of various nations served as the impetus for the debate on the consequences of a financial market to develop.

Foreign banks help in the growth pertaining to domestic finance industry through fierce competition, the introduction of innovative products, and the use of cutting-edge technology even when their market share is modest and restricted to specific parts of the local market (Levine, 1997).

According to Levine (1997), a financial market will positively impact growth if it performs its duties, which include facilitating Buying and selling, distributing, and absorbing risk, (ii) managing assets, (iii) exercising corporate governance, (iv) mobilizing deposits, (v) enabling the transfer of goods and services and (vi) fostering wealth creation and technical innovation are all examples of corporate functions. The amount of financial growth has been proven to be a good determinant of subsequent expansion.

2.6 The Ricardian Comparative Advantage Theory

In his book Principles of Political Economy and Taxation (1817), Ricardo (1817) created the comparative advantage theory and firmly established that, given the circumstances of perfect competition and comprehensive resource utilization, nations can benefit from concentrating on the manufacturing of those commodities' having the least opportunity costs over national demand. Furthermore, Ricardo held that even when one nation had a clear advantage over another in the production of two separate products, it might be advantageous for both countries if they each concentrated on manufacturing just one of those commodities. According to Ricardo, a country may manufacture and export an item while importing a product for which it has a comparative disadvantage, maximizing its welfare in the process. Both countries may gain from such specialization and trade by extending their choices for consumers. In other words, the added expense of import substitution, or what is stored by not manufacturing the foreign item locally, is used to determine the static benefits from trade. The gains in resources can then be put to use in a range of ways, including increasing local demand for both goods. The conventional free trade comparative advantage theory is a robust approach that only examines one variable (labor cost) and perfect concentration when trying to demonstrate the advantages of commerce.
Heckscher and Ohlin, two Swedish economists, refined and reinterpreted the 19th-century free trade paradigm affiliated with David Ricardo and John Stuart Mill in their 1933 research on interregional and international trade. They achieved this by taking into account worldwide disparities in the availability of components, particularly land, labor, and capital. Additionally, we can use the Heckscher-Ohlin (H-O) and neoclassical (varying proportions) components of endowment trade theory to enable us investigate how economic development affects trade patterns, and national economic structure, as well as discrepancies in returns or payments to

diverse sources of production.

The neoclassical factor endowment concept, on the other hand, assumes that there are already disparities in comparative worker productivity of different countries by assuming that every country has the same technical options for every good. Trade, according to the traditional labor cost model, originates from constant but varying labor productiveness for various goods and nations (Heckscher, 1949). According to the H-O hypothesis, if domestic costs were the same for every country, then all countries would utilize the same production methods, and as a result, all countries would have corresponding ratios of domestic product prices and factor productivity levels. The foundation of trade is not found in the underlying technical inequalities in labor productivity for diverse items produced in various countries, but rather in the fact that nations have differing amounts of access to factor suppliers. Relative factor pricing (e.g., labor will be relatively affordable in countries with plentiful labor) will vary based on relative factor endowments, as will local product pricing ratios and feature pairings. According to the H-O model, countries with cheap labor will be able to manufacture things at a lower cost and a higher price than countries with relatively costly labor (e.g., basic goods). They should concentrate on manufacturing these labor-intensive commodities and exporting the excess in exchange for importing capital-intensive items.

In contrast, nations with abundant capital will benefit from a cost and price gain in the creation of producing products, which, in comparison to labor-intensive commodities produced by nations with a large workforce, need comparatively substantial capital inputs. As a result, trade performs as a mechanism for a country to get significant supplies of those materials while alleviating factor scarcity by the importation of things that consume considerable amounts of its comparably limited resources.

2.7 Neoclassical Growth Theory

The improvement of an economy's global integration as well as the growth and development will unquestionably result from FDI and trade. In every economy, trade and economic expansion are correlated, but the axes of this correlation can differ depending on the national economic circumstances. The endogenous concept of growth and the neoclassical growth concept, in addition to other theories covered in the previous section, are the foundations for the vast bulk of statistical studies on the subject connecting trade and growth. In the 1950s and 1960s, the neoclassical growth

theory—which analyzes the connection between savings and growth—was created. Over time, this theory predicts that both domestic and international investments will result from savings. The major contributors including Solow (1956) and Meade (1961) achieved a huge step forward in the process of developing a formal model of development with their neoclassical growth model. Per the neoclassical growth theory, capital mobility from capital-abundant to capital-scarce countries is the fundamental component of foreign direct investment. According to Mundell (1957), FDI promotes greater output and welfare through more trade in goods because of world trade. In the long run, the economy would gravitate toward an equilibrium characterized by continuous growth in output, according to neoclassical economists like Solow (1956), who used the diminishing returns to the capital assumption to make this point. Constant levels of capital per worker and output per worker define this equilibrium, also referred to as steady-state. If the equilibrium level of the capital-labor ratio has changed, the economy will return to its steady state. It discussed how population expansion, the impact of saving, and technical advancements on economic output. To put it another way, this concept was built on the equality of saving and investing (Solow, 1970).

The development of technology and the expansion of the labor force are exogenous elements in the neoclassical growth model. Although the IFDI has recently raised the investment rate, there is no long-term growth benefit, only a temporary gain in per capita income growth (Hsiao and Hsiao, 2006). The neoclassical Solow model relies heavily on technology because it predicts the growth rates among the key factors at their equilibrium levels and because the technical change that is exogenously introduced to an economy determines its rate of expansion. Consequently, growth is unaffected by government policy, R&D, or human capital. However, empirical data from several nations demonstrates how significantly these factors affect an economy's rate of economic development. The concept of endogenous growth takes these variables into account and explains how growth depends on them.

2.8 Solow’s Economic Growth Theory

The growth equation was built upon by American economist Robert Solow by including a third independent variable, technology, and a second element, labor, in his 1956 treatise, an addition to economic growth theory. Solow suggests an ongoing production process that connects the output to the interchangeable inputs of labor and

capital. Solow's neoclassical growth theory showed that both capital and labor had decreasing returns on their own, but that both had constant returns when taken together. This was different from the Harrod-Domar model, which assumed that both capital and labor had a constant return on a scale. He assumed that the quantity of technical progress was decided exogenously, or independently of other factors and that it was the only factor left to account for long-term growth. A multi-factor productivity model called the Solow Growth Theory only considers one factor: total output, whose production pace is denoted by the letter Y. (t). The community's real revenue can be unambiguously referred to as this output. At any given time, a portion of each production is eaten, while the remainder is saved and invested. The saving rate is sY(t) because the percentage of 47 output that is saved remains constant. The accumulation of the composite commodity is the form that the nation's capital stock K (t) takes. The basic identity at any one moment is the growth rate of this capital stock, denoted by dK/dt or K.

$K = sY$ ……

Capital and labor are two manufacturing elements, whose rates of input are L, which assist produce output (t). A production function is a representation of technological possibilities.

$Y = f(K, L)$ (K, L) …….

When referring to output, it should be interpreted as net output after accounting for capital depreciation. The underlying premise of Solow's theory of growth is the continual return to scale. The production function exhibits a consistent return to scale, indicating that it is homogeneous to the first degree. In essence, this amount to supposing that limited, non-augmentable resources like land don't exist. The model would become more Ricardian as a result of the scarce-land case's declining returns to scale for both capital and labor (Solow, 1956).

2.9 Endogenous Growth Theory

Includes a sizable corpus of theoretical and empirical research on growth theory, which first appeared in the 1980s. The key distinction between endogenous growth theory and the neoclassical growth concept is the emphasis on the notion that a country's economic development is driven by forces inside the financial system rather than being influenced by factors outside the system. Romer's (1986, 1990) and Lucas' writings are where the endogenous growth theory first emerged (1988). The

fundamental tenet of the endogenous growth theory is that technology drives growth and that it is an endogenously determined process rather than something that is given to us. R&D and the development of human capital are the foundation of endogenous growth theories. Economic development is the outcome of the technical development that occurred as a result of R&D efforts, according to the R&D-based models developed from the works of Romer (1990) and Grossman and Helpman (1991). The neoclassical revival was greatly aided by the ground-breaking work of the neoclassical growth models used in empirical specifications for cross-country analysis by Mankiw, Romer, and Weil (1992) (henceforth MRW). As an expansion of Solow's (1956) framework, MRW proposed a different model that takes into account human capital, which increases labor production and can spur expansion.

By removing all specifics and concentrating on the most basic scenario with three elements of production, we have:

$Y_t = {K_t}^{\alpha} H_t A_t {L_t}^{1-\alpha-\beta}$…….

Where Y_t represents production in time t, K_t represents capital in time t, H_t represents the evolution of human capital in time t, A_t represents the state of technology in time t, and L_t represents labor in time t. According to MRW, all capital will experience decreasing returns because $\alpha + \beta < 1$. If α+β=1, the replicable factors have constant returns to a scale in the repeatable factors. The capital-labor ratio's steady state is inversely correlated with population growth and favorably correlated with savings rates. The economy's development is influenced by:

$k_t = S_k y_t - (n + g + \delta k_t)$……...

$h_t = S_k y_t - (n + g + \delta k_t)$……..

S k. L and A are assumed to be n and g, respectively. According to the study's findings, taking into account The strong coefficients on investment and population growth that occur when the standard Solow model is applied to data are eliminated by human capital.

Where $y = Y/AL, k = K/AL, and\ h = H/AL$ are amounts per actual labor hour. S_k the percentage allocated to human capital. The exogenous growth rates of *L* and *A* are assumed to be n and g respectively, while the rate of physical capital stock depreciation is δ.

Regression analysis was used by MRW to show how well their definition of a Solow model with human capital additions described cross-national data. MRW assumes the same equation for physical capital, consumption, and human capital. To put it another way, converting one unit of demand within one unit of physical assets or human resources is free of charge. MRW also believed that physical and human capital erode at the same rate. A substantial body of following statistical study that addresses the longevity of this finding and, subconsciously, the statistical significance of the Solow model has been produced as a result of the MRW findings. The main argument against the claim is made in a paper by Klenow and Rodriguez-Clare (henceforth KRC) from 1997, who was inspired via the growth of the endogenous theories of Romer (1990), Grossman & Helpman (1995), which sought to explain Following research by MRW (1992), Barro & Sala-i-Martin (1995), and Young (1994, 1995), which found tha imbalances in physical characteristics contributed to cross-country income differences. The KRC updated its data, re-examined the MRW's approach for measuring human capital, and incorporated previously unavailable data on primary and higher education. According to data from KRC, the creation of human capital requires more labor than the production of other goods while using less physical capital. Consequently, the projected human capital stock disparities across countries are further reduced. The data also show that variations in productivity account for the vast majority of variations in GDP per worker growth rates between 1960 and 1985 (the study period covered by MRW).

According to Lucas (1988), who contends that human capital is the key to a nation's economic progress, growth models based on human capital have their roots in his writings. Technology spillovers, externalities, and growing returns to scale are all present in the endogenous growth theory or new growth theory models.

Instead of expecting convergence, they acknowledge the possibility that differences between nations may endure or even widen. They stress the value of making investments in human capital and the potential rewards from technological advancements brought about by discoveries and breakthroughs. The endogenous growth model emphasizes that among the most major contributors influencing economic growth is the transfer of technology from other nations, which may then have an impact on foreign capital inflows. According to the endogenous growth theory, FDI can eventually affect economic growth by transferring human and technological capital. As a result, the endogenous growth model posits that FDI has

rising returns to scale. The theory, however, has come under fire since it continues to rely on several conventional neoclassical assumptions that are inappropriate for emerging nations, like the presence of a single production function. The infrastructure's inefficiencies, the imperfection of the capital and goods markets, and the lack of suitable institutional structures were the main issues limiting the economic progress of developing nations. The new growth theory, however, does not account for these variables, hence its relevance to cross-country development comparisons is constrained.

2.10 Empirical Analysis

The value of Africa's sectoral fragmentation is increasing as African leaders become more aware of reality, and the continent's disconnection from the international marketplace is problematic in many ways. Beginning to make sense. Although oil prices have historically been high, certain nations profit greatly from them while others face difficulties and a lack of influence. Some experienced production shortages as a result of high costs, decreased reliance on the transportation system, and inadequate infrastructure, which often restricts intra-African commerce (World Bank, 2019). According to Mengesha (2009), this further draws attention to the reality that Africa is afflicted by poverty, a negligible share of global trade, and sluggish infrastructure development. Regional trade agreements (RTAs) have been accepted by more and more African economies over the past few decades as a means of advancing economies' ability to trade internationally and advance economic advancement. These regional accords attempt to tear down the barriers to cooperation between nations to realize the goal of an African Common Market by lowering transaction costs such as tariffs and non-tariff barriers (Foroutan, 1992; Olayiwola et al., 2015; Osabuohien et al., 2019).

Madinatou Yeh Bunje, Simone Abendin, and Yin Wang (2022) used features to construct four independent indicators of states' foreign trade cooperation: the imports plus exports to GDP ratio, the exports to GDP ratio, the imports to GDP ratio, and their cumulative effect score. From 2000 to 2018, equal panel data spanning 52 African countries were examined, employing moment estimating strategies such as pooled ordinary least squares, fixed effects, and system-extended techniques. The data indicate interesting trends involving trade and GDP per capita.1) Openness to trade, according to POLS, has a contradictory effect on economic development. Likewise,

when Africa is divided into sub-regions, open trade has a non-linear correlation with GDP; nonetheless, the outcome in terms of economic growth, Northern Africa is performing very well. 2) According to the fixed-effects model, trade liberalization has a numerically adverse significant influence on GDP. 3) The sys-GMM also demonstrates that changes in openness measurements or robustness regression estimates have little effect on trade openness. The findings suggest that exports encourage development in Africa, while imports stifle it. In this sense, we urge governments to enact new structural economic policies that will promote export growth and economic development.

Furthermore, Rose Malefane (2020), the aim of this work was to use ARDL bounds analysis to review the dynamic influence of commerce liberalization on economic development in Botswana. To determine the extent of open trade, the research utilizes four distinct proxies based on trade and a compound score. The exchange metrics evaluate overall trade, including both exports and imports, whereas the overall market index considers nation size and location. The study's utilization of four distinct criteria enables a more in-depth examination in regard to how various types of open trade influence economic development. The findings highlight the importance of overall imports as well as how exports encourage economic expansion in Botswana, as well as the absence of a drive for expansion from importation. The results show that open trade has an important effect on GDP both in the long and short run when overall trade to GDP, exports to GDP, and the use of open trade as replacements for open trade. However, if openness is replaced with the imports-to-GDP ratio, the research shows that open trade has no appreciable impact on economic development in the short-term as well as the long-term. According to the findings of the study, Botswana should seek measures that enhance overall trade and exports. Nonetheless, in order to gain major growth-enhancing impacts from the import sector, the country must reassess its import composition.

Araoye and Ajayi (2019), the research looked at how openness to trade affected economic growth in Nigeria from 1970 to 2016, covering that entire time period. Using the ADF and the Phillip-Peron unit root tests, we found that none of the series are stationary at all of the levels that we investigated. With the exception of labor value, which was non-stationary at the first difference in the ADF, the findings show that all variables are I (1) at 5% for the ADF and 1 percent for the PP degree of importance. The co-integration study results showed an equilibrium connection between the

variables. This is compatible with Engel and Granger's (1987) hypothesis, which argued that if the unit root issue is examined and proved to be unsolvable, there is a connection, in the long run, between the many economic indicators, which is then consistent with the study's assertion. As a result, all of the coefficients were stationary at the 5 percent level and correctly signed. Although it found a favorable link between free commerce and economic expansion, there was a negative correlation between economic development and the rate of exchange, which needed to be anticipated by a society involved in global commerce.

Junjun, Tozoke, and Cheong (2018) The researchers estimated how FDI influence the economic expansion of nine (9) West African states between 1995 and 2015, including Nigeria, Ghana, and Cote d'Ivoire, using a panel data technique, variables for trade openness, FDI, government final consumption, and inflation were added. According to the research, FDI has a good and considerable influence on economic expansion in nations of West Africa, whereas trade openness has a favorable but limited influence. While the actual goal of this investigation is to measure how FDI affects economic development, individual nation characteristics that can affect the results are not taken into account, and Deviations between economies that are both better-performing and worse are not distinguished, leading to uncertain conclusions. Despite the fact that human capital, a crucial factor in FDI inflow, is not taken into account in the study, the study's results are clearly responsive to the factors used, such as ultimate government expenditures in place of investment and inflation in place of variables affecting financial development (foreign exchange, credit granted to the private industry).

Furthermore, Khobai, Kolisi, and Moyo (2018), open trade, investment, currency rate, and inflation were all used as regressors of an analysis of the connection between economic development and open trade in Ghana and Nigeria from 1980 to 2016. To estimate data in the research, the ADF, Phillips, and Perron, and unit root tests, The ARDL technique was applied as well. The results showed that there is a connection between the parameters over a longer period of time between the two nations. The data also demonstrated that, whereas open trade had an adverse but minor effect on the economic development of Nigeria, it had a favorable and significant effect on Ghana's economic expansion. The evidence, on the other hand, showed that openness to trade had a beneficial and noticeable short-term influence on the economic development of both countries.

In addition, Thach and Huy (2020) researched the connection between open trade activity and economic growth development in Vietnam. Given the international economy's ongoing uncertainty, trade policies are becoming more visible as a result of technological advancement and rapid globalization. The objective of the research was to investigate how open trade influences economic development in Vietnam. As a consequence, statistical methods and secondary data were obtained for analyzing the impact of trade opening on Vietnamese economic development. To examine the impact that open commerce has had on Vietnam's economic development, the researcher employed the ARDL bound testing model and E-views. The data research found that trade openness had no long-term influence on Vietnam's economic development. Regardless, this research discovered that commerce liberalization has a short-term effect on Vietnam's economic development.

Malefane and Odhiambo (2018) investigate the connection between South Africa's economic expansion and its openness to commerce as well. The method of autoregressive distributed lag (ARDL) bound testing is applied in the process of determining the extent to which the vibrant influence of open trade is exerted on economic development. In contrast to the findings of earlier studies, the current investigation makes use of four distinct open trade proxies, all of which concentrate on a distinct facet of openness to trade. The first proxy that can be constructed to measure trade openness is the percentage of a country's total exports and imports that constitutes its gross domestic product (GDP). The second proxy is a country's total exports as a percentage of its gross domestic product (GDP), and the third proxy is a country's total imports as a percentage of its GDP. A trade openness index is a third and final proxy. This index takes into consideration the size of the country in addition to its location. This research reveals that openness to trade has a favorable and considerable influence on economic expansion when the ratio of total commerce to GDP is used as an indicator, but not when any of the other three substitutes are used. This conclusion is based on long-run empirical evidence. Nevertheless, when the first three proxies of openness are utilized, open trade has a beneficial influence on growth in the short term. When the open trade index is used, however, this is not the case. These findings demonstrate that fostering laws that are designed to encourage international commerce will be useful to the economy of South Africa.

In addition, Egbulonu and Ezeocha (2018) used Granger causality tests and the ARDL approach examine the correlation involving trade openness and Nigeria's economic

expansion. Their research included the time period from 1990 to 2015. The Granger causality test's findings reveal a one-way relationship between GDP and FDI, open trade and FDI, gross fixed capital formation and trade openness, as well as exchange rate and gross fixed capital formation.. The statistics showed that there is a connection between economic development, foreign direct investment, and trade liberalization over the long term. The data also demonstrated a beneficial link between trade openness and economic expansion, while gross fixed capital formation and economic growth were shown to have an inverse correlation. The findings of the investigation, along with the regulations regarding trade openness, as well as export and FDI promotion, were recommended. Despite the study's narrow emphasis on Nigeria, the absence of human capital as a regressor contradicts previous work on economic development that emphasizes the relevance of human capital in growth research. As a result, adding human capital to the study and extending it to in a panel study, including Ghana and Cote d'Ivoire would be two valuable additions to this research.

Furthermore, according to Keho (2017), the connection between economic growth and open trade has been thoroughly researched, resulting in conclusions that are conflicting and confusing. It's possible that this is because the connection between commerce and economic growth didn't take into account the importance of labor and capital stock. Trade openness, capital stock, and labor are all employed as regressors in this research to examine the influence of free trade on Cote d'Ivoire's economic growth between 1965 and 2014, which was significant. It does this by employing the Toda and Yamamoto Granger causality tests, in addition to the autoregressive distributed lag limits test, in order to cointegrate the data. The results show that open trade provides both long-term and short-term advantages for economic development. They also reveal a substantial and beneficial complementarity between capital expansion and open trade in promoting economic expansion.

A. Hye et al. (2013) examine the link involving trade and growth using data from six Asian countries. The researchers employ the Augmented Dickey-Fuller unit root test and the ARDL approach to investigate stationarity and the long- term connection among imports, exports, and economic development, respectively. To establish a causal direction, we use the modified Granger Causality Test. The researchers observed that the import-led development model works for all countries, but the export-led growth model only works for Pakistan. Except for Bangladesh and Nepal, all countries may benefit from the growth-led export strategy. Both the export-

import and growth-led import models may help all of the sample nations. The data show that local and foreign demand both contribute to economic growth and job creation. Models of import-led development bode well for the nations under consideration. The findings show that, in the case of a global recession, there may be potential for growth via local demand stimulation. Furthermore, it seems that there may be opportunities for growing south-south trade to jointly fulfill domestic needs. Between 1970 and 2002, Liu, Shu, and Sinclair (2016) explored the connections between FDI, economic expansion, and imports and exports. Using the vector error correction model (VECM) as a foundation, multivariate causality tests were conducted for nine Asian economies as part of this research. External links, as depicted by exports, imports, and FDI, were shown to have a favorable association with economic growth in the majority of the economies that were sampled, suggesting that external links are the foremost channels by which endogenous growth theories' projections of technology fallout and learning-by-doing occur. The study's results revealed a bidirectional causal link between IFDI, trade, growth, and mergers and acquisitions (M&A) for the vast majority of nations. It illustrated the country's progress and its dependence on its foreign ties. Outward M&A activity was strongly linked with growth and trade, demonstrating that corporate worldwide ambitions and variations in the world economic landscape may have an influence on the degree of outbound merger and acquisition operation in the sample nations. These results demonstrated that the Asian development process featured IFDI, inward M&As, export expansion, and import liberalization.

Alaoui (2015) applied data on the Moroccan economy's annual time series data between the years 1980 and 2013 to examine the link involving export, import, and economic development in Morocco. The research is conducted using the ARDL methodology to study the equilibrium of the long-run connection between factors. The findings supported the idea that these factors had a long-term relationship. The findings indicated a bidirectional causal link connecting economic progress and imports, a correlation that flowed only in one direction (from exports to imports), but there was no short-run causal correlation between economic growth and exports. The analytical concern is whether this finding will hold up when a panel of countries uses a sample of ECOWAS sub-regional states, in addition to the study's country-specific emphasis.

Other research, however, suggests that trade openness and liberalization have not resulted in a substantial increase in economic performance.

Omoke and Opuala-Charles (2021) employed institutional quality as a factor in their research, seeking to bridge a research problem on connecting economic expansion and open trade in Nigeria. The research covers the years 1984 to 2017 and uses overall trade, import, and export as three trade openness indexes. To examine cointegration between variables, ARDL bounds testing is utilized. The data show that the factors have a long-term relationship. Import commerce, according to estimates, has a substantial and negative influence on economic expansion, but export trade does have a meaningful and positive impact on the same growth. The statistics also reveal that when institutional quality (governance level) improves, the detrimental long-term consequences of import trade on the economic development of Nigeria reduce. This was shown to be the case when looking at the quality of governance. These research findings have significant repercussions for Nigerian policy in the future. Among other things, this study underlines the need for improving the nation's government. With the backing of strong institutions and excellent governance, the advantages of trade openness may be channeled toward activities that promote economic development.

Agrey (2021), (2021), As a result, the research goal of this was to look into the influence that Ghana's level of trade openness has had on the country's economic development from 1986 to 2017. Trade openness is viewed as a growth engine for the economy. Trade, according to economic theory, generates larger markets, greater competition, and technical transfers, all of which contribute to enhanced economic development. In recent years, rising economies have embraced trade liberalization as a means of promoting economic growth and development. Ghana attempted import substitution industrialization as a technique to stimulate economic development, but the country quickly slipped into a severe recession. As a consequence, the Bretton Woods Institutions were established to help with economic stability. The World Bank and IMF's Structural Adjustment Program (SAP), which featured trade liberalization as one of the measures, was also accepted in Ghana in 1986. The fundamental purpose of the liberalization policy was to increase economic competition by opening up the market to other nations, which would subsequently raise domestic productivity and assist economic development.

As a consequence, the investigation's primary objective was to figure out how Ghana's economy progressed in terms of trade openness from 1986 to 2017. The

ARDL model was used as the estimate approach in the study, which used yearly series data. According to the research, both in the long term and in the short term, increased trade openness has a dampening effect on economic growth. Broad money, inflation, and population growth have all been shown to have a damaging effect on the rate of economic expansion both in the short and the long term. The advent of the global financial crisis (GFC) was beneficial to economic expansion in the short run. According to the research discovery, governments and other interested parties should take initiatives to limit product imports and promote secondary item exports. If these actions are taken properly, the liberalization of trade ought to have a constructive effect on the progress of Ghana's economy.

The research, conducted by Omoke (2010), looked at the link between how Nigeria's economic expansion, trade facilitation, and financial progress were all intertwined from 1970 to 2005. The study utilized the econometric approaches of cointegration testing and Granger causality testing. In order to investigate the data's stationarity characteristics and the sequence of integration of the data, tests like the Phillip-Perron (PP) and Augmented Dickey-Fuller (ADF) were used. The first analysis determined that the variables were stationary. There were no cointegrating relationships found between economic expansion and trade openness, and the three indices of financial development when the Johansen multivariate technique for cointegration was utilized in order to look into the variables' probable long-term link (direct credit, private credit, and money supply). The empirical results of Granger causality show that trade openness and financial development have a plausible impact on GDP growth, and that GDP has a significant impact on trade and financial development., showing support for trade that is led by growth as opposed to trade that is led by growth. The ratio of broad money, domestic credit, or private credit to the gross domestic product was not shown to generate economic development; rather, these credits and the availability of money were thought to be required for economic expansion. Furthermore, trade openness was shown to be produced only by the money supply, which was the only instrument for financial growth.

According to the theoretical underpinnings of open trade, Effiom et al. (2022), free trade would be more profitable for open economies than for autocracies. For Nigeria, both macro-based research and sector-specific analysis provide contradictory empirical findings. In this article, we re-examine the statistics on how Nigeria's small and medium-sized enterprises (SMEs) perform in the face of trade openness. The

scope and technique of previous studies on this topic are both restricted. For the time series data spanning 1981 to 2019, we employ an analysis method with two different perspectives. In the first step of this process, we will look into both the immediate and long-term effects of open trade on the efficiency of small and medium-sized enterprises (SMEs) by employing an approach known as autoregressive distributed lag, or ARDL. In the second place, the Toda-Yamamoto causality test offers additional proof of the causal connection between the policy variables. According to our findings, open trade has a moderately beneficial effect on the performance of SMEs. Changes in infrastructure, labor force, and FDI, according to the findings of a causality test, have an influence on how well SMEs perform. The essay advises creating enabling environments to enable exceptional corporate performance in the face of free trade. There is a particular need for exchange rate stability as well as significant infrastructural enhancements.

Furthermore, Kovarova (2017) evaluated globalization's effects on the economies of developing countries collaborating together between 1980 and 2010, within the Economic Community of West African States (ECOWAS), long-term trends were examined using statistical indicators based on the recognition of polynomial patterns. Countries' average levels of trade openness are compared using statistics from the WTO, the UN Conference on Trade and Development, the World Bank, the IMF, and the European Commission. According to the statistical data, the most open countries with growing trade openness throughout the provided time were Cape Verde, Cote d'Ivoire, Mauritania, and Nigeria. The data also revealed that the different nations' trading patterns had weaknesses common to all poor emerging countries: insufficient export diversification and a large percentage of basic products. Iheanacho (2016), on the other hand, used the auto-regressive distributed lag (ARDL) technique for co-integration to conduct an empirical investigation into the link between the rise in the number of financial intermediaries and the expansion of the economy in Nigeria between the years 1981 and 2011. The data suggest that the correlation between economic expansion and financial progress in Nigeria is not vastly different from the correlation which is found in other oil-dependent countries. The development of financial intermediaries and Nigeria’s GDP growth is shown to have a somewhat detrimental long-term connection and a strongly negative short-term relationship. The results demonstrate the significance of the oil industry to the overall Nigerian economy

According to Moyo et al. (2016), the purpose of this research, which spanned the years 1980 to 2016, was to investigate whether or not Economic expansion and the degree of trade openness are correlated over the long term in Ghana and Nigeria. As additional factors, investment, currency rates, and inflation were incorporated. To evaluate if the data were stationary, a number of different tests, including the DF-GLS test developed by Elliot, Rothenberg, and Stock (1996), the Dickey-Fuller (1981) test, the Phillips and Perron (1988) test, and, were utilized. The ARDL approach was used in this research to conduct a long-term connection between the variables. The outcomes of the research demonstrated that the parameters for both nations had a long-term relationship. The data likewise discovered that, whereas open trade has a substantial and large effect on economic development in Ghana, it has an unfavorable but negligible impact on Nigeria's growth. Based on these findings, it appears that each of these two countries should pursue policy initiatives that are distinct from one another. Mputu (2016) investigated SSA countries between 1980 and 2011 using models with fixed and random effects on 13 nations to evaluate the correlation between trade terms, open trade, and economic development. In the research, OLS regression was used to estimate data for individual countries, whereas panel data analysis was utilized to estimate data across countries. The conclusions of the research revealed a positive association between trade terms, gross fixed capital creation, and SSA's GDP level but a negative correlation between trade openness and GDP, indicating that expanded global trade did not help SSA. Export diversification looks to be the greatest choice for sub-Saharan Africa, according to the study's conclusions. The inclusion of Nigeria, Ghana, and Côte d'Ivoire among the countries analyzed strengthens the overall approach. However, since the research only included three factors—labor force, investments, and trade terms—it was impossible to appropriately reflect on openness-growth dynamics.

Fenira (2015) examines trade openness and economic development in emerging countries by comparing trade data. Because of the financial difficulties they faced during the years of 1970s and 1980s, these countries were obliged to resort to international organizations that promote liberal values. The results show that trade policy liberalization has only modestly enhanced economic development in eighty-two different developing nations during the two years following the Uruguay Round. A comparison of trade openness indices supports the claim, demonstrating that the trade ratio (X+M/GDP), which is used as an important variable in its model, is less

likely to be exposed to technical flaws than three indices that are generally The Sachs and Warner (1995), Dollar and Kraay (2002), and Wacziarg and Welch (2003) measures are employed in empirical investigations. The finding of Fenira (2015) helps to understand the difficulties of free trade in developing nations, but they may be explained by the distinct variables that were used Investing, inflation, foreign exchange reserves, political stability, and democracy. The study, however, did not account for FDI, human capital, or trade share, which is at odds with the new rise framework.

A new endogenous growth model for India was created by Hye and Lau (2015) employing the ARDL method including the rolling window regression technique. While there was a positive correlation in the near term for India, the open trade index had a negative long-term impact on economic development, pertaining to the discovery of the research. The Granger causality test result supported connecting trade liberalization and economic development in India. Because the open trade index and FDI were not included, the use of trade openness based on human capital and net fixed capital metrics may have produced inadequate findings.

2.11 Gap of the study

The barriers and shortcomings revealed in the empirical literature were the primary sources of inspiration for this study's aims and objectives. The research on the connection between open trade and economic development is conflicting and confusing. This might be related to an overestimation of the significance of gross capital creation, the degree of financial progress and FDI inflows' quality. Therefore, the question of whether the findings from the extant literature can be supported by the interplay of various time series data in African countries remains an empirical one. Furthermore, the literature on the benefits of openness to global trade is silent as to whether more globally focused trade policies benefit or harm African nations' standing in the community of nations.

Additionally, the literature on open trade and GDP hasn't been able to distinguish between African and European culture in terms of how trade openness affects their economic development, nor was it able to determine the degree the ability of these countries' economy to be resilient enough to develop or recover from the effects of trade openness. Additionally, in recent decades, Openness and Growth have been the two macroeconomic concerns that have defined any nation. In this regard, a

large body of literature has been written about these variables, the relationships among them, and how they interact with several other variables. However, the majority of studies looking at these characteristics have focused disproportionately on industrialized nations. As in the case of African nations, the examination of these variables and their relationships has rarely been addressed.

However, it is important to highlight because openness can also stem from how quickly a nation's economy is developing, among other things, in light of the varied conclusions from the empirical research that has been reviewed. Additionally, empirical evidence shows that countries with rapid economic growth brought on by factors other than openness have a higher likelihood of engaging in international commerce. These considerations suggest that not all nations benefit from trade openness and that a nation's level of institutional growth and institutional structure play a key role in establishing if trade liberalization promotes economic development and expansion.

This investigation hopes complete the statistical gaps in the previous research on the openness nexus by examining if the trade-growth connection changes across African countries using more recent methodological advancements, longer periods of data, and the broadest set of variables for two African countries. The results will commit to the corpus of the investigation on openness and economic development in Africa, as well as broaden the empirical analysis in ways that would be feasible if separate time-series data were utilized. The findings from South Africa and Nigeria will be analyzed.

2.12 A BRIEF SYNOPSIS OF THE AVAILABLE LITERATURE

Author	Year	Country	Methodology	Results
Madinatou et al. (2022)	-	Africa	Pooled OLS, and sys-GMM	Growth
Rose Malefane (2020)	-	Bostwana	ARDL	Positive Impact
Tozke et al., (2018)	1995-2015	9 West African Countries	Panel Data Approach	Positive Impact
Khobai et al., (2017)	1980-2016	Nigeria and Ghana	ARDL	Negative and Positive Impact
Thach and Huy (2020)	-	Vietnam	ARDL	No long run relationship
Malefane, and Odhiambo (2018)	-	South Africa	ARDL	Positive Impact
Egbulonu and Ezeocha (2018)	1990-2015	Nigeria and Ghana	Granger Causality Test	Feedback Hypothesis
Keho (2017)	1965-2014	Cote d'Ivoire	ARDL and Granger Causality Test	Positive and Feedback
A. Hye et al (2013)	-	6 Asian Countries	ARDL	Export-Led Development is relevant

CHAPTER III

Conceptual Framework

3.1 Introduction

The global trade index served as the conceptual foundation for examining the effect of trade openness., inflation rate, level of domestic investment, government consumption expenditure, and financial development implied broad money, while other factors that influence economic growth, such as the effectiveness of institutions and governmental policy, are taken into account as constants.

Author	Year	Country	Methodology	Results
Liu, Shu, and Sinclair (2016)	1970-2002	9 Asian Countries	VECM	Outward M&As were favorably associated to growth and trade
Alaoui (2015),	1980-2013	Morocco	ARDL Cointegration	Feedback Hypothesis
Omoke and Opuala-Charles (2021)	1984-2017	Nigeria	ARDL Bound Test	Negative Influence
Aggrey (2021)	1986-2017	Ghana	ARDL	Short run and Long run relationship
Omoke (2010)	1970-2005	Nigeria	Cointegration and Granger Causality	Feedback Hypothesis
Effiom et. al. (2022)	1981-2019	Nigeria	ARDL	Positive Influence
Kovarova (2017)	1980-2010	Cape Verde, Cote d'Ivoire, Mauritania, and Nigeria.	Polynominal Trends	trading patterns had weaknesses common to all poor emerging countries
Iheanacho (2016)	1981-2011	Nigeria	ARDL	Negative and Non-significant
Moyo et al. (2016)	1980-2016	Ghana and Nigeria	ARDL	Positve and Negative respectively
Mputu (2016)	1980-2011	13 Sub-Saharan Nations	OLS	Positive Impact
Fenira (2015)	1970-1980	Developing Nations	Granger Causality Test	Feedback Hypothesis
Hye and Lau (2015)	-	India	ARDL and Granger Causality Test	Negative Impact

3.2 Overview of the Nigerian Economy

Nigeria formally called the Federal Republic of Nigeria, is a nation in West Africa. Nigeria gained independence in 1960 and presently has 36 states plus the federal capital area of Abuja. Nigeria has a geographical total area of 923,768 square kilometers and is surrounded by the north, the Republics of Niger and Chad, to the west, the Republic of Benin, and to the east, the Republic of Cameroon, which constitutes the southern 36 boundaries of Nigerian territory. The country's 800 km of coastline endows it with nautical strength. Nigeria has enough land for agricultural, industrial, and commercial enterprises. In addition to being a developing market, the industrial, financial, communications, and technological sectors, as well as the entertainment industry, are expanding in Nigeria, an economy with a mixed middle income.

The manufacturing, financial, service, information technology, software, and entertainment industries are all expanding in Nigeria's expansive economy, which is a broad emerging market with a middle-income level. When taking into account the purchasing power parity, it is the 24th largest economy in the world, while when measured in terms of nominal gross domestic product, it is the 27th largest economy overall (World Bank Data, 2020). The country's booming manufacturing sector, which topped all others on the continent in size in 2013, provides a significant portion of West Africa's products and services (Manufacturing Sector Report, 2016). Furthermore, the debt-to-GDP ratio

Stayed at 16.075% in 2019. The purchasing power parity (PPP) growth of Nigeria's GDP has almost increased by a factor of four between the years 2000 and 2012, going from $170 billion to $451 billion. However, estimates of the size of the unofficial sector (which are not included in official calculations) show that the actual increase is near $630 billion. After that, there was an increase in GDP per capita, which went from $1,400 in the year 2000 to an estimated $2,800 in the year 2012. When the informal sector is taken into account, it is anticipated that the GDP per capita will be close to $3,900.

The agriculture industry, primarily subsistence farming, has not been able to keep up with the country's rapid population growth. In the past, Nigeria was a significant net exporter of food; however, the country now imports a portion of its food supply. The resurrection of food product manufacturing and exports caused by automation has resulted in a move toward food sufficiency. In 2006, Nigeria and the Paris Club reached an agreement whereby Nigeria would buy back the majority of its

outstanding debts from the Paris Club in exchange for a cash payment of approximately $12 billion US. Research conducted by Citigroup and presented in February 2011 predicted that Nigeria's Gross Domestic Product (GDP) would grow at the fastest rate in the world between the years 2010 and 2050. One of only two African countries to make the list of 11 countries contributing to global growth, Nigeria is on that list.

In the years following the recession brought on by the pandemic in 2020, Nigeria's economy began to recover, but macroeconomic stability continued to deteriorate. As a result of global commodity price shocks, a falling currency, trade restrictions, and the government's practice of deficit monetization, inflation in Nigeria are on the rise, which is pushing millions of people into poverty. Since 2021, Nigeria has also been unable to benefit from higher global oil prices because the country's oil production has hit record lows, and the cost of gasoline subsidies continues to consume a significant portion of the country's overall oil income. Consequently, Nigeria has been unable to reap the benefits of higher global oil prices. The economy is expected to grow by 3.2% on average between 2022 and 2024; however, negative risks to the GDP projection include further declines in oil output and rising instability. Overall macroeconomic stability may be jeopardized by a protracted dearth of foreign currency and tighter liquidity, which might have an influence on non-oil sector economic activity. High inflation, as well as continued budgetary and debt constraints, are expected to add to the uncertainties.
In spite of the recent socioeconomic progress that has been made, On the World Bank's 2020 Human Capital Index, Nigeria was ranked 150th out of 157 different countries. When it comes to its level of development, the nation still has a way to go. It needs to diversify its economy and become less dependent on oil. It also needs to fix its old infrastructure, build strong institutions, and deal with problems with governance and public financial management systems.

Following a decline of 1.8% in 2020, the African Development Bank's forecasts for 2022 indicate that Nigeria's economy will have grown by 3.6% in 2021, following a year in which it contracted by 1.8%. On the supply side, this expansion was driven by a gain of 4.4% in non-oil production, which was offset by an 8.3% loss in the oil sector. Agriculture (2.1%) and services (5.6%) were the primary drivers of growth in the non-oil sector. The expansion of both public and private consumption was the driving force behind the expansion of the economy. The average national

income will increase by 1.0% by 2021. To make up for the reduction in the budget gap, which went from 5.4% of GDP in 2020 to 4.8% of GDP in 2021, the government borrowed money and implemented a modest increase in tax rates. In 2021, the national debt amounted to $95.8 billion, which was approximately 22.5% of GDP. The annual average rate of inflation in 2021 was 17.0%, which was up from 13.2% the previous year and was also higher than the target range of 6-9% that the central bank had set for itself. The primary contributors to inflation were the beginning-of-the-year hikes in the cost of food as well as the pass-through effect of currency rate fluctuations.

To encourage a recovery in the economy in 2021, the central bank decided to maintain the target rate of 11.5 percent. A recovery in oil prices led to a decline in the country's current account deficit, which went from 4% of GDP the year before to 2.9% of GDP in 2021. The rise in oil exports and the payment of the SDR allocation of $3.4 billion (0.8% of GDP) contributed to the increase in gross reserves, which brought the total to $40.1 billion in 2021. Prior to this year, the SDR allocation had been awaiting a decision on how to be used. In December 2021, the capital-adequacy ratio was 14.5%, which was below the regulatory benchmark of 10%. On the other hand, the non-performing loan to gross loan ratio was 4.9%, which was below the regulatory threshold of 5%. In the year 2020, the rates of poverty and unemployment were both significant problems, coming in at 40% and 33.3%, respectively.

3.3 Trade policy and Economic trend of Nigeria

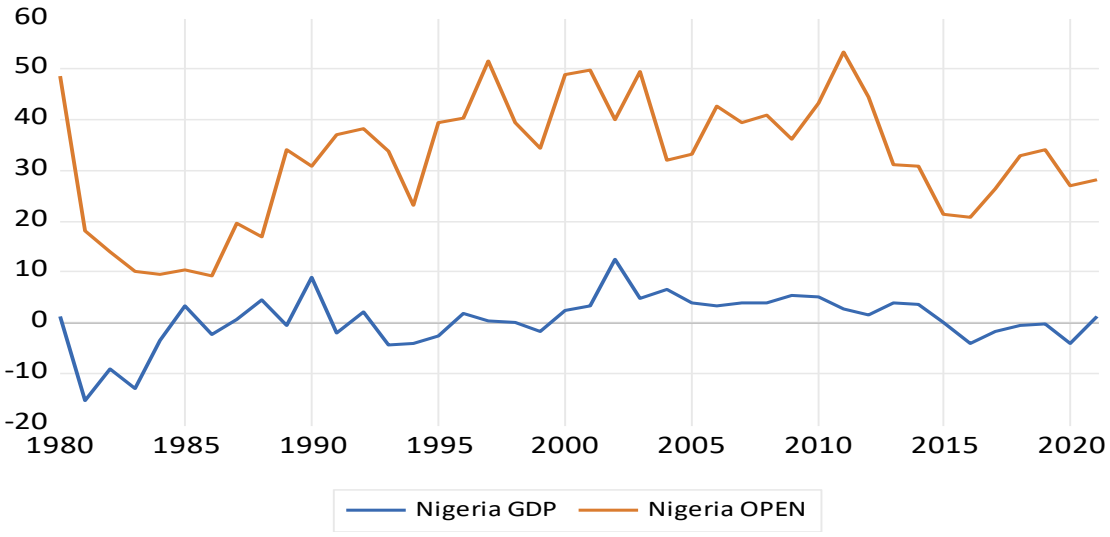
After the signing of the Marrakech Agreement in January 1995, Nigeria was admitted as one of the original members of the World Trade Organization (WTO). On the other hand, Nigeria's participation in the multilateral trading system didn't begin until 1960, when the country formally ratified the General Agreement on Tariffs and Trade (GATT), which was in effect at the time (GATT). The primary mission of the WTO is to advance the liberalization of rules governing international trade in order to bring about an even greater reduction in tariffs and other types of trade barriers. The World Trade Organization (WTO) adheres to a number of guiding principles, including non-discrimination and tighter tariff bindings. The African nation of Nigeria is committed to advancing regional cooperation, grants tariff favors on a number of items to other ECOWAS members on the proviso that rules of origin are observed. Nigeria eliminated tariffs on the bulk of its commerce with ECOWAS members by 1996, according to the community's Commerce Liberalization Scheme. There are also

aspirations for African nations to form cooperative markets and customs unions (UNCTAD, 2003). In the 1960s and early 1970s, tariffs were put on cocoa, rubber, cotton, palm oil, palm kernel, and groundnut exports. Between 1970 and 1976, trade policy became less restrictive, perhaps in response to postwar restoration needs. The fundamental aims of trade policy were to protect local industries and reduce the impression of reliance on imports. Beginning in 1986, the Nigerian government launched a significant effort toward commercial trade. This is due to the execution of structural adjustment programs (SAP).

The drop in Brent crude price (and foreign currency reserves) as a consequence of fewer oil shipments in 2019 has had a significant effect on oil revenue. Trading has so far resulted in the exchange of NGN23.20 trillion. Imports into Nigeria were NGN5.38 trillion in the third quarter of 2020, up 33.77% from the same time the previous year and 38.02% from the third quarter of 2019. When comparing Q3 2020 to Q2 2020, Nigeria's export component increased by 34.85% to NGN2.99 trillion but decreased by 43.41% when compared to Q3 2019. According to the National Bureau of Statistics' Foreign Trade Report, the value of imports reached its highest level since 2017 in the third quarter of 2020. On the other hand, the value of exports dropped to its lowest level since 2017 in the same quarter. Both of these trends were observed in the third quarter of 2020. Due to a decrease in exports and an increase in imports in comparison to 2019, the trade balance showed a deficit of NGN2.38 trillion in the third quarter of the year 2020. Since 2017, the gap in the merchandise trade deficit has also reached its highest point. India accounted for 16.73% of total export trade during the third quarter of 2020, followed by Spain (10.97%), the Netherlands (7.51%), South Africa (6.61%), and Turkey (5.01%).

The largest import trade partners in the third quarter of 2020 are expected to be China (30.51%), the United States (8.96%), the Netherlands (8.24%), India (6.58%), and Belgium (3.95%). With the reopening of Nigeria's land border and the beginning of the African Continental Free Trade Area (AfCFTA), trade is likely to increase and grow, especially with countries that are close by. While the country was still recovering from the impacts of the COVID-19 epidemic, the Nigerian Office for Trade Negotiations developed a National Recovery and Growth Plan. As a COVID-19 boost, the Nigerian government put aside NGN2.3 trillion to stimulate the economy. The decision to begin trade under the AfCFTA was taken during the 13th special session of the African Union's Heads of State and Government, which was scheduled

to take place on December 5, 2020. The Federal Executive Council authorized Nigeria's participation in the AfCFTA in November 2020, and the agreement would go into effect on January 1, 2021. The boundaries were also reopened after 2020. Nigeria, with the biggest population in Africa and a GDP of more than USD 500 billion, will surely be a major market rival. The AfCFTA was developed through a multi-step process. The agreed-upon issues will become legal documents. Phase 1 of the process addressed issues such as origin, tariff concession schedules, and commitment dates for the five most important service industries known as "business services," "communications," "financial," "tourism," and "transportation."The second round of discussions on e-commerce, investments, intellectual property rights, and competition legislation is currently underway.



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Nigeria's GDP increased by 0.11% year on year in the fourth quarter of 2020, marking the first positive quarterly growth in the previous three quarters. Despite its weakness, the positive increase indicates the gradual restoration of economic activity after the relaxation of restricted movements and limited local and foreign commercial activity in the prior quarter. As a consequence, although the Q4 2020 growth rate was -2.44% lower than the previous year, it was 3.74% higher than the Q3 2020 growth rate. Real GDP growth was 9.68% quarter on quarter, marking 2020's second consecutive positive quarter-on-quarter real growth rate after two negative quarters. Overall, annual real GDP growth in 2020 is expected to be -1.92%, a -4.20% decrease from the 2.27% reported in 2019. According to Nairalytics statistics, the GDP expanded by 0.58% under former Nigerian President Olusegun Obasanjo, who was the country's first democratically elected leader after the country's restoration to democracy in 1999,

but reached a high of 15.33% in 2002. We have data for Nigeria from 1980 to 2021 for that indicator of trade openness and economic activity in Nigeria. Nigeria's average value throughout that time period was 31.96 percent, between the years 1986 and 2011, the unemployment rate ranged from a low of 9.14 percent to a high of 53.28 percent. The most recent statistic for 2019 places the percentage at 34.02 percent. In 2019, the global average was 91.49 percent, based on data from 168 countries. Examining the global rankings for that metric or using the national comparator are two options for analyzing the changes that have occurred over time.

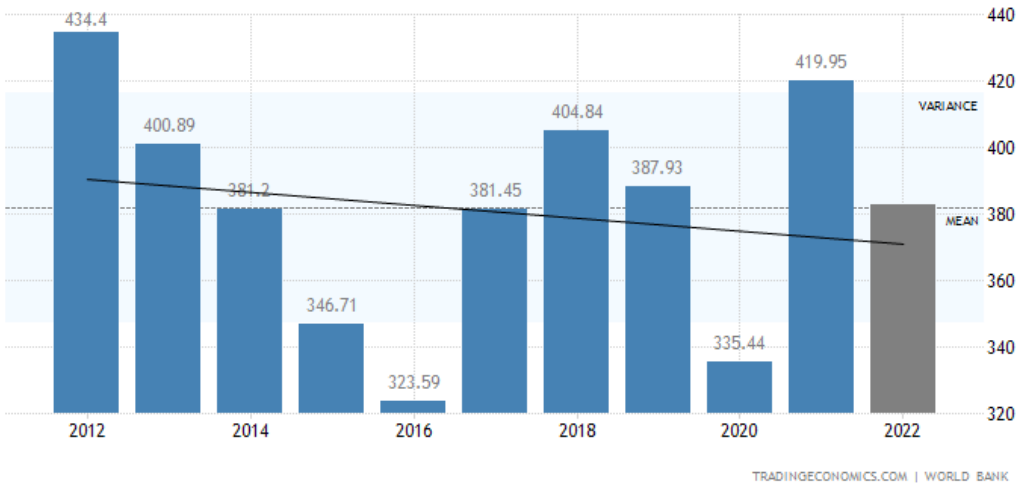
3.4 Overview of the South African Economy

The economy of South Africa is the most technologically and industrially sophisticated. And diverse on the African continent (Africa's GDP by nation, 2022). This makes it the second-largest economy on the continent. The emergence of Dutch settlers in South Africa in 1652 marked the beginning of the country's official economy. These settlers were initially sent by the Dutch East Company to establish a supply post for passing ships. A number of the colonists were granted permission to engage in commercial farming, which contributed to agriculture's position of prominence in the economy. The arrival of Huguenots and German immigrants caused the size of the colony to increase. Towards the tail end of the 18th century, the colony was taken over by the British. Diamonds were found in Kimberley in 1870, and gold reserves in the Transvaal's Witwatersrand area were discovered in 1886, changing the economy swiftly to one that is dominated by resources. Following the Second Boer War, when non-combatant Boers were targeted by scorched-earth policies, the British conquered the territory. South Africa also began its industrialization process at this time, which included the formation of the first South African trade unions.

According to figures provided by the World Bank (2020), South Africa is one of just eight countries in Africa to have an upper-middle-income economy. After over a decade of international sanctions were lifted in 1996, the nominal gross domestic product of South Africa nearly doubled in the years that followed, reaching a new record of $416 billion in the United States in 2011. The country's foreign currency reserves increased from roughly US$3 billion to approximately US$50 billion in the twenty years following the end of apartheid, which resulted in the growth of a diverse economy with a middle class that was both expanding and increasing in size.

Since apartheid was abolished, the South African economy. Has developed significantly more diversified, particularly in the service sector. Despite the fact that one of the biggest industries in the nation is still resource exploitation. It only contributes US$13.5 billion to the country's GDP each year (Statista-Mining Industry, SA). In 2019, the financial sector made a contribution of $41.4 billion to the Gross Domestic Product of South Africa (SA: Finance Sector GDP, 2014-2020). Financial institutions in South Africa will be in charge of $1.41 trillion worth of assets by 2021. The Johannesburg Stock Exchange's overall market capitalization as of the month of October 2021 was $1.28 trillion US dollars. There are around 700 state-owned enterprises (SOEs) in South Africa, and they are involved in a wide variety of important economic spheres. These SOEs are extremely important to the South African economy, which is why the government owns an interest in them. In 2016, the inefficient government bureaucracy, stringent labor legislation, a lack of educated staff in several high-tech areas, Corruption and political unrest are among the top five limitations to conducting business in the country. On the other hand, a very positive contribution to the nation's economy was seen as being made by the country's banking sector (Global Competitiveness Report, 2016). The nation is the sole representative of Africa in the G20, where it holds the position of a member state.

Economic Growth Trend of South Africa



According to the graph above, South Africa's GDP fluctuated from 8.75 billion USD in 1960 to 458.20 billion USD in 2011, with an average of 162.32 billion USD over those years. Users may obtain the most current reported number for South Africa's Gross Domestic Product in addition to earlier releases, as well as historical lows and highs, short-term estimates and long-term prognosis, an economic calendar, survey consensus, and headlines. The charts, historical statistics, and GDP figures for South Africa were most recently updated in the month of November 2022. The World Bank estimates that South Africa's gross domestic product will be approximately $419.95 billion US dollars in the year 2021. The gross domestic product of South Africa constitutes 0.31 percent of the total global economy. The GDP of South Africa is expected to reach 345 billion USD by the end of 2022, as shown by Trading Economics' global macro models and the projections of industry experts. According to the statistical estimates, the gross domestic product of South Africa will most likely be somewhere in the range of 345 billion USD in the year 2023.

3.5 Trade policy and Economic Trend in South Africa

In recent decades, South Africa's commercial sector has trailed behind that of the rest of the world, which has hampered the advancement of the global economy. The poor performance of the country in international trade can be related to various causes, such as the structure of its largest exporters (which continues to be overshadowed by commodity products), the country's dependence on a limited number of mature and large export markets, as well as rising costs and a weakening competitive landscape overall in the business environment. It is possible that South Africa's trade with the rest of Africa in terms of manufactured goods is exaggerated, but this only serves to highlight the significance of the country as a hub for both logistics and services in the African continent.

The South Africa Republic, like other Sub-Saharan African countries, has shifted its trade and economic policies over the last few decades. Various issues defined South Africa's commerce sector throughout the early years of the previous century, making it harder for local businesses to locate customers in the country who are a good fit for their products. The development of local industry was stymied, in particular, by the prohibitively high costs of raw materials and skilled labor (RSA, 1912). In light of the fact that these unfavorable conditions persisted. The South African national government, in accordance with the recommendations of the Sir

Thomas Cullinan Commission, made efforts to shield local businesses from the threat of competition from overseas. During that time period, South Africa pursued economic expansion and development through the application of import substitution and industrialization strategies. Early on in the industrialization process of import substitution, South Africa imposed customs duty rates that were so high that they were unaffordable. These rates were based on those listed in the First Schedule to the South African Customs and Duty Act of 1925 under the column labeled "maximum duty" (RSA, 1925). The Act's First Schedule established tax rates for fifteen different classes of imports, including agricultural, industrial, and mining items. The Act also allowed for duty-free entry of certain commodities if they were imported only for use in the manufacturing sector.

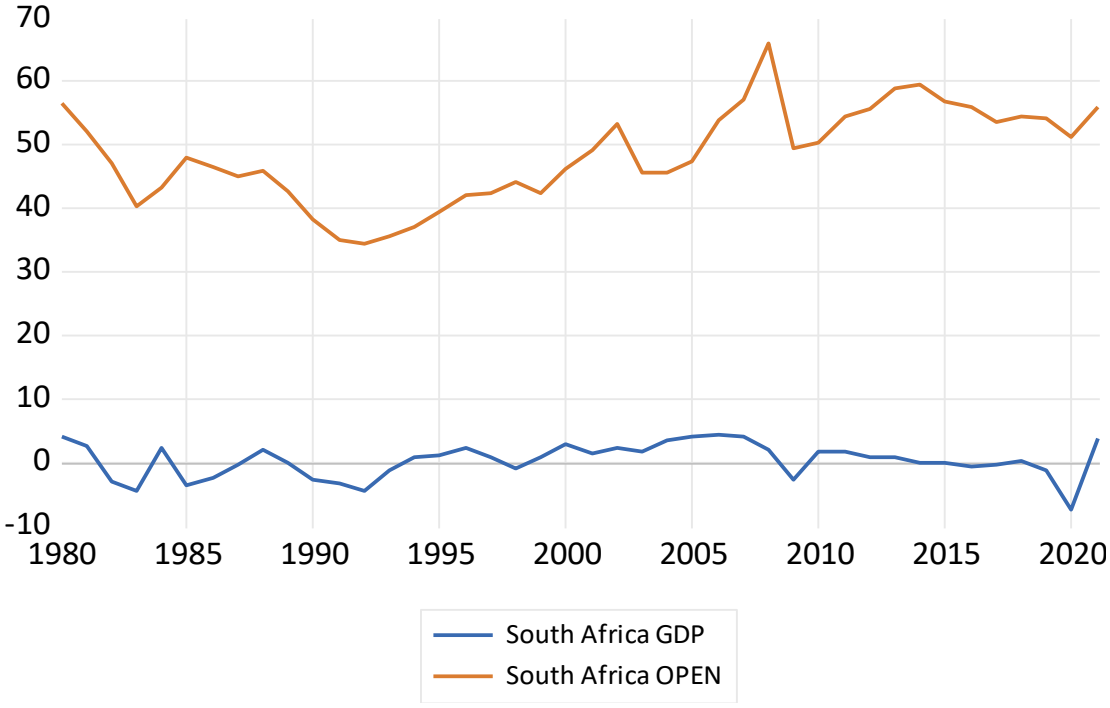
With the enactment of the 1925 Customs and Duty Act, South Africa retained its inward-looking orientation. This inward-looking approach relied heavily on protectionist tariffs to restrict imports. However, South Africa's use of protectionist tariffs as the major economic protection tool lasted only until 1948. This was due to the fact that quantitative restrictions were implemented as the primary instrument of industry protection in the year 1948. The quantitative limitation system featured import permits as well as annual caps for certain commodities. Regarding the nation's entry into the General Agreement on Tariffs and Trade in 1949 for the first time, South Africa implemented several trade changes (GATT). The GATT mandate is that member nations shall engage in agreements aimed at significantly lowering taxes on imports and exports and other trade barriers (World Trade Organization, 1986). In light of this, South Africa decided to replace tariff protection with import licensing as the major instrument of industrial policy. During the 1940s, when South Africa's balance of payments was deteriorating, the import licensing system seemed to be adequate. With the new import licensing system, around three-quarters of South African imports were subject to licensing, with the rare enforcement of a few import limitations (Fine and Rustomjee, 1996). This import license system was in use until the early 1980s.

In 1972, The Reynders Commission, also known as the Commission of Inquiry into Export Trade of the Republic of South Africa, was founded by South Africa with the intention of moving away from import substitution, industrialization and toward export-oriented industrialization. This desire was the driving force behind the establishment of the Commission. The Reynders Commission made a number of important suggestions, one of the most important of which was that the export mix of

the South African economy should shift away from manufactured goods and toward exports of non-gold commodities as a whole (Bell, 1992). The implementation of certain new trade policy instruments was required in order to fulfill the purpose of reorienting the economy away from an emphasis on import substitution. The removal of quantitative limits, tariff reductions, devaluation, and direct export promotion policies are all part of South Africa's current policy shift from import substitution industrialization (Bell, 1997). In 1996, the Growth, Employment, and Redistribution (GEAR) plan were put into action in South Africa with the goal of creating an economy that is both competitive and rapidly growing. Some of the regulations governing trade and industry needed to be revised in the near to medium term. In its GEAR strategy, the government of South Africa emphasized the importance of shifting resulting from demand-side measures like tariffs and subsidies. The reason for this emphasis was that these initiatives were harmful to world trade because of their impact on the prices that producers charged for their goods (RSA, 1996). Therefore, the modifications to South The trade policy of Africa that were implemented throughout the decade of the 1990s may be considered to favor export promotion because the motivation behind those modifications was a desire to improve the competitiveness of South Africa's domestic industries as well as increase export marketing. Various financial incentives, reduced tariffs, financing options, and financial support, and guarantee facilities are included in these modifications, among other things (WTO, 1998).

After that, in 1985, the country of South Africa decided to adopt the dual currency rate system as one of the interim cures to the economic problems that were prevalent at the time. When it was first implemented in South Africa in the 1970s, the dual exchange rate system had one primary objective: to separate the foreign currency dealings of non-resident portfolio investors from those of all other types of foreign exchange transactions (Farrel, 2001). South Africa recognized that it was given the decline in global competitiveness that occurred in the 1980s and the need to establish employment-generating global competitiveness, to further restructure its industrial and economic policies, paying particular attention to tariff reforms and supply-side measures. This was done in light of the fact that South Africa needed to establish international competitiveness that would allow it to compete on the international level. Therefore, with the introduction of the new political system in 1990, the new government of South Africa set its sights on economic transformation, with a primary emphasis on the development of the economy and the creation of jobs as some of the

major obstacles to be overcome (Department of Trade and Industry, DTI, 1990). As a result of this, the government instituted a series of supply-side policies in order to increase industry investment, employment opportunities, and exports. From 1980 to 2016, the figure below represents commerce in sub-Saharan Africa. In Sub-Saharan Africa, trade has been the most important driver of economic integration. Regional exports were just 6% of overall exports in 1980 but had climbed to 20% by 2016. In terms of regional integration, this puts Sub-Saharan Africa on par with any other growing and developing area on the globe. This is owing to the region's faster growth rate than the rest of the globe, tariff reductions, and better institutions and economic policies across the continent. The great bulk of this commerce, however, occurs inside rather than between sub-regions—smaller groupings of geographically adjacent nations in sub-Saharan Africa. Botswana, Lesotho, Namibia, South Africa, and Swaziland are some examples of countries that account for half of all sub-Saharan African commerce. Wages sent home by employees working in another nation have also contributed to greater regional integration. In 2015, this amounted to around $11.5 billion.



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According to the findings of the research, 2020 represented the year in which the rate of economic growth in South Africa was at its lowest point. This was due to the pandemic, as well as the measures that were taken to reduce the likelihood of the

virus spreading further and damaging the economy. In the year 2020, the real GDP saw a decrease of 8.2% as a consequence of a reduction in the building, transport, communication, manufacturing, and mining industries. Following a depressing year in 2020, during which the economy shrank by 8.2%, economic activity improved by 4.9% in the following year, 2021. The mining, agricultural, and manufacturing industries all saw the greatest growth rates in 2021, but the manufacturing, personal services, and financial sectors were the ones that contributed the most positively to the total growth. South Africa's trade openness was very low in 1992 when it was only 34%. However, in 2015, it reached 57%, which was the highest level ever seen during the study period.

CHAPTER IV

This chapter discusses the types of international trade theories, the economic impact of open trade in a country, some basic visible and invisible trade barriers, and the advantages and disadvantages they have on a country.

4.1 International Trade Theory

The trends of international commerce, as well as its origins and the repercussions it has for welfare, are the topics that are investigated by the area of economics known as the theory of international trade, which is a subfield. Since the 18th century, the strategy that has been used to regulate international trade has been a topic of vigorous discussion. Economics and the theory of international trade were both established with the intention of analyzing and evaluating the effects of different trade policies. The main reason why countries trade with each other is that one country is better at making a certain good than another, Adam Smith, (1776). Absolute advantage is a concept that was introduced by Smith (1776) and describes the situation in which one nation can produce a unit of good with a lower amount of labor than another nation. He went on to discuss the benefits of trade in further detail in his book, The Wealth of Nations (1776). This book serves as a literary model for the idea of absolute advantage, which uses the illustration of growing grapes in Scotland as its primary source of inspiration. He contends that even though it is conceivable to grow grapes and produce wine in Scotland, the initial cost of the production processes would be 30 times more than the cost of purchasing a comparable amount from another nation. He says this even though both of these activities are technically possible in Scotland. The concept of absolute advantage as it relates to international commerce according to Adam Smith on the idea that minimizing aggregate real costs and efficiently allocating resources can be accomplished through trade even in the absence of strong consideration for comparative costs.

4.2 Some International Trade Theories

4.2.1 Mercantilist Trade Theory

Between the years 1500 and 1800, mercantilism was the preeminent mode of economic thought in Europe. Every nation's goal was to increase their exports while simultaneously decreasing their imports. They were compensated with gold for their

efforts. It provided the impetus for the emergence of nation-states as an alternative to feudalism. Holland, France, Spain, and England all competed against one another on the military and economic fronts during this period. These nations built up their workforces with specialized skills in addition to the armed forces to protect themselves. Mercantilist trade policy is a strategy that, in the interest of increasing an economy's exports while decreasing its imports, as much as possible. To accomplish this objective, it supports imperialism, colonialism, and the imposition of tariffs and subsidies on goods that are traded. In addition to the goal of accruing monetary reserves by maintaining a positive balance of trade, particularly about completed goods, the policy seeks to either eliminate the possibility of a current account deficit or work towards achieving a current account surplus. Throughout history, these kinds of policies almost always end in conflict and help fuel the expansion of colonial holdings.

The mercantilist theory evolved and, depending on the author, can be more or less sophisticated. It advocates for the government to regulate a country's economy to increase the state's power at the expense of competing for national power. A nearly universal characteristic of mercantilist policy was the imposition of high tariffs, particularly on manufactured goods. Mercantilism was the preeminent economic ideology from the 16th to the 19th century in most of the developed regions of Europe and some parts of Africa, but it eventually went into a downward spiral and died out. The mercantilist trade ideology maintains that increased government intervention in international trade is the best way to increase the wealth of the nation and its power. To eliminate the country's current account deficit and achieve a trade surplus, business owners and state officials must collaborate. The application of significant trade restrictions as a result of mercantilism stifled both the expansion and independence of colonial-era businesses. Before the middle of the 17th century, Spain and the Netherlands controlled a significant portion of the global trade that took place, including the trade that went to and from the country of England. This was the case up until the point when the British agreed to seize control of their shipping rights and exclude these other countries completely from the equation. Since then, the situation has changed dramatically.

The Acts of Trade and Navigation were a collection of laws that were passed by the Parliament of England in the 1660s. They were a set of laws that were also known as the Navigation Acts, and their purpose was to make the American colonies

increasingly dependent on manufactured goods. that came from Great Britain. These laws were also known as the Navigation Acts. In this vein. Only, the British government listed a number of products that were protected and could only be sold to British merchants. British merchants were allowed to purchase these goods. Sugar, tobacco, cotton, indigo, furs, and iron were some of the commodities that were legally protected. In addition, these items could only be sold to commercial establishments located in the United Kingdom. Mercantilism is characterized by the establishment of monopolies, the provision of tax-free status, and the provision of pensions to preferred industries. It does so by levying tariffs on imported goods. Additionally, it makes it illegal for skilled workers, capital, or tools to leave the country. It prohibits anything that could be of use to businesses based in other countries. To assist them in defeating their domestic and international rivals, national merchants supported their respective national governments. However, the dominance of the late 1700s, the rise of democracy, and free trade led to the demise of the economic system known as mercantilism. The democratic formalization of the world's most powerful nations was achieved as a result of the American and French revolutions. They favored capitalism over mercantilism as the economic model of choice.

4.2.2 Classical Trade Theory

The labor cost theory of value serves as the foundation for the traditional "classical" theory of trade. Based on this hypothesis, the price of a product can be deduced from the ratio of the total amount of labor expended in its production with the value of another good. The same amount of work goes into producing items with identical prices, (Adam Smith, 1776). If one can kill either one beaver or two deer with the same amount of effort, then the market price for one beaver will always equal the value of two deer. As a result of the impact that relative labor costs have on supply and demand, exchange ratios and prices are solely based on these costs.

The traditional theory of international trade was developed primarily to use it as a resource for shedding light on problems about national policy. The preference for phenomena to be investigated and problems to be investigated was almost always made with current events and issues of public interest in mind even though it included a considerable amount of descriptive analysis of the economic process. When it came to issues about international commerce, classical economists were primarily concerned with the following two questions: First and foremost, when deciding which product, a

nation ought to concentrate on, which goods it ought to export and which goods it ought to import, and what the country's exchange ratio ought to be between goods if they are traded? In answer to the first question, the classical theory gives the following answer. Each nation will develop expertise in the creation of items specifically suited to its climate, soil, natural resources, people's innate and acquired abilities, and real capital inherited from its preceding generation, such as buildings, plants, equipment, and transportation. Each nation will place a primary emphasis on the production of such goods, turning out an excess of those commodities compared to what is required to satisfy its domestic requirements. This surplus will then be traded with other nations in exchange for commodities that the nation is either less equipped to produce or is unable to produce at all.

The classical theory, on the other hand, is only valid if we assume the following things to be true: believes labor is the only component, that all labor is homogenous or of equal quality, that labor is free to move about, that anybody can work in any occupation, that worker rivalry is unrestricted, and that the marginal productivity of labor is always equal to its compensation. In light of the facts, some of these presumptions are not reasonable. Classical economists relied on this theory to explain the exchange rate or the prices of various commodities, even though it contains several flaws.

4.2.3 The Modern Trade Theory

According to the Heckscher-Ohlin (1919, 1935) hypothesis, commonly referred to as the contemporary theory of commerce or the factor endowment theory, a country's export volume is directly proportional to the extent to which that country is endowed with certain factors. Heckscher, a Swedish economist, had the original idea in 1919, and Ohlin, who was one of Heckscher's students, finished making it in 1935. The Heckscher-Ohlin explanation of how international trade is essentially a specific instance of inter-local or inter-regional trade may be found in theories of international trade and that a separate theory of international trade is not necessary because there is no need for such a theory. This theory was proposed by Heckscher and Ohlin. It emphasizes that the actual foundation of international commerce is not disparities in factor efficiency, as was maintained by the classical view, but rather differences in factor endowments. This is in contrast to the classical theory, which maintained that differences in factor efficiency were the basis of international trade. At the global level,

the Heckscher-Ohlin theory is taken into consideration as an example of a general equilibrium theory of value. The theory of value states that at the point of convergence between supply and demand, the price of a commodity should be equal to the commodity's average cost of production, (Heckscher and Ohlin, 1935).

The traditional school of economic thought held that domestic and international commerce were fundamentally distinct entities. As a consequence of this, there is a requirement for a distinct global trade concept. The existence of artificial barriers, such as customs duties and other restrictions on trade, as well as the use of different currencies, are some of the factors that contribute to the disparity between international trade and domestic trade. Other factors include differences in how efficiently different goods are made; the immobility of production factors; barriers caused by distance and other physical factors; the use of different currencies; and the existence of artificial barriers. All of these differences only exist between countries, not within individual nations; as a result, a distinct theory of international trade is required to account for them. Ohlin, on the other hand, thinks that there is no fundamental difference between domestic and foreign trade and that it is not necessary to have a separate theory for foreign trade. The following considerations highlight the parallels between domestic commerce and international trade: The immobility of factors is not a feature that is unique to the borders of different countries; similarly, labor and capital can move both within and between countries; the cost of transportation is always present in both domestic and international trade; and the existence of multiple currencies does not present any challenges. Therefore, interregional trade and global trade are not fundamentally different from one another., nor is there justification for a distinct theory of international trade. It is possible to apply, in the context of global commerce, the same overarching concept of value that is used to explain inter-regional trade.

4.2.4 New Trade Theory

Paul Krugman's (1970), New Trade Theory (also known as NTT) provides an explanation for international commerce that is predicated on economies of scale, network effects, and the first-mover advantage. It clarifies the major driving force for globalization and the escalation of commerce between economies with similar characteristics. Additionally, it establishes the foundation for the role that the government would play in a country's industrialization. It opposes traditional trade theory, which advocates for constant returns on a scale, constant technology, and the

existence of perfect competition. Instead, it states that the person who establishes a business in a particular industry first has the advantage of being dominant and monopolistic in that industry. As a consequence of this, a nation with a lower standard of living may continue to struggle in certain sectors due to the absence of economies of scale within its businesses. The expansion of globalization can be partially explained by using the new trade theory as one of the contributing components. This suggests that because they benefit from scale economies that are comparable to those obtained by industrialized nations, less developed and poor countries may find it challenging to launch some sectors. It is primarily the result of the scale efficiencies that exist among mature businesses, not any inherent comparative advantage that the mature businesses possess.

4.3 International Trade Impact on a Country's Economic

Globalization has increased the interdependence of the world's economies, and commerce with other countries accounts for a sizeable component of most economies. Because of this practice, there is more competition benefits consumers by giving them more options, and it forces businesses to produce goods that are both high-quality and cost-effective. Countries also gain when they participate in international trade and concentrate on manufacturing products in which they have a comparative benefit. Even though to protect their sectors, several countries use tariffs and quotas to limit foreign commerce, research has shown that international trade is beneficial to economies as a whole. Not only does increasing trade between countries lead to greater productivity, but it also makes it possible for nations to take part in the economies of other nations, thereby fostering opportunities for foreign direct investment (FDI). In theory, this makes it easier for economies to grow and become more involved in the global economy.

Trade is a key driver of economic expansion that helps lift people out of poverty, create better jobs, and expand economic opportunities. Trade liberalization is projected to boost economic growth by 1.0 to 1.5 percentage points, resulting in income gains of 10–20% after a decade, World Bank Group, 2021).. Since 1990, global trade has led to a 24 percent increase in incomes overall and a 50% rise in earnings for the poorest 40% of the population. As of 1990, increased economic growth that was supported by improved trade practices has helped more than one billion people lift themselves out of poverty. There is a correlation between increased

trade and increased female participation in the formal labor market, which is associated with higher wages. More women are employed by exporters in developing nations than non-exporters, and up to 90% of employees in export processing zones are female. Exporters employ more women than non-exporters. When it comes to assisting nations in escaping conflict, fostering cooperation through trade and business is also of critical importance, World Bank (2021).

4.4 Some Visible and Invisible Trade Barriers

The exchange of physically tangible goods between nations is referred to as visible trade in economics. The export, import, and export of items at various phases of production constitute this form of trade. Unlike "invisible trade," which speaks to the import and export of services and other physically immaterial goods, this type of trade involves the exchange of tangible goods. The term "invisible trade" can be applied to any transaction that is associated with a value but does not involve the exchange of physical goods. The percentage of global trade that is comprised of invisible trade in all of its guises and manifestations is growing. The majority of commercial services that are performed across national boundaries are examples of invisible trade.

4.4.1 Visible Trade Barriers

Quota- is a quantitative restriction placed on the total quantity of a particular item that may be brought into or taken out of a country. Quotas have the potential to reduce imports while simultaneously boosting sales of domestically produced goods.

Tariff- a tax that is applied to the price of imported goods. As a direct consequence of this, the cost of imports will rise, and their competitiveness in the domestic market will decrease.

Embargo- a legal prohibition on importing any goods from a particular nation. The motivation behind it is frequently political. Subsidies are grants and expenses that are made by national governments to domestic businesses to assist those businesses with their day-to-day operating costs, which in turn enables those businesses to become more competitive by reducing their average cost per unit.

4.4.2 Invisible Trade Barriers

The vast majority of unseen commerce involves the provision of services. These services include the transportation of both freight and passengers, as well as insurance, banking, and other financial services; the exchange of information on science and technology, as well as foreign travel. The contribution to invisible trade that is gained from foreign investment revenue is the second-largest source of income, and the contribution that is made by transfer between the private and public sectors is the smallest. In many developing countries, the amount of money paid out for invisible is greater than the amount of money that is brought in from those invisible. This deficit is inextricably linked to the foreign debt that developing countries typically owe to developed countries, as well as the interest payments that those countries receive from those developing nations. The increase of some emerging economies' foreign debt, as well as those countries' failure to pay back loans and interest on those loans, endangers the foreign investment sector, and the economy of those developing nations, which generates hidden trade earnings for many industrialized nations. Because of the way things are now, there have been calls for countries that are considered to be creditors to help countries that are considered to be debtors.

4.5 Advantages and Disadvantages of Visible and Invisible Trade Barriers

4.5.1 Advantages of Visible and Invisible Trade Barriers

i. It restricts imports of goods and services from other countries and encourages domestic industry. The government has made it mandatory in order to protect the home market from foreign competition.

ii. The government restricts access to the domestic market for imported goods, levies tariffs, and generates money by taxing imported commodities.

iii. The trade imbalance serves as yet another rationale for government limitations on trade. This is because when a country imports more goods than it exports, the current account deficit grows. Therefore, the government makes an effort to increase exports and decrease imports.

4.5.2 Disadvantages of Visible and Invisible Trade Barriers

i. Trade barriers raise the cost to the business because they force them to rely on their own goods for raw materials since they prevent the import of cheap imported raw

materials. Customers are deterred from purchasing them in the local market, which has a direct impact on the final cost of the goods and services.

ii. The domestic market does not have the wide range of products that are offered on the international market. As a result, it reduces competitiveness and the range of commodities available in the nation. In a nutshell, a rise in import costs reduces the range of available products.

iii. Trade restrictions may make a particular nation less likely to trade with other nations. Trade limitations prevent the import of goods from other nations and occasionally the export of goods to other nations, which has an adverse effect on international revenue, and an immediate bearing on the nation's total revenue, and a negative impact on economic growth.

iv. Trade barriers also constrain the number of jobs available globally.

CHAPTER V

In this chapter, we will discuss the structure of international trade of AU and EU members' countries, and the international attempts made for improving the open trade between the countries.

5.1 The African Union (AU)

The African Union, sometimes known as the AU, is an organization that spans the entire continent of Africa and is made up of all 55 of its member states. In an effort to widen its scope, the Organization of African Unity (OAU) planned to establish a new continental body in September 1999. In July 2002, the African Union (AU) was formally established in Durban, South Africa. The leaders of Africa recognized that the OAU's prior emphasis on the struggle for decolonization and the end of apartheid needed to be replaced, and that greater collaboration and integration of African states could act as a catalyst for the expansion and economic prosperity of the continent.

This conclusion was reached because the OAU had previously centered its attention on these issues. As a result of the founding of the AU, the focus shifted away from the promotion of anti-colonialism and toward the leadership of Africa's integration and development. Harmony, peace, and the cohesive integration of sociopolitical accomplishment are the primary aims of the AU "greater solidarity and unity among the African nations and peoples; protection of the member states' sovereignty, independence, and territorial integrity; and accelerating the continent's political and social unity. Promoting "African common positions on issues affecting the continent and its peoples," "peace, security, and stability on the continent," "democratic principles and institutions, public participation, and good governance," and" are some of the other goals "the circumstances that must exist on the continent before it can assume its rightful place at the table of international negotiations and as a participant in the world economy.

5.2 The European Union (EU)

After World War II, people tried to bring Europe's economies together and stop more fighting. This led to the creation of the European Union in 1992. It is made up of seven major institutions and dozens of other entities that are responsible for drafting legislation, coordinating trade and international relations, and managing a joint budget.

Since the end of World War II, the countries of Europe have worked hard to deepen their integration in the hopes of fostering both peace and economic expansion in the region. The institutions that eventually created the European Union (EU) have increased and reinforced their authority as member states have surrendered more and more decision-making authority to the union.

The beginnings of European integration may be traced back to the 1950s, but the Maastricht Treaty of 1992 is credited with officially launching the modern union. In 2007, the Treaty of Lisbon, which is also known as the Reform Treaty, provided the European Union with its current structure and the competencies that come along with it. By these accords, the twenty-seven countries of the bloc have committed to pooling their sovereign power and delegating numerous decision-making authorities to the EU. It is possible to loosely classify the seven official EU institutions according to the functions that they perform in the areas of executive, legislative, judicial, and financial governance. The 27 countries that make up the European Union are all subject to the same economic, social, and security policies, which are governed by the European Union. The European Union (EU) launched a robust expansion into central and Eastern Europe at the beginning of the 21st century, which had previously been limited to Western Europe.

The European Union (EU) is tasked with negotiating trade agreements on behalf of its member countries, which includes Ireland. These agreements cover the topic of favorable duty rates for the shipment of products between the countries that make up the European Union and other countries. In addition to this, they have broadened the scope of their operations to ease trade. These opportunities include those for public procurement, business visiting visas, shared professional interests, product certification, and intellectual property rights, and international commerce in service industries. There are also opportunities for international trade in goods.

5.3 The differences between the structure of the African Union and the European Union

Although the AU Act is similar to the EU Act, it is clear that the two organizations have quite distinct fundamentals. Through the creation of a common market and a shared European culture, the EU places a greater focus on economic development and security. The African Union, in contrast, works to advance integration while firmly establishing the sovereignty doctrine. The EU was created to

put an end to the war, but they have also succeeded in establishing the four freedoms and, more importantly, in transferring some of their sovereignty to the supranational organization. Even when it was first established, the AU had trouble defining its major purposes. Leaders have resisted ceding any control, and there is little political will.
One of the guiding principles of the EU is to uphold equality and the rule of law by fostering innovative and humane legislation. All nations wishing to join and ratify all of the EU's treaties are eligible to participate in its political and economic membership processes. The European Council established the Copenhagen criteria, which stipulates that nations must possess reliable institutions that uphold democratic values, adherence to the law, and fundamental human rights, and a sensitivity to the needs of vulnerable groups. Additionally, they should be able to fulfill the requirements of membership, such as promoting the objectives of the union, having a functional market economy, as well the ability to endure competitive pressure and market forces that are active within the union. They must be equipped with a public administration that can effectively manage and implement EU regulations. This demonstrates that the EU maintains a high entry level before membership and that this is why it still has significant influence. as opposed to the AU, which just stipulates that a simple majority is required to admit a new African state. Since there is no definition of a "state," that decision must be made by the General Assembly. Before becoming a member of the AU, the "state" is not required to follow any particular protocol.

5.4 International attempts for EU countries

The World Trade Organization (WTO) is an international organization that aims to advance the cause of free trade. More specifically, the WTO strives to ensure that countries continue to eliminate trade barriers during trade discussions. At the moment, developing nations make up two-thirds of WTO membership, it helps least developed nations (LDCs) and transitional economies to leverage free trade to promote their development goals. The GATT (and later, the WTO) was initially meant to abolish customs obstacles and stimulate trade between its member states. The same goal was initially intended for the European Union (EU). The GATT's guiding principles and procedures were instrumental in the creation of the European Union's single market. The Union has traditionally been among the most prominent advocates for efficient international business that is underpinned by the rule of law. A system like this helps to ensure that its enterprises have equal access to overseas markets, and

as a result, it supports economic growth not only within the country but also outside, particularly in nations that are not as developed.

One of the spheres of activity in which the European Union as a whole possesses complete and uncontested power is that of the EU's common commercial policy. To put it another way, the European Union (EU) participates in the World Trade Organization (WTO) as a single entity, and its representation there is handled by the Commission rather than by each of the Member States. In the name of each and every one of the 27 member states, the Commission is responsible for negotiating trade agreements and representing the interests of the representation of the European Union before the WTO's Dispute Settlement Body. The Commission routinely confers with the Council and the Parliament regarding the topic and approach of multilateral negotiations and then reports back to those bodies on the results of those consultations. The Lisbon Treaty established the Council and the Parliament as co-legislators, giving each body an equal vote on matters about international commerce. Additionally, the EU has tried to create a multilateral the WTO's framework for trade discussions. The EU has concentrated its efforts on developing this framework, which is meant to support bilateral negotiations. The European Union (EU) has been obliged to reconsider some aspects of its long-standing strategy and return to regional and bilateral discussions as a result of the Doha Round's impasse and the fact that more trading partners have switched to bilateral agreements. This is because the EU's long-standing approach has been ineffective.

The World Trade Organization's present deadlocks prove that, during the previous 20 years, the global trading system has undergone a significant transformation. The system has changed, with new players—primarily transitional and emerging nations—playing a crucial part. Some emerging nations, which have gone through an extraordinary spell of continuous economic expansion, have benefited from the liberalization of the global trading system. These new dynamics are well known to the EU. It has highlighted the necessity of eschewing the bargaining strategy of the previous years in favor of novel strategies to handle the rising significance of regulatory issues relative to tariffs.

5.5 International attempts for AU countries

During the course of the last decade, the WTO has engaged in a wide range of activities, each to foster the expansion of trade in Africa. For instance, members of the

WTO have, with the help of the organization's several bodies and the WTO Secretariat, put into effect a broad array of agreements, rulings, and technical assistance programs. These programs cover topics such as trade facilitation and government procurement limits. Through its programs of technical aid as well as its support for industrialization and economic diversification, the WTO has been a contributor to the economic transformation that has taken place on the African continent. The Trade Facilitation Agreement (TFA) speeds up the transportation, clearance, and release of commodities. It also establishes processes for efficient cooperation between economies to guarantee that customs regulations are followed. On February 22, 2017, the TFA went into effect after two-thirds of WTO members had finished the domestic ratification procedures necessary for the agreement. Because the costs of implementing trade agreements are significant for many economies, the World Trade Organization (WTO) established the Trade Facilitation Agreement Facility (TFAF) to ease the process of implementing the Trade Facilitation Agreement (TFA). For instance, the TFAF has provided funding for African delegates to attend conferences and seminars that focus on increasing organizational capabilities and making better use of TFA resources.

Through its Standards and Trade Development Facility (STDF), the World Trade Organization (WTO) provides developing economies and least-developed countries (LDCs) with assistance. This facility assists imports and exports in meeting sanitary and phytosanitary (SPS) trade criteria that are based on international standards. The STDF has helped to increase sanitary capacity in a variety of different industries and has assisted in the implementation of the SPS policy framework for Africa. In addition, the WTO Secretariat has continued to provide its members in Africa with technical assistance to make the execution easier for regional trade agreements.

Additionally, the Economic Community of West African States (ECOWAS) and the WTO Secretariat collaborate on regional initiatives (ECOWAS). Since the middle of 2020, the World Trade Organization (WTO) has offered online training courses in both English and French for ECOWAS institution officials. These initiatives concentrate on market access, trade facilitation, and trade in services. The World Trade Organization (WTO) collaborated with the Union économique et monétaire ouest-africaine (UEMOA) to carry out a sub-regional intellectual property training program in 2019. In addition, the WTO works closely with a number of African WTO members to gather information for the Integrated Trade Intelligence Portal (I-TIP) database on each nation's services policy framework.

5.6 Trade relationship between EU member countries and AU member countries.

Commodity	**Total EU Import from African Union Countries (in billions of euros)**	**Total EU Export to African Union Countries (in billions of euros)**
Mineral fuels	40.7	2.5
Machinery	20.8	6.8
Agricultural Products	10.6	14.8
Textiles and Clothing	7.3	2.6
Chemicals	5.8	8.2

Source: Eurostat (2020) External trade - detailed data

Table code: DS-018995

We can examine data trends to determine the possibilities for trade between the two blocs. This example demonstrates that mineral fuels are the most traded good between the two blocs, with the EU importing mineral fuels worth €40.7 billion from African Union nations but only exporting mineral fuels worth €2.5 billion to those nations. This implies that there may be a chance for the EU to enhance its exports of other goods to African Union nations while decreasing its reliance on mineral fuels from other regions.

We additionally discover that there is substantial commerce in machinery, with the EU acquiring machines worth €20.8 billion from African Union nations and exporting machines worth €6.8 billion to those nations. This implies that there is a need for machinery in both economic blocs and that there might be room for more trade in this area. The EU imports agricultural goods worth €10.6 billion from African Union nations and exports agricultural goods worth €14.8 billion to those nations, making agricultural items another significant commodity traded between the two blocs. This implies that both blocs have a need for food items and that there might be room for increased commerce in this industry, (Eurostat data, 2020).

CHAPTER VI
Methodology

This section of the study concentrates on giving an in-depth analysis of the many methods, procedures, and tactics that were utilized to gather the crucial information for the research. The many statistical methods that were applied to analyze the secondary data amassed during the course of this research are also evaluated and described in greater detail in this part.

6.2 Data Types and Sources

The majority of research projects get data from either primary or secondary sources. The author relies on secondary data obtained from the World Development Indicator (2022). The study spans 42 years for two African nations, beginning in 1980 and finishing in 2021; the data obtained was annual time series data. In this particular research study, the rate of increase in real GDP per capita serves as the dependent variable in the growth equation, which is derived from the growth of the economy as a whole. For the purpose of this investigation, the growth equation takes into account not only the dependent variable but also five independent variables; trade openness, investment, government consumption expenditure, inflation rate, and financial development.

6.3 Variables

The rate of economic growth is being used as the dependent variable in this study, and there are five independent factors that are taken into consideration in the growth equation. The growth equation is assessed based on the rate of rise in real GDP per capita. These are some examples of independent variables: the degree to which trade is liberalized, the amount of money invested, the amount of money spent on government consumption, the rate of inflation, and the level of financial growth. The level of trade openness was determined by taking the amount of a country's total imports and exports as a percentage of its total gross domestic product (GDP). The empirical model incorporates the following four additional explanatory variables: the investment as a proportion of GDP variable (INV/GDP), the government consumption expenditure as a proportion of GDP variable (GOV/GDP), the inflation rate variable (INFL), and the financial development variable (M3/GDP).

6.3.1 GDP per capita

GDP per capita is expressed in percentages and calculated in the same national currency. Midyear population divided by GDP yields GDP per capita. At purchaser's prices, GDP equals the total gross value of all contributions to the economy by all of the local producers, plus any relevant product taxes and subsidies. It's evaluated without considering natural resource depletion or asset depreciation.

6.3.2 Trade openness

Trade openness, often known as OPEN, refers to the sum of all imported and exported products and services, represented as a percentage of GDP. The majority of the raw materials used by Nigerian manufacturing enterprises are imported, and the government's primary source of income is the proceeds from crude oil exports.

6.3.3 Investment

Investment, abbreviated as INV/GDP (formerly known as a gross domestic investment), is comprised of investments made to expand the stock of fixed assets within an economy as well as net changes to the stock of inventories. The acquisition of fixed assets includes activities such as purchasing plants, machinery, and equipment; constructing roads, trains, and other comparable structures; and building institutions such as educational institutions, workplaces, medical facilities, and individual residences, as well as commercial and industrial establishments. Improvements to land are sometimes considered to be assets that do not fluctuate in value (fences, ditches, drains, and so forth). The stocks of things that are held by companies as "work in progress" and to cover short or unexpected changes in production or sales are referred to as inventories. Businesses keep inventories for several reasons. Since the SNA of 1993, "net purchases of valuables" have also been included in the definition of "capital creation."

6.3.4 Inflation Rate

Inflation is the annual percent change in the price of purchasing a variety of products and services for a typical consumer, which may be established or modified at specified periods, such as annually. Inflation can be set or updated at predetermined periods, such as annually. The consumer price index is the standard tool for calculating inflation (CPI). In most cases, the Laspeyres formula is used in its place.

6.3.5 Government consumption expenditure

Government consumption expenditure (GOV/GDP) - All present government running costs for the acquisition of products and services, as well as employee salary, are accounted for. It excludes government military expenditure, which is a component of capital creation. It also accounts for the vast bulk of national military and security spending.

6.3.6 Financial Development

Financial development (M3/GDP) is the total amount of cash that is held in locations other than banks, as well as demand deposits not provided by the government, time and cash reserves made by non-government residents, deposits that are in foreign currency, checks drawn on banks or travel agencies, as well as additional assets like commercial paper (CP) and certificates of deposit (CDs).

6.4 Model Specifications

We use Jin (2000) for the model formulation. The following details the broad statistical model that is applied to examine how trade openness affects economic growth:

$$GROWTH = \alpha_o + \beta_1 OPEN + \beta_2 \frac{INV}{GDP} + \beta_3 \frac{GOV}{GDP} + \beta_4 INFL + \beta_5 \frac{M3}{GDP} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

In equation (1), the rate of growth in real GDP per capita is the dependent variable. The independent variable, OPEN, measures commerce as a proportion of GDP. In addition to trade openness, other control variables include the amount of investment as a percentage of GDP (INV/GDP), the amount of government consumption spending as a percentage of GDP (GOV/GDP), the inflation rate (INF), and the degree of financial development (M3/GDP). The word εt denotes an error term, while the term α_0 denotes a constant. The regression coefficients are as follows: 1..... 5
To develop the overall description of the econometric approach for the present investigation, the

Jin's (2000) model was changed in the following ways: First, the model incorporated the investment variable known as the INV/GDP ratio. The hypothesis of growth driven by trade-induced investment, which maintains that trade could influence growth. via investment channels, served as the impetus for including the investment variable in the

empirical model. Baldwin and Seghezza (1996) suggest that greater trade openness may lower the cost of capital, which in turn may raise both the need for capital and the rate of return on investment. The rate of return on the investment might grow as a result, boosting trade-driven investment and propelling development. Investment is seen as part of the contributing elements influencing economic development in SSA, which is why it is included in the present definition (Hadjimichael and Ghura, 1995).

Jin's (2000) initial model was changed, in addition to including an investment variable, by integrating an alternative measure in place of M1, the new financial development is referred to as M3/GDP. The last change that was made to the original model was the substitution of the inflation rate (INFL) for the foreign shock. Following the lead of Bittencourt et al. (2015), who discovered the M3/GDP ratio and inflation rate as major predictors of economic development in Africa, including Nigeria and South Africa, the present study covers both M3/GDP and INFL. According to Pesaran et al. (2001), the following is the ARDL definition for the investigation:

$$\Delta GROWTH = \alpha_o + \sum_{i=1}^{n} \beta_{1i} \Delta Growth_{t-i} + \sum_{i=0}^{n} \beta_{2i} \Delta OPEN_{t-i} + \sum_{i=0}^{n} \beta_{3i} \Delta \frac{INV}{GDP}_{t-1} + \sum_{i=0}^{n} \beta_{4i} \Delta \frac{GOV}{GDP}_{t-1} + \sum_{i=0}^{n} \beta_{5i} \Delta INF_{t-i} + \sum_{i=0}^{n} \beta_{6i} \Delta \frac{M3}{GDP}_{t-i} + \lambda_1 GROWTH_{t-1} + \lambda_2 OPEN_{t-1} + \lambda_3 \frac{INV}{GDP}_{t-1} + \lambda_4 \frac{GOV}{GDP}_{t-1} + \lambda_5 INF_{t-1} + \lambda_6 \frac{M3}{GDP}_{t-1} + u_t \quad \ldots\ldots (2)$$

Equation 2, represents the difference operator, n represents the length of the lag, GROWTH represents the real GDP per capita growth rate, INV/GDP represents the investment to GDP ratio, OPEN represents the trade openness metric, GOV/GDP represents the government consumption metric, INF represents the inflation rate, M2/GDP represents the financial development metric, and μ_t represents the error term.

The ARDL bounds testing method has two components that must be completed before it can be considered. In the first step, the cointegration connection is tested. At this stage, the cointegration test is used to assess if the non-stationary processes may be joined linearly.

The following parameters are used in equation (2) to enable null hypothesis testing for no co-integration:

$H_0: \lambda 1 = \lambda 2 = \lambda 3 = \lambda 4 = \lambda 5 = \lambda 6 = 0$

The following equation is used to assess the alternative hypothesis:

$H_0: \lambda 1 \neq \lambda 2 \neq \lambda 3 \neq \lambda 4 \neq \lambda 5 \neq \lambda 6 \neq 0$

The co-integration analysis is concluded by comparing the estimated F-statistic to Pesaran and Pesaran's crucial values. This F-statistic exhibits a a distribution that is unusual regardless of I (0) or I(1) regressors are integrated (Pesaran and Pesaran 2010). The F-test contains two sets of measurement constraints: one assumes all ARDL model variables are I (0) and the other is I(1). Whether the estimated F-statistic is outside or within the measurement value limits affects whether the null hypothesis of no co-integration is accepted. The calculation of long-run relationship coefficients and the drawing of conclusions based on the obtained coefficient values are both components of the second stage of ARDL modelling. The Schwartz-Bayesian criterion (SBC) or the Akaike Information Criterion (AIC) are great lag selection criteria that may be used to identify the optimal lag duration for the ARDL model at this point (SBC).

When the wrong limitations are applied, the ARDL co-integration test's power does not diminish in finite samples, in contrast to the Engle-Granger (1987) method and the Hansen (1990) co-integration test. This is because the ARDL co-integration test is based on an adaptive random dynamical system (Banerjee et al., 1998). Because of the limited sample features, it possesses, the ARDL limits testing technique to co-integration performs better than other methods, even when applied to smaller sample sizes. As a result, since the limits testing approach for co-integration is reliable for small samples, it is favored when the sample size is small (Tang, 2004).

In light of the co-integration test's findings, which was derived from equation (2), the error correction model (ECM) for the present investigation can be summarized as follows:

$$\Delta GROWTH_t = \alpha_0 + \sum_{i=1}^{n} \alpha_{1i}\, \Delta GROWTH_{t-i} + \sum_{i=1}^{n} \alpha_{2i}\, \Delta OPEN_{t-i} + \sum_{i=1}^{n} \alpha_{3i}\, \Delta INV/GDP_{t-i} + \sum_{i=1}^{n} \alpha_{4i}\, \Delta GOV/GDP_{t-i} + \sum_{i=1}^{n} \alpha_{5i}\, \Delta INF_{t-i} + \sum_{i=1}^{n} \alpha_{6i}\, \Delta M3/GDP_{t-i} + \varphi ECT_{t-1} + \mu_t$$

…….…….. (3)

Equation (3) uses the definitions for equation (2) dependent variable and the explanatory variables. Because α_0 is a constant, the short-run coefficients are $\alpha_1, \ldots\alpha_6$, while the long-run dynamics are represented by the coefficient (φ). ECT stands for error-correction technology. The residual error term is denoted byμ_t. The size and sign of the coefficient denoting adjustment speed define the method's validity. The (φ) coefficient of this It is anticipated that the error-correction term will be statistically significant and negative, and smaller than 1.

6.4.1 Unit Root Analysis

Before any research study used the ARDL model, a requirement known as the unit root test must be satisfied. The stability of the data is also determined by this. The application of the ARDL model requires that the unit root be statistically significant at 1%, 5%, or 10% at any level or initial difference. To any prior difference, this criterion will apply. The study was performed using the ARDL bound test in collaboration with ARDL. As a consequence, determining the unit root was the initial step. To corroborate our findings and verify that the variables investigated were appropriately integrated, we employed the Elliott-Rothenberg-Stock (ERS) unit root test. The unit root was studied using two separate case studies:

i. The Constant Scenario, and

ii. The Constant and Trend Scenario, respectively

This was used to demonstrate how stationary the variables are and that the constant with trend scenario is the most plausible one for my research because it accounts for many changes as well as potential political and socio-political factors.

6.4.2 The Elliott-Rothenberg-Stock (ERS) Test

A statistical test called the Elliott-Rothenberg-Stock (ERS) unit root test is used to ascertain whether a time series variable has a unit root, which denotes non-stationarity. In their paper titled "Efficient Tests for an Autoregressive Unit Root" from 1996, Elliott, Rothenberg, and Stock invented it. The enhanced Dickey-Fuller (ADF) test serves as the foundation for the ERS test, which uses a different estimating method to produce more effective and potent results. The Schwartz Information Criterion (SIC) or other criteria may be used to pick an endogenously determined lag length when using the ERS test. The ERS test statistic's formula is as follows:

$$\boldsymbol{ERS} = (\mathbf{1}/\boldsymbol{\lambda}\hat{}) \ * \ [(\boldsymbol{n}\hat{}(-\mathbf{1}/\mathbf{2}) \ * \ (\hat{\boldsymbol{t}} \ - \ \boldsymbol{t})]$$

Where n is the sample size, $\hat{t}$ is the estimate of the autoregressive coefficient, and $\mathcal{X}$is the estimate of the long-run variance. $\lambda\hat{}$. Also indicates how many estimated coefficients are included in the model. According on the significance level and sample size, the ERS test statistic's critical values vary. Software programs or statistical tables can be used to find the crucial values. In order to assess whether a time series variable exhibits a unit root process, which denotes non-stationarity, the Elliott-Rothenberg-Stock (ERS) unit root test is an improved version of the augmented Dickey-Fuller

(ADF) test. Building on earlier work on unit root tests, Elliott, Rothenberg, and Stock created the ERS test in 1996. The ERS test outperforms the ADF test because it yields more effective and potent results. The ERS test's ability to use endogenously determined lag duration selection is a crucial component. In other words, the ERS test automatically chooses the ideal number of lags based on a criterion like the Schwartz Information Criterion (SIC) or other model selection criteria, as opposed to predetermining the lag length.

To perform the ERS test, an autoregressive model must first be estimated before the ERS test statistic can be generated. The ratio of the estimated autoregressive coefficient to the estimated long-run variance is used to construct the test statistic. The autoregressive coefficient reflects the degree of mean reversion or trend behavior in the series, whereas the long-run variance describes the persistence of the time series variable. To establish the statistical significance, the ERS test statistic is then contrasted with critical values. These threshold values depend on the sample size and are particular to the selected significance level. A unit root's null hypothesis is disproved if the test statistic exceeds the critical value. Demonstrating stationarity. In contrast, the null hypothesis is not disproved if the test statistic is less than the crucial value, indicating the existence of a unit root and non-stationarity. It's crucial to remember that the ERS test is frequently used in econometrics and has been utilized in a number of empirical investigations to examine the stationarity characteristics of time series data.

6.4.3 Residual Diagnostics and Stability Test

A test known as the residual diagnostic test is performed by researchers to examine the reliability of the models and variables that are utilized for regression. Researchers can evaluate the accuracy of the models being employed thanks to this test. To evaluate the reliability of the model that was used, further diagnostic tests are being used in this inquiry in addition to those that have previously been covered. These tests fall into three categories: the autocorrelation test, the residual normality test (serial correlation test), and the white (heteroskedasticity) test. These tests all demonstrate the use of heteroskedasticity, a statistical analytic technique. Plotting a chart of the residual values against the expected values and illustrating the value of the residual values against the projected values allow one to determine the level of autocorrelation of the data's values. The probability value was compared to the

obtained F-statistics in order to reject the null hypothesis and come to the conclusion that the model is heteroskedastic.

To be certain that the data were stable, the CUSUM and CUSUM-square tests were run in addition to the residual diagnostics test. Two red lines on the graph represent stability and significance level at 5%, while a blue line shows how the data moves.

CHAPTER VII

Data Presentation

7.1 Introduction

The findings of the study are outlined in each of the four sections that make up this chapter. The role of open trade on economic development is discussed in the following section, and this relationship is graphically illustrated. Descriptive statistics and data analysis methods are covered in great detail in the study's first section. A data set's stationary test is covered in the second section, and co-integration is covered in the third. Finally, in the final portion, several subjects are covered, such as regression analysis, diagnostic tests, and tests to assess whether data or findings are stable. Despite this, the presentations were done in a way that matched the objectives of the study, and the testing was done effectively with the use of the EViews computer programs.

Table 1: Descriptive Statistics

Table 1; Descriptive statistics

Descriptive Statistics for Nigeria						
	GDP	**GOVEXP**	**INFL**	**INV**	**M3**	**OPEN**
Mean	0.43804	3.830776	18.73531	36.7611	16.8598	32.46705
Median	1.172697	2.098885	12.71577	33.97212	13.88719	33.87182
Maximum	12.45747	9.44834	72.8355	89.38105	28.62522	53.27796
Minimum	-15.45036	0.911235	5.388008	14.90391	9.063329	9.135846
Std. Dev.	5.181806	2.855208	16.51313	18.91927	6.164899	12.25143
Skewness	-0.849644	0.73875	1.892215	1.015948	0.487905	-0.340463
Kurtosis	4.812181	2.073699	5.460058	3.679322	1.599662	2.284309
Jarque-Bera	10.80027	5.321816	35.65415	8.032641	5.098018	1.70778
Probability	0.004516	0.069885	0.00000	0.018019	0.078159	0.425756
Observations	42	42	42	42	42	42

Table 2; Descriptive Statistics

Descriptive Statistics for South-Africa						
	GDP	**GOVEXP**	**INFL**	**INV**	**M3**	**OPEN**
Mean	0.245147	17.30157	8.539642	18.42971	55.93989	48.40948
Median	0.825801	17.25289	7.04793	17.64783	50.83937	47.68802
Maximum	4.277768	20.65017	18.65492	31.90399	74.59783	65.97452
Minimum	-7.615876	12.77051	-0.69203	12.74555	41.51655	34.32135

Std. Dev.	2.700134	1.650002	4.659434	3.930654	10.17666	7.473463
Skewness	-0.725186	-0.574449	0.404677	1.613929	0.355381	-0.012094
Kurtosis	3.22506	3.618573	2.157936	5.962595	1.519462	2.373394
Jarque-Bera	3.769906	2.979551	2.38722	33.59306	4.720058	0.688135
Probability	0.151836	0.225423	0.303125	0	0.094417	0.708881
Observations	42	42	42	42	42	42

The variables that the researcher used in this descriptive analysis are broken down into their parts and characteristics in table 1 which can be seen below.

Throughout the study, the average GDP growth rate for Nigeria and South Africa was 43.8%, and 24.5% respectively which is "Moderate" according to the standards of a developing nation. This indicates that Nigeria had greater average GDP from 1980 to 2021 as compared to South Africa. Additionally, South Africa received an average of 52.76% of its import and export dollars from trade openness as compared to 32.46% in Nigeria during the same period (1980-2021). This means that South Africa is more open to internat36.76 billion during the time period as compared to Nigeria. During the course of 1980 to 2021, the gross fixed capital formation (INV/GDP) amounted to 36.76 billion, and 18.42 billion for Nigeria and South Africa respectively. Government final consumption expenditure was US$17.3million in South Africa and US$3.8million in Nigeria. This implies that the South African government spent more on products and services that can fulfill the requirements of its citizens as compared to the Nigerian government. Furthermore, the financial development proxy by broad money (M3/GDP) was US$55.9million in South Africa as compared to US$16.8million in Nigeria. Inflation was 8.5% in South Africa and 18.7% in Nigeria. Indicating that the inflation rate is rapid in Nigeria as in South Africa. At 12.45747, and 4.277768 GDP was at its highest growth rate, while the GDP growth rate at its lowest was -15.45036, and -7.615876 in Nigeria and South Africa respectively. The lowest amount of trade openness in Nigeria was 9.135846 and 37.18901 in South Africa, with the highest amount being 53.27796 and 72.86539 respectively. Over the course of the full-time frame, the highest level of INV/GDP was 89.38105 and 31.90399 while the lowest level was 14.90391 and 12.74555 both in Nigeria and South Africa respectively. In terms of GovExp, the highest level was 9.448340, and 20.65017, while the lowest level was 0.911235 and 12.77051 in Nigeria and South Africa. The lowest level of M3/GDP was 9.063329, and 41.51655, while the highest was 28.62522, and 74.59783 for Nigeria and South Africa. INFL was at its lowest of

5.388008, and -0.692030, its highest of 72.83550, and 18.65492 in Nigeria and South Africa. The GDP growth skewness of -0.849644, and -0.725186 in Nigeria and South Africa indicates that low levels of GDP were more prevalent than high levels of GDP. The flow of a nation's trade openness (OPEN) was unfavorable to the count, of Nigeria but favorable to South Africa which indicated low growth in trade in Nigeria, skew by -0.340463 and 0.014564 for South Africa. There were a few years when the level of trade openness was much greater in Nigeria than it was in South Africa. The null hypothesis is rejected because the findings of the Jarque-Bera statistical test indicate that the variables GDP, OPEN, INV/GDP, GovExp, INFL, and M3/GDP are not regularly distributed in both countries.

7.2 Unit Root Test

The existence of unit roots was first tested for in the variables of both countries. Unit root tests can identify the stationary state of a time series. Long-term averages calculated using a single set of realizations can provide an accurate approximation of the mean, variance, and autocorrelations of a stationary series provided that the series is measured over a sufficient amount of time (Enders, 2004). If, on the other hand, a series is non-stationary, it will have the propel to depart from its long-run mean, which may cause an incorrect conclusion to be drawn from the data. In this particular research project, the Elliott-Rothenberg-Stock (ERS) test was utilized. The findings of these testing are displayed in Table 1 for the unit root.

Table 2: Unit Root Test- NIGERIA

Unit- Root Test - Elliott-Rothenberg-Stock (ERS) - Nigeria							
Intercept				*Trend and Intercept*			
Variables	Critical Value	P-Statistic	Integration	Variables	Critical Value	P-Statistic	Integration
GDP	2.970000	14.140690	I(1)	GDP	5.720000	22.657660	I(1)
GOVEXP	2.97000	6.6622	I(1)	GOVEXP	5.720000	17.9278	I(1)
INFL	2.97000	10.4728	I(1)	INFL	5.720000	12.5886	I(0)
INV	2.97000	18.60676	I(0)	INV	5.720000	10.3729	I(0)
M3	2.97000	19.67112	I(0)	M3	5.720000	5.8360	I(1)
OPEN	2.97000	3.516395	I(0)	OPEN	5.720000	8.845364	I(0)

Table 3: Unit Root Test- SOUTH AFRICA

Unit- Root Test - Elliott-Rothenberg-Stock (ERS) - South Africa							
Intercept				*Trend and Intercept*			
Variables	Critical Value	P-Statistic	Integration	Variables	Critical Value	P-Statistic	Integration
GDP	2.970000	3.490178	I(1)	GDP	5.720000	7.430535	I(1)
GOVEXP	2.970000	45.5388	I(0)	GOVEXP	5.720000	22.9457	I(0)
INFL	2.970000	8.4228	I(0)	INFL	5.720000	7.4936	I(0)
INV	2.970000	32.19681	I(0)	INV	5.720000	27.2317	I(0)
M3	2.970000	19.67112	I(0)	M3	5.720000	5.898266	I(1)
OPEN	2.970000	5.440004	I(0)	OPEN	5.720000	11.53046	I(1)

Table 3 shows that GDP was integrated at order I(I) in both Nigeria and South Africa ERS. Govexp was also integrated at order I(I) for Nigeria, while all other variables were integrated of order one in South Africa. The unit root test demonstrates that each variable that weren't stationary after first differencing became stationary. The study's variables are integrated between zero and one, according to the findings. After determining the order of integration, the ARDL limits to test for cointegration was used to assess if the variables had a long-term relationship.

7.3 Analysis of the Autoregressive Distributed Lag Model (ARDL)

The unit root's results must be known in order to estimate the empirical model. For Nigeria, GDP and GOV/EXP were integrated of order I(I), while INV and OPEN were integrated of order I(0). INFL and M3/GDP were all integrated between order I(0) and I(I); for South Africa, GDP was integrated at order I(I), while all other variables were integrated at I(0), according to the findings of the ERS unit root test in the preceding section. The series is presumed to be stationary in this case. These series have the same order of integration, which is one of their unique characteristics. Co-integration must be tested in order to confirm the individual nation model's applicability further. That is, considering the fact that the series are becoming less cohesive or moving either upwards or downwards, a long-term relationship is assumed in the model. If any one or all of the variables are I(1), Arshed (2014) states that " since the variables won't act the same way as constants, which are necessary for OLS, we cannot estimate the variables using traditional ordinary least squares (OLS). The key issue is that the majority of the variables vary over time, resulting in high t-values and

significant results, while, in fact, it inflates them due to the common time component, leading to misleading regression in which the model's R2 exceeds the Durbin Watson Statistic. As a result, we switch to a fresh batch of models that can handle I(1) variables.

The Engel-Granger co-integration test, devised by Engel and Granger, is a well-known test for co-integration for I(1) sequence for linear models with a (single equation). The Engel-Granger (EG) co-integration test strategy has two significant drawbacks, though. First of all, the task is made more challenging when there are more than two variables to test because the test does not indicate which of the variables can be utilized as regressors and why. Another issue is that the EG process, which uses residual from a single relationship, is unable to handle the possibility of more than one co-integrating relationship when there are more than two variables, which results in a number of co-integrating vectors (Asteriou & Hall, 2007). For example, in such cases, the bounds co-integration test suggested by Pesaran, Shin, and Smith (2001) is the proper co-integration test.

The length of lag that yields the smallest critical value and effective parameter coefficients must be determined, together with the appropriate number of lags for a model estimate. The maximum lag k, according to Gujarati and Porter (2009), must be set. The best course of action is to begin with a very high value of q [the lag time] and assess the model's fit is dramatically worsened as it is decreased. Choosing fewer delays, according to Gujarati & Porter (2009), will result in the "omission of key variables bias," which can have dire repercussions. The implications of selecting more lags than necessary, on the contrary, will result in the "inclusion of irrelevant variable bias," which is less severe. The ARDL co-integrating and long-run version was used as a short-run equation in accordance with Pesaran, Shin, and Smith. The lag length was automatically determined using the Schwarz information criterion, with a maximum lag of 4 for both the dependent and endogenous variables (set by Eviews 12.0). The error correction form that is generally created from the specification is over-parameterized. The amount and significance of the error correction term determine the significance of the co-integration form's outcome (CointEq.). This is anticipated to be large, adverse, and greater than -1. (Between 0 and -1). To calculate how many years, it will take to restore equilibrium from the short to the long run, we take the absolute values of the unrestricted ECT and divide them by their direct opposite, which is (-1).

In all the countries, it was discovered that the F-statistic for the bound test was greater than the upper bound, indicating that all the variables were co-integrated. Three diagnostic tests were therefore carried out (model specification, autocorrelation, and heteroscedasticity). The CUSUM and CUSUMSQ were used to determine if the recursive residual was stable in terms of mean and variance, respectively, because the ARDL is susceptible to recursive residuals that arise as a result of structural breaks I(1).

Table 4. ARDL Bound Test

ARDL Bound Test- Nigeria				
Test Statistic	Value	Significance Level	I(0)	I(1)
F-statistic	3.57692	10%	2.08	3
K	5	5%	2.39	3.38
		1%	3.06	4.15
ARDL Bound Test- South- Africa				
Test Statistic	Value	Sign	I(0)	I(1)
F-statistic	11.10731	10%	2.08	3
K	5	5%	2.39	3.38
		1%	3.06	4.15

We conclude that there is strong evidence of a long-run relationship between the variables in the series because the calculated F-statistics in the model are larger than both the upper and lower limits, as shown by the outcomes of the ARDL bounds test for co-integration, which are reported in Table 3.

To determine whether or not the data set under review has co-integration, the Bound Test, developed using the ARDL approach, was utilized. The null hypothesis ((0)) cannot be rejected using F-statistics below the lowest value (critical values for I). If the statistic exceeds the upper limit I, the co-integration hypothesis should be rejected. When the statistics are within acceptable bounds, this yields inconclusive findings. For Nigeria and South Africa, the F statistics (3.576928) and (11.10731) allow us hence it can be concluded that independent and dependent variables exhibit a long-term

statistically significant association that is significantly different at the 5%, 10%, and 1% levels of significance. Therefore, we reject the null hypothesis of no co-integration. The model's long-run and short-run coefficients were estimated once the co-integration test was finished. The Akaike Info Criterion (AIC) was utilized in order to arrive at the most suitable lag duration. The AIC chose ARDL (2, 4, 3, 4, 3, 4) and (1, 3, 0, 2, 2, 2). Tables 4 and 5 present the empirical results for the model using data from both nations included in this study.

Table 5: ARDL Long-Run Estimations of the ARDL Technique

ARDL Long run Test- Nigeria				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	26.64459	8.133712	3.275822	0.0042
GOVEXP	0.329648	0.43118	0.764526	0.4545
INFL	-0.25246	0.077952	-3.238677	0.0046
INV	-0.183382	0.091089	-2.01322	0.0593
M3	-0.891207	0.181377	-4.913562	0.0001
OPEN	-0.018042	0.090051	-0.200351	0.8435
ARDL Long run Test- South Africa				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.71769	3.232315	5.172047	0.0000
GOVEXP	-1.048771	0.199541	-5.255911	0.0000
INFL	-0.081312	0.056783	-1.43197	0.1656
INV	-0.191518	0.111369	-1.719673	0.0989
M3	-0.019052	0.033654	-0.566125	0.5768
OPEN	0.160968	0.043507	3.699794	0.0012

7.4 Nigeria Long-run Analysis

The long-run estimates of the ARDL are displayed in Table 5 column 2 and show a positive and negligible estimated coefficient of 0.329648 (0.4545) for GOVEXP and a negative and negligible estimated coefficient of -0.018042 (0.8435) for OPNES. The outcomes also revealed negative but substantial estimated values for INFL, INV, and M3/GDP of -0.25246 (0.0046), -0.183382 (0.0593), and -0.891207 (0.0001), respectively.

The results of this analysis, which are surprising in comparison to the conclusions of previous research on the impact of open trade on economic growth, diverge significantly from the predictions of previous theoretical studies. For example, the regression found a negative and negligible parameter for OPNES: -0.018042

(0.8435). This suggests that a 1% increase in trade share will lead to a 0.02% drop in real GDP growth. However, this finding was not statistically significant. As a result, the result does not provide significant proof to back the idea that Nigeria's economic growth will benefit over the long term from trade openness as measured by trade shares. These results are in line with those of Fenira (2015), Ulasan (2015), Mputu (2016), and Moyo et al. (2017), but they go against earlier conclusions made by Mohammed and Jian (2016), as well as more recent studies by Khobai, Kolisi and Moyo (2018), Egbulonu & Ezeocha (2018), revealed a link between Nigeria's economic growth and trade openness.

The research of Fenira (2015), the majority of developing nations with trade liberalization policies want to borrow money and get aid from international institutions like the World Bank, the International Monetary Fund the European Union, and the World Trade Organization, which advocate liberal attitudes. According to Fenira (2015)'s findings, the liberalization of trade has only marginally contributed to the expansion of the global economy in developing nations. In addition, Moyo et al. (2017) found that the level of trade openness in Nigeria had a negative but relatively minor impact on economic growth. The findings over the long term also show that the coefficient of the investment variable is significantly negative and reveals a negative value statistically. The fact that the investment variable has a negative coefficient (-0.183382) runs counter to what was anticipated from this particular study. These results, however, are consistent with those of Chang and Mendy (2012), who found a conflict between investment and sub-Saharan African economic growth. In their study, the authors discovered that the investment caused sub-Saharan Africa's economy to grow slowly.

Long-run data reveal that government consumption expenditure is positive but inconsequential. This means government consumption expenditures is however good for Nigeria's economic growth. Akpan (2005) found no statistically significant influence of government consumption on economic growth. Akpan determined that government spending doesn't affect Nigeria's economic growth. Long-run studies show that inflation's coefficient is significant and negative. Inflation hurts Nigeria's long-term economic growth. Muritala (2011) and Adaramola & Dada (2020) found that inflation inhibits Nigeria’s economic growth. Long-run data demonstrate that M3/GDP has a negative but considerable impact on Nigeria's growth. This demonstrates that Nigeria's economic growth is not much impacted by bank-based

financial development. These findings go against Iheanacho's (2016) assertion that Nigeria's economic growth is negatively and insignificantly impacted by financial development.

7.5 South Africa Long-run Analysis

Open trade has a sizable beneficial impact on GDP growth, according to the results for the long-run coefficients. These findings highlight how crucial trade-related activities are to the economic development of South Africa. This illustrates that an increase in South Africa's overall trade-to-GDP ratio has a favorable impact on the nation's economic expansion. The long-run outcomes further demonstrate that the investment variable's coefficient is adverse and statistically negligible. Contrary to what was anticipated by the current investigation, the investment variable's negative coefficient. Economic growth was found to be adversely connected with investment in South Africa and sub-Saharan Africa, respectively, by Nyasha and Odhiambo (2015) and Chang and Mendy (2012). Long-term findings highlight the statistical significance of the negative coefficient for government consumption. This suggests that South Africa's GDP is negatively impacted by government consumption spending. The findings are in line with Landau (1983) who shows that government consumption spending has a detrimental influence on GDP. The long-term data also indicate that the coefficient of the financial development proxy, M3/GDP, has no bearing on South Africa's economic expansion. This suggests that the financial development based on banks has little to no influence on South Africa's economic expansion.

Table 6: ARDL Short run and ECM Estimations of the ARDL Technique

ARDL Short run Test-Nigeria				
Variable	Coefficient	Std. Error	T-Statistics	Prob*
C	19.6176	6.618219	2.964181	0.0083
D(GOVEXP)	-0.632267	0.319285	-1.980258	0.0632
D(INFL)	-0.098904	0.03042	-3.251229	0.0044
D(INV)	-0.203981	0.087511	-2.330923	0.0316
D(M3)	-0.9822	0.200664	-4.894754	0.0001
D(OPEN(-1))	0.239008	0.049144	4.863458	0.0001
ECM	-0.736269	0.127428	-5.777946	0.0000

Adj R-quared	0.789		Prob(F-statistics)	0.002051
F-Statistics	5.068978		Durbin-Watson	2.225634
ARDL Short run Test-South-Africa				
Variable	Coefficient	Std. Error	T-Statistics	Prob*
C	26.56121	5.203499	5.104489	0.0000
D(GOVEXP)	-1.619486	0.760392	-2.129804	0.0441
D(INFL)	-0.129189	0.089701	-1.440221	0.1633
D(INV)	0.648488	0.217575	2.980532	0.0067
D(M3(-2)	0.321485	0.136143	2.36138	0.0271
D(OPEN)	0.318278	0.065788	4.837951	0.0001
ECM	-0.986072	0.11818	-8.34384	0.0000
Adj R-quared	0.758515		Prob(F-statistics)	0.000002
F-Statistics	8.957312		Durbin-Watson	1.838502

7.6 Nigeria Short-run Analysis

Short-run coefficients for OPEN in the table below, demonstrate trade openness has a positive and considerable influence on economic growth. A 1% increase in Nigeria's trade share of GDP increases economic growth by 0.24 percent. Interestingly, this study's conclusions support with those of Egbulonu and Ezeocha (2017) and Khobai, Kolisi, and Moyo (2018). The results support the hypothesis that trade openness, as shown by trade shares, positively affects Nigeria's economic growth in the near term. On the contrary, Mputu (2016) and Fenira (2015) claimed However, contrary to the findings of this study, short-term policies intended to promote openness cannot have the desired effects since it takes time for a change in policy to create credibility for the support of economic agents (investors, entrepreneurs). The short-run coefficients of all other components are negative and significant, too.

The lagged error correction term coefficient, -0.736269, is negative and statistically significant, according to the ARDL's short-run dynamics (2,1,3,3,3,3). The ECT (-1) from the short to the long run is -0.736269. 73.62% of the disequilibrium brought on by the shocks of the preceding year converges to equilibrium in each period. Due to

the slow rate of correction, it will take 7 years and 3 months (-0.736269 years) to correct all mistakes and bring about economic equilibrium.

7.7 South Africa short-run Analysis

Open trade has a positive effect on GDP in South Africa, according to the short-run results. In the short term, openness to trade is important and significant. The short-run outcomes also demonstrate that investment has a favorable and significant influence on GDP. Additionally, the short run demonstrates that the government spending coefficients have negative coefficients but statistically significant, while inflation has a negative but insignificant impact. These short-run coefficients' negative signs are in line with what this analysis predicted. The short-run outcome demonstrates that the broad money used as a proxy for financial development likewise has significant bearing on economic growth. The lagged error correction coefficient component is detrimental and significant, according to other short-run studies. This suggests that the variables in this study have a lasting association.

7.8 Residual Test

Given that the ARDL is a linear regression model, it is necessary to verify the assumptions of the Classical Linear Regression Model (CLRM). Linearity, homoscedasticity, serial correlation, and normality are only a few of the presumptions. These tests produced the F-test and p-value results, which are useful for evaluating the evidence that refutes the null hypothesis (H0). A low p-value provides proof that H0 is false. One may choose to accept or reject the null hypothesis based on the p-value's good representation of the quality or lack thereof of the empirical evidence supporting it at the customary critical value (Wooldridge, 2016).

Table 7 residual diagnostic tests

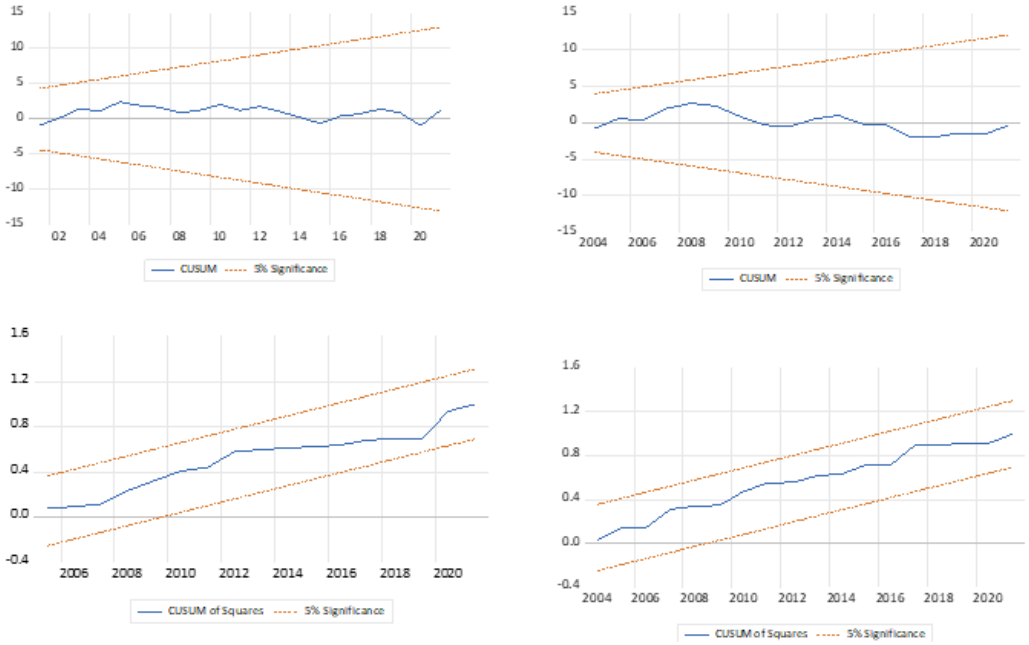
Residual Diagnostic Test-Nigeria					
Normality Test		Serial Correlation LM Test		Heteroskedasticity Test	
Jarque-Berra	Prob.	F-statistic	prob. F(2, 16)	F-statistic	prob. F(20, 18)
1.468127	0.479955	0.606061	0.5576	0.429957	0.9647
Residual Diagnostic Test-South Africa					
Normality Test		Serial Correlation LM Test		Heteroskedasticity Test	
Jarque-Berra	Prob.	F-statistic	prob. F(2, 19)	F-statistic	prob. F(16, 21)
0.829698	0.66044	0.721231	0.499	1.117496	0.3992

According to the residuals in Table 7, the findings demonstrate that serial correlation does not exist, no conditional heteroskedasticity, and the data set is normally distributed. The residuals, in fact, have a normal distribution. The model does not support the alternative hypothesis that serial correlation occurs in both nations. A probability of 0.5576 or 0.4990 is more probable than 0.05. As a consequence, we believe that the two nations' serial connections are missing from this model. At a 5% level of confidence, an important null hypothesis is that there is no heteroskedasticity at all. According to the residual diagnostic test, the probability value of 0.9647 for Nigeria and the p-value of 0.3992 for South Africa are both greater than the 0.05 percent threshold, indicating that the two nations' data sets are not heteroskedastic. If we reject the null hypothesis at 5%, the model does not disclose heteroskedasticity; but if we reject the null hypothesis at 10%, we may confidently state that it does, but it does not for both nations in this thesis. The null hypothesis clearly shows that residuals are normally distributed, with a probability of 0.479955 in Nigeria and a p-value of 0.660440 in South Africa, both of which are more than 0.05 percent. We conclude that residuals with a 5% probability of being normally distributed are normally distributed.

7.6 Stability Test

A systematic sign on the first step forward forecast error is detected by the Cumulative Sum (CUSUM), which also detects systematic departures of the I coefficients. Recursive residuals are used to generate it. CUSUM and CUSUMSQ are 0 in the case of full parameter stability (figures below). Any statistic beyond the two standard error bands, which are drawn around zero because the expected value of the disturbance is always zero, indicates that the parameter is unstable. According to Page (1954), the blue line cannot cross the red and green lines. The critical boundaries of Nigeria and South Africa are shown by plots of the CUSUM and CUSUMSQ tests at the 5% level, which reveal no recursive residual issues in terms of mean (in the first CUSUM chart) or variance (in the second CUSUMSQ chart).

Fig 6 & 7: South Africa CUSUM & CUSUMsq Fig 8 & 9: Nigeria CUSUM & CUSUMsq



There is nothing to suggest that the alternate theory is correct, despite the existence of a theory that claims the parameters are steady, also known as the null hypothesis, there is nothing to suggest that the alternate theory is true. According to the test results, the blue line is restricted by the red line and is unable to cross it. We accept the null hypothesis and reject the alternative hypothesis because we want to think that residual variances are stable rather than unstable. The problem will consequently get much more difficult. In addition, we discovered that the residual variance is stable rather than unstable. The long-term stability of the ARDL model's long-term coefficient was examined in relation to the short-term dynamics of open trade and economic growth using both the cumulative sum of recursive residuals (abbreviated CUSUM) and the cumulative sum of squares (abbreviated CUSUMQ). These two procedures are known as "cumulative sums." According to Bahmani, Oskooee, and Ng (2002), the null hypothesis asserts that none of the error correction coefficients in the error correction model depart from the mean within a 5% confidence interval. The null hypothesis of consistent coefficients can be rejected at a 5% level of significance if any of the lines are proved to have been crossed. The basic bounds depicted in the accompanying diagram must be respected by the plot of the CUSUM and CUSUMQ data. This will ensure that the trade openness coefficient remains constant throughout the study.

CHAPTER VIII

Overview, Conclusion, and Recommendations

8.1 Overview

This thesis investigates the role of open trade and economic expansion in two African nations (Nigeria and South Africa) over the period 1980–2021. Economic output growth is the foundation of the economy and long-term development. Every country is concerned with attaining rapid and sustainable economic growth. Following Grossman and Helpman (1990), Romer (1990), and Young (1990), there has been an expanding amount of economic research that has highlighted the importance of trade to the expansion of the economy (1990). The challenge, according to the concept of trade-led development, is whether commerce really functions as a stimulant for growth. Trade has been proven to be critical to economic growth, according to the 1993 World Investment Report (UNCTAD), which argues that a variety of elements contribute to a nation's economic development. Trade helps make the production of goods and services more efficient by moving them to nations with much higher labor costs. This results in lowering a significant cost benefit in producing output, which is defined by the host nation's level of development. All of these variables contribute to the expansion of the economy and the production of additional employment opportunities inside the country. It is said that no country has successfully expanded its economy by disregarding long-term foreign direct investment (FDI) and international trade (OECD, 2009).

Although West Africa's global and agricultural trade flows are favorable, the food trade balance is negative and has been worsening over the past decade. As a consequence of export revenues, the region can now import more food (rice, wheat, processed foods, fish, sugar, milk products, vegetable fats and oils, meat, and vegetables in order of importance) according to official statistics from UNCTAD. As a result, an unusual situation has emerged in which a region with a high potential for food production imports more food. As a result of the LDCs' import substitution industrialization approach, more equipment and technology were needed to be imported, increasing the requirement for a foreign currency more than the increase in export profits. Consequently, the LDCs' BOP began to run into a deficit. A growing number of LDCs rely on wealthy countries to cover their deficits (DCs). To avoid economic crises and achieve high growth rates, the Bretton Woods institutions advised

LDCs to liberalize trade and economic policy by opening their economies (UNCTAD, 2016). According to the study's conclusions, 2020 will be the year when South Africa's economic growth rate reaches its lowest point. This was a direct result of the pandemic, and the containment efforts that were put into place to reduce the likelihood of the virus spreading even further were even more detrimental to the economy. In the year 2020, the GDP Growth fell by 8.2% as a consequence of decreases in the building, transportation and communication, industrial, and mining industries. In 2021, the GDP grew by 4.9% after contracting by 8.2% in 2020. Mining, agriculture, and manufacturing witnessed the most increase in 2021, while finance, personal services, and industrial contributed the most.

South Africa's trade openness was quite low in 1992, at 34%. However, it reached 57% in 2015, the highest level recorded throughout the research period. In the fourth quarter of 2020, Nigeria's GDP expanded by 0.11% year on year, marking the first positive quarterly growth in the preceding three quarters. Despite its fragility, the positive growth reflects a gradual resumption of economic activity after the easing of restricted movements and limited domestic and international commercial activity in the preceding quarters. As a result, although Q4 2020 growth was -2.44% lower than the previous year, it was 3.74% greater than Q3 2020 growth. Quarter-on-quarter real GDP growth was 9.68%, representing 2020's second straight positive quarter-on-quarter real growth rate following two negative quarters. Overall, annual real GDP growth in 2020 is predicted to be -1.92%, down from 2.27% in 2019.

According to Nairalytics data, GDP increased by 0.58% under the first democratically elected president Olusegun Obasanjo after the country's return to democracy in 1999 but peaked at 15.33% in 2002. For that measure of trade openness and economic activity in Nigeria, we have data from 1980 to 2021. Throughout that time span, Nigeria's average value was 31.96%, with a low of 9.14% in 1986 and a high of 53.28% in 2011. The most current 2019 statistic is 34.02 percent. In 2019, the worldwide average of 168 countries was 91.49 percent.

The bulk of research initiatives either acquire data from original sources or from secondary ones. The author used secondary information adapted from the World Development Indicators published by the World Bank (2020). The research covers 42 years, starting in 1980 and ending in 2021, for two African countries; the data collected was yearly time series data. In the equation for growth, the dependent variable is the rate of economic expansion, which is based on real GDP per capita. This study's

growth equation includes five independent parameters and the dependent variable. Independent variables include trade openness, investment, government spending, inflation, and financial development. Unlike Engle-Granger (1987) and Hansen (1990), the ARDL co-integration test does not lose power in finite samples when erroneous constraints are placed (Banerjee et al., 1998).

Because of its limited sample characteristics, the ARDL limits its testing technique to co-integration, which outperforms other approaches even in smaller samples. As a result, the limit's testing method is preferred when the sample size is small because it is reliable for small samples (Tang, 2004). Before beginning any research project using the ARDL model, a condition known as the unit root test must be met. This also has an impact on the data's stability. The ARDL model demands that the unit root be statistically significant at any level or starting difference of 1%, 5%, or 10%. This condition will apply to any preceding difference. In conjunction with ARDL, the investigation was carried out utilizing the ARDL-bound test. As a consequence, determining the unit root was the initial step. To corroborate our findings and verify that the variables investigated were appropriately integrated, we employed the Elliott-Rothenberg-Stock models. Researchers use a technique known as the residual diagnostic test to assess the dependability of the models and variables used for regression. This test allows researchers to assess the correctness of the models being used. In addition to the diagnostic tests previously discussed, additional employing diagnostic tests in this investigation to assess the validity of the model that was used in the investigation. These tests are classified into three types: autocorrelation tests, residual normality tests (serial correlation tests), and white (heteroskedasticity) tests. All of these tests demonstrate the application of heteroskedasticity, a statistical analytic tool. The amount of autocorrelation of the data's values may be determined by plotting a chart of the residual values and anticipated values. To reject the null hypothesis and conclude that the model possesses heteroskedasticity, we compare probability to F-statistics.

In addition to the residual diagnostics test, the CUSUM and CUSUM-square tests were utilized to ensure that the data was stable. On the graph, two red lines signify stability and significance at 5%, while a blue line depicts how the data moves.

Throughout the research, the average GDP growth rate for Nigeria and South Africa was 43.8% and 24.5%, respectively, which is considered "moderate" by developing-country standards. This means that Nigeria had a higher average GDP from 1980 to

2021 than South Africa. Furthermore, during the same time, South Africa obtained an average of 52.76% of its import and export revenues through trade openness, compared to 32.46% in Nigeria (1980-021). This suggests that South Africa was more open to international trade throughout the time period than Nigeria. From 1980 to 2021, Nigeria's and South Africa's gross fixed capital creation (INV/GDP) was 36.76 billion and 18.42 billion, respectively. South Africa's government spent $17.3 million on final consumption, whereas Nigeria spent $3.8 million. This means that the South African government spent more money on products and services to meet the needs of its residents than the Nigerian government did.

Furthermore, the financial development proxy measured by broad money (M3/GDP) in South Africa was US$55.9 million vs. US$16.8 million in Nigeria. South Africa had an inflation rate of 8.5%, whereas Nigeria had an inflation rate of 18.7%, indicating that Nigeria's and South Africa's inflation rates are both high. GDP high growth levels in Nigeria and South Africa were 12.45747 and 4.277768, respectively, while GDP growth levels in Nigeria and South Africa were -15.45036 and -7.615876 at their lowest. The greatest level of trade openness was in South Africa at 53.27796 and 72.86539 in Nigeria. Over the time period, the greatest levels of INV/GDP were 89.38105 and 31.90399 in Nigeria and South Africa, respectively, while the lowest levels were 14.90391 and 12.74555.

In Nigeria and South Africa, the greatest levels of GovExp were 9.448340 and 20.65017, while the lowest levels were 0.911235 and 12.77051. For Nigeria and South Africa, the lowest level of M3/GDP was 9.063329 and 41.51655, while the highest was 28.62522 and 74.59783. In Nigeria and South Africa, INFL reached lows of 5.388008 and -0.692030 and highs of 72.83550 and 18.65492. The GDP growth skewness in Nigeria and South Africa is -0.849644 and -0.725186, respectively, indicating that low levels of GDP are more frequent than high levels. The flow of a country's trade openness (OPEN) was inverse to Nigeria but favorable to South Africa, indicating poor trade growth in Nigeria with a skewed of -0.340463 for Nigeria and 0.014564 for South Africa. There were a few years when Nigeria's commercial openness was much larger than that of South Africa. The null hypothesis is rejected because the Jarque-Bera statistical test results show that the variables GDP, OPEN, INV/GDP, GovExp, INFL, and M3/GDP are not distributed consistently in both nations. According to the stationarity test results in Table 2, INFL and INV/GDP are integrated in order zero in the ADF and PP for Nigeria. In both the ADF and the PP

for South Africa, GDP was integrated at order zero, whereas all other variables were integrated at order one. The unit root test results show that all non-stationary variables after initial differencing are stationary. The study variables are integrated from zero to one as a result. After defining the sequence of integration, ARDL limits were used to test for cointegration to see if the variables were linked long-term. Because the model's F-statistics are higher than both the upper and lower limits of the ARDL bounds test for cointegration, we can assume that the variables have been linked for a long time.
The bound test, which was used to determine whether or not the data set under examination displayed co-integration, was created using the ARDL technique. The null hypothesis (0) cannot be rejected using F-statistics that fall below the lower bound (critical values for I). If the statistical value exceeds the upper limit I(1), the null hypothesis of no co-integration is rejected. The findings are inconclusive when the data is within acceptable bounds. We may infer that the independent factors and the dependent variable have a long-term statistically significant correlation that is significant at the 5%, 10%, and 1% degree of significance using the F statistics (3.576928) and 11.10731) for Nigeria and South Africa, respectively. As a consequence of this, we conclude that the null hypothesis, which states that there is no co-integration, is rejected. After the co-integration test was completed, the model's long-run and short-run coefficients were computed for the specified time periods. After the co-integration test was completed, the estimation of the model's long-run and short-run coefficients was carried out. The Akaike Info Criterion (AIC) was utilized in order to arrive at the most suitable lag duration. The AIC chose ARDL (2, 4, 3, 4, 3, 4) and (1, 3, 0, 2, 2, 2). Tables 4 and 5 present the empirical results for the model using data from both nations included in this study.

According to Table 5 column 2's summary of the long-run estimations of the ARDL, the estimated coefficients for OPNES and GOVEXP were negative and negligible, at -0.018042 (0.8435) and 0.329648 (0.4545) respectively. Additionally, the results showed that the predicted parameters for INFL, INV, and M3/GDP were all negative but statistically significant at -0.25246 (0.0046), -0.183382 (0.0593), and -0.891207 (0.0001), respectively. The results of this analysis, which are surprising in comparison to the conclusions of previous research on the impact of trade openness on economic growth, diverge significantly from the predictions of previous theoretical studies. For example, the regression found a negative and negligible parameter for OPNES: -0.018042 (0.8435). This suggests that a 1% increase in trade share will lead

to a 0.18% drop in real GDP growth. However, this finding was not statistically significant. As a result, the result does not provide significant proof to back the idea that Nigeria's economic growth will benefit over the long term from trade openness as measured by trade shares. These results are in line with those of Fenira (2015), Ulasan (2015), Mputu (2016), and Moyo et al. (2017), However, they contradict prior findings by Mohammed and Jian (2016) as well as more recent findings by Khobai, Kolisi & Moyo (2018) and Egbulonu & Ezeocha (2018), which indicated a favorable association between trade openness and economic growth in Nigeria.

According to Fenira (2015), most developing nations that adopt trade liberalization policies aspire to get loans and assistance from international bodies like the World Bank, the International Monetary Fund, the European Union, and the World Trade Organization, which advocate liberal attitudes. According to Fenira (2015)'s findings, the liberalization of trade has only marginally contributed to the expansion of the global economy in developing nations. In addition, Moyo et al. (2017) found that the level of trade openness in Nigeria had a negative but relatively minor impact on economic development. The findings over the long term also show that the coefficient of the investment variable is significantly inverse and reveals a negative value statistically. The fact that the investment variable has a negative coefficient (-0.183382) runs counter to what was anticipated from this particular study. These results, however, are consistent with those of Chang and Mendy (2012), who found that investment and economic growth in sub-Saharan Africa had a negative connection. According to their analysis, the investment in sub-Saharan Africa's economy resulted in a poor rate of growth.

Long-run data reveal that government consumption expenditure is positive but inconsequential. This means government consumption expenditures is however good for Nigeria's economic growth. Akpan (2005) found no statistically significant influence of government consumption on economic growth. Akpan determined that government spending doesn't affect Nigeria's economic growth. Long-run studies show that inflation's coefficient is negative and significant. Inflation hurts Nigeria's long-term economic growth. Muritala (2011) and Adaramola & Dada (2020) found that inflation inhibits Nigeria’s economic growth. Long-run data demonstrate that M3/GDP has a negative but considerable impact on Nigeria's growth. This shows that bank-based financial development has little impact on Nigeria's economic growth.

These results contradict Iheanacho (2016), who believes financial development has a negative and small impact on Nigeria's economic.

Short-run coefficients for OPEN in the table below, demonstrate trade openness has a positive and considerable influence on economic growth. A 1% increase in Nigeria's trade share of GDP increases economic growth by 0.24 percent. Interestingly, this study's conclusions those of Egbulonu and Ezeocha (2017) and Khobai, Kolisi, and Moyo (2018). The findings are consistent with the idea that trade shares, a measure of trade openness, show that economic growth in Nigeria is positively impacted in the short run. However, the results of this study are in contrast to those of Mputu (2016) and Fenira (2015), who contended that short-term policies aimed at promoting since it takes time for a change in policy to acquire the trust of economic agents (investors, entrepreneurs), openness is unable to produce the intended results. All other factors' short-run coefficients are negative and significant, too.

According to the ARDL's short-run dynamics (2,1,3,3,3,3), the lagged error correction term coefficient, -0.736269, is statistically significant and negative. The ratio of the short to long term ECT (-1) is -0.736269. Every period, 73.62% of the disequilibrium brought on by the shocks of the previous year converges to equilibrium. It will take 7 years and 3 months (-0.736269 years) at this slow rate of adjustment to correct all mistakes and bring the economy back into balance.

The short-run findings also demonstrate that all other factors' coefficients are significant and detrimental. The ARDL short-run dynamics (2,1,3,3,3,3) revealed that the coefficient of the lagged error correction term is -0.736269 and that this value is statistically significant at conventional levels. The rate of adjustment from short-run to long-run equilibrium is represented by the ECT (-1) value of -0.736269 The magnitudes of the coefficients show that during each period, approximately 73.32% of the disequilibrium that was caused by the shocks experienced in the previous year returns to its original state. This occurs regardless of whether the period is annual or quarterly. Because of how slowly things are changing, it will take about 7 years and 3 months (-0.736269 years) to fix all the mistakes and restore economic equilibrium.

Long-run coefficients show that trade openness boosts economic growth. These results show how important commerce is to South Africa's economy. Increasing South Africa's trade-to-GDP ratio boosts economic growth. The investment variable's long-run coefficient is negative and negligible.

These results are consistent with those of Nyasha and Odhiambo (2015) and Chang and Mendy (2012), who found, in South Africa and Sub-Saharan Africa, respectively, a negative relationship between economic progress and investment. The findings indicate that there is an unfavorable significant coefficient of government consumption spending when looking at the long-run data. This demonstrates that the level of government spending on consumption has a detrimental impact on the economic development of South Africa. The evidence lends credence to Landau's argument that the level of government spending on consumption has a detrimental impact on economic growth (1983). The long-term findings point to a favorable but very minor impact on the rate of economic expansion in South Africa. Statistics compiled over a longer period of time reveal that the M3/GDP coefficient of the financial development proxy has little impact on the expansion of South Africa's economy. This shows that bank-based financial development has very little to do with the growth of South Africa's economy.

Short-run coefficients show that trade liberalization boosts South Africa's economy. Short-run data show investment boosts economic growth. In the short run, government spending has negative coefficients but statistically significant, while inflation has a negative but insignificant impact. The negative short-run coefficients are as expected in this study. The short-run outcome demonstrates that the broad money used as a proxy for financial development likewise has significant bearing on economic growth. According to the findings of other short-run experiments, the lag coefficient of the error correction component has been found to be significantly negative. This shows that the factors in this research have a long-term relationship.

The residuals in Table 5.7 show no serial correlation, no conditional heteroskedasticity and the data set is normally distributed. In reality, the residuals follow a normal distribution. The model does not support the alternative hypothesis of serial correlation in both countries. More likely than 0.05 is a probability of 0.5576 or 0.4990. As a result, we feel that the serial connections between the two countries are missing from this model. An essential null hypothesis with 5% confidence is that there is no heteroskedasticity at all. According to the residual diagnostic test, Nigeria's probability value of 0.9647 and South Africa's p-value of 0.3992 are both greater than the 0.05 percent threshold, suggesting that the data sets of the two countries are not heteroskedastic. If we reject the null hypothesis at 5%, the model does not show heteroskedasticity; but, if we reject the null hypothesis at 10%, we may confidently

claim that it does, but not for both countries in this thesis. The null hypothesis clearly proves that residuals are normally distributed, with a probability of 0.479955 in Nigeria and a p-value of 0.660440 in South Africa, which are both more than 0.05 percent. We infer that residuals having a 5% chance of being normally distributed are normal.

Despite the existence of the null hypothesis, a theory that holds that the parameters are constant, there is no evidence to support the alternative hypothesis. The test results demonstrate that the blue line cannot cross the red line. We want to believe that residual variances are stable rather than unstable, therefore we will accept the null hypothesis and reject the alternative. As a result, the situation will get a lot more difficult. Furthermore, we discovered that the residual variance is stable rather than unstable. According to the short-term dynamics of free trade and economic growth, the long-term stability of the ARDL model's long-term coefficient was examined using the cumulative sums of recursive residuals (CUSUM) and cumulative sums of squares (CUSUMQ). These two are examples of "cumulative amounts." None of the error correction coefficients in the error correction model differ from the mean within a 5% confidence interval, according to the null hypothesis (Bahmani, Oskooee, & Ng, 2002). If any of the lines are found to have been crossed, the null hypothesis of consistent coefficients may be rejected at a 5% level of significance. The basic restrictions depicted in the following graphic must be respected by the CUSUM and CUSUMQ data visualizations. This will guarantee that the trade openness coefficient stays constant during the study period.

8.2 Conclusion

From 1980 to 2021, this research investigates the influence of open trade on economic development in two West African countries: Nigeria and South Africa. Based on the information presently available, there is no clear agreement on how trade openness influences economic development. Furthermore, previous research has assessed trade openness in a variety of ways, depending on the proxies used. As a result, the present research intends to analyze the dynamic link between openness to commerce and progress in economic progress in African countries, with an emphasis on Nigeria and South Africa. The literature review reveals that there is continuous debate over the influence that commerce has on economic development and the significance of economic breakthroughs in boosting trade. There is a lack of agreement

on the role that trade policy should play in economic expansion, which impedes understanding and makes developing frameworks for policies that promote economic advancement more difficult. Investment and trade imbalances are seen as major impediments to emerging nations' quick growth, and trade and these other variables, which include investment, have come to be important contributors to South Africa's and Nigeria's economic success.

For co-integration, the ARDL model was employed in this thesis. Unlike Engle-Granger (1987) and Hansen (1990), the ARDL co-integration test does not lose power in finite samples when erroneous constraints are placed (Banerjee et al., 1998). Because of its short sample size, the ARDL uses co-integration, which outperforms other methods in smaller samples. Limit testing is preferred for tiny samples because it's reliable (Tang, 2004). Because the model's F-statistics are larger than the top and lower bounds of the ARDL bounds test for co-integration, we infer a long-run relationship among the variables. The ARDL approach was used to develop the bound test, which was used to determine whether or not the data set under consideration exhibited co-integration. Below-critical F-statistics cannot be used to reject the null hypothesis I (0). If the statistic exceeds the upper limit I (1), no co-integration is assumed. The findings are inconclusive when the data is within acceptable bounds. It is possible to conclude that the dependent variable and independent variables have a long-term statistically significant relationship correlation utilizing the F statistics, which were (3,576928) and (11.10731) for Nigeria and South Africa, respectively, shows that the result is significant at the 5%, 10%, and 1% levels. As a consequence of this, we conclude that the null hypothesis, which states that there is no co-integration, is false.

After the co-integration test was completed, the model's long-run and short-run coefficients were computed for the specified time periods. The model's long-run and short-run coefficients were estimated once the co-integration test was finished. The Akaike Info Criterion (AIC) was utilized in order to arrive at the most suitable lag duration. The AIC chose ARDL (2, 4, 3, 4, 3, 4) and (1, 3, 0, 2, 2, 2). Tables 4 and 5 present the empirical results for the model using data from both nations included in this study. The long-run estimations of the ARDL, shown in Table 5 column 2, indicated a negative and negligible estimated coefficient of -0.018042 (0.8435) for OPNES and a positive and insignificant estimated coefficient of 0.329648 (0.4545) for GOVEXP. The results also revealed estimated values for INFL, INV, and M3/GDP

that were, respectively, -0.25246 (0.0046), -0.183382 (0.0593), and -0.891207 (0.0001) negative but significant.

The results of this analysis, which are surprising in comparison to the conclusions of previous research on the impact of trade openness on economic growth, diverge significantly from the predictions of previous theoretical studies. For example, the regression found a negative and negligible parameter for OPNES: -0.018042 (0.8435). This suggests that a 1% increase in trade share will lead to a 0.18% drop in real GDP growth. However, this finding was not statistically significant. The conclusion is that there is insufficient evidence to support the claim that trade openness, as measured by trade shares, has a favorable long-term impact on Nigerian economic growth. These results are in line with those of Ulasan (2015), Mputu (2016), and Moyo et al. (2017), but they are in contrast to those of Mohammed & Jian (2016), as well as more recent studies by Egbulonu & Ezeocha (2018) and Khobai, Kolisi & Moyo (2018) demonstrated a positive correlation between trade openness and economic growth in Nigeria.

Furthermore, Moyo et al. (2017) discovered that open trade had an unfavorable but negligible effect on Nigerian growth. The long-run findings likewise show that the investment variable's coefficient is inverse and significant. The negative coefficient of the investment factor goes against what this study said would happen. However, these results are in line with Chang and Mendy's (2012) finding that there is an inverse link between economic development and investment in Sub-Saharan Africa. The long-run findings also demonstrate that the government consumption spending coefficient is positive but statistically negligible. This means that government consumer spending has a minor influence on Nigeria's economic development. The findings that government consumer spending has no statistically significant influence on economic growth are consistent with Akpan's (2005) findings. Akpan determined that government consumer spending had no major influence on Nigeria's economic development. The long-run findings also show that the inflation rate coefficient is detrimental and significant to GDP.

This conclusion is consistent with Muritala (2011) and recent research by Adaramola and Dada (2020), which found that inflation is a barrier to South African economic development. In the long term, the coefficient proxy for financial development, which is M3/GDP, has a depressing but significant impact on the rate of economic expansion in Nigeria. This shows that bank-based financial development has an impact on

Nigeria's economic growth that is both considerable and non-significant. Iheanacho (2016) says that financial development has a negative and limited influence on economic growth in Nigeria; these data contradict the conclusions that he came to in his research. The short-run coefficients for OPEN are -0.12056 (0.028), which indicates that economic growth is negatively influenced, albeit significantly, by trade openness. According to these findings, a 1% rise in the trade proportion of GDP resulted in a 12.15% decline in Nigeria's economic growth.

Surprisingly, the outcomes of this study diverge significantly from the expectations of theoretical research, as detailed in Khobai, Kolisi, and Moyo (2018) and Egbulonu and Ezeocha (2018). As a consequence, the findings are lacking a sufficient amount of proof to back the premise that open trade, as calculated by trade shares, has a beneficial short-run effect on Nigeria’s economic expansion. However, the proof supporting this conclusion is consistent with Mputu (2016) and Fenira (2015), who claimed that short-run policies aimed at increasing openness cannot achieve the desired results because it takes time for economic agents (investors and entrepreneurs) to respond positively to a policy change. The short-run findings also demonstrate that all other factors' coefficients are negatively significant. Short-run dynamics of the ARDL (2,4,3,4,3,4) demonstrated that the lagged error correction term coefficient, -0.793090, is negatively. Short-run to long-run equilibrium is represented by the ECT (-1) value of -0.793090. According to the coefficients, 79.31% of the disequilibrium brought on by the shocks of the preceding year converges to equilibrium in each period. Because of the slow rate of adjustment, it will take 7 years and 9 months to correct all errors and deviations and bring the economy to balance. The long-run coefficients show that trade openness boosts economic growth. This highlights the importance of commerce to South Africa's economic growth. This shows that raising South Africa's trade-to-GDP ratio helps economic growth. Long-run data suggest investment's coefficient is negative and insignificant.

Contrary to what the present analysis predicted—the investment variable's negative coefficient— Investment and economic development in South Africa and Sub-Saharan Africa were found to be negatively correlated by Nyasha and Odhiambo (2015) and Chang and Mendy (2012), respectively. Long-run data reveal that government consumption spending's negative coefficient is significant. Government consumption expenditures hurt South Africa's economic growth. Data corroborate Landau's claim that government spending hurts economic growth (1983). The long-term impact on

South Africa's economic growth is beneficial yet limited. Long-term statistics suggest that M3/GDP has no effect on South Africa's economic growth. Bank-based financial development has little to no impact on South Africa's economic growth.

In the short-run coefficients, openness to trade positively influences economic development in South Africa. The findings also indicate that investment has a favorable and significant influence on the expansion of the economy in the short run. In addition, the results of the short run demonstrate that both the coefficients for government expenditures and the inflation rate are negatively significant. The findings of this research predicted that the short-run coefficients would have negative signs, and those predictions were confirmed by those coefficients' values. The short-run result reveals that broad money, which is regarded as a proxy for financial expansion, has a major influence on GDP. According to other short-term experiments, the error correction lag coefficient is inverse and significant. This shows that the factors in this research have a long-term correlation. Economic output growth is the foundation of the economy and long-term development. Every country is concerned with attaining rapid and sustainable economic growth.

8.3 Recommendations

The study's findings suggest that Nigeria is primarily engaged in the exportation of primary commodities, the prices of which are very volatile and are established on the global market. If a country wants an outwardly focused strategy to help its economy grow, it should change the way it trades by moving away from the trade of unprocessed materials and toward the trade of semi-finished and finished goods with high value-added. In addition, increased investments in wealth-generating industries, particularly in crucial infrastructure to support genuine output, should be encouraged by Nigerian trade policy. This will lead to a reduction in the number of commodities imported, which has the potential to have a negative influence on the trade openness index, leading to economic expansion.

According to the findings of this study as a whole, it is abundantly clear that participation in international trade plays a vital part in the expansion of South Africa's economy. According to the findings of this study, for South Africa to realize a greater return on the benefits derived from international commerce, the country ought to maintain policies that encourage expanded trade openness throughout the nation. In addition, the findings of this investigation revealed that open trade plays an important

role in the expansion of South Africa's economy. Because of this, South Africa's export-promotion policies should be kept up so that the country's growth can continue to be driven by exports.

8.4 Contribution to Knowledge

The methodology outlined by Jin (2000) is implemented in this research to perform the ARDL-bound test on the distinct time series data. The researcher also used the Elliott-Rothenberg-Stock test statistic to verify that the variables investigated were appropriately integrated. The model accounts for the same variable for both of Africa's greatest economies, and the study spans the same 42-year time period for both of them. According to the best of the researcher's knowledge, this procedure has not been utilized in any of the studies that have been conducted on the connection between economic openness and trade openness in either Nigeria or South Africa.

Throughout the investigation, the researcher concluded that the current body of literature on the impact of economic openness on commerce in Africa was evaluated using panel data. Panel data analysis does not really reflect how open trade and the other supporting variables affect economic growth in all African countries, considering the different trade policies and government formations of each country. This is because Africa contains the majority of the world's poorest countries. Large time series databases' development has led to a steady evolution of the theories behind comparative analysis. As a result of this, researchers may occasionally find it difficult to derive the most accurate results from the existing body of literature. This contribution represents an effort to assist practitioners in comprehending and putting the method into practice.

The ramifications of this study could provide significant new insights for policymakers who are tasked with developing an atmosphere conducive to interventions in international trade markets.

8.5 General limitations of the study

The primary shortcoming of this study is that it does not provide comprehensive data on a greater number of emerging nations. A lack of precise data on factors such as trade policy, trade barriers, and trade composition makes it difficult to evaluate how trade liberalization impacts the growth of a country. This analysis may be flawed in some way due to the absence of certain variables since certain factors,

such as geography, were not taken into consideration. During the process of accomplishing the goals, structural cracks were revealed in the variables used to represent the macro economy. The inclusion of some variables as well as the testing of some models and hypotheses will be restricted by the absence of an official and solid collection of combined and disaggregated terms for the time period under consideration. The creation of a capital stock series would have been one strategy that might have been adopted due to the inherent challenges when calculating the INV for the stock of physical capital. To the best of the researcher's understanding, however, two key pieces of information are required for the research to achieve this goal: the capital stock's original base year and the rate of depreciation. Therefore, at this time, the only practical method for overcoming these challenges is to use data on investment, specifically gross capital creation at current costs expressed in US dollars in millions, which is derived primarily from data provided by the World Bank. Consequently, the only viable strategy for overcoming these obstacles is to use data on investment. It is crucial to highlight that researchers evaluating the new growth hypothesis have made extensive use of this technique for both cross-sectional and country-specific case studies of emerging and industrialized countries.

8.6 Suggestions for further study

In considering this study's shortcomings, it is reasonable to assume that subsequent research will be able to identify statistical factors that determine the degree of openness of trade in Africa and in bilateral trade between the countries that make up the continent. Additionally, given their importance in reducing trade costs and fostering global integration, communication, population, transportation, and logistics performance indexes should receive more attention in future studies. Since the World Bank currently provides data on transportation, communication, and logistic performance for more than 160 countries from 2007 to 2015, studies must take these critical elements into account as variables to investigate their effects on trade openness. As time goes on, the database will have longer period coverage.

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Appendices

Appendix A

Appendix

ARDL MODEL BOUND TEST AND ARDL LONG-RUN AND SHORT- RUN TESTS-NIGERIA

	GDP	GOVEXP	INFL	INV	M3	OPEN
Mean	0.438040	3.830776	18.73531	36.76110	16.85980	32.46705
Median	1.172697	2.098885	12.71577	33.97212	13.88719	33.87182
Maximum	12.45747	9.448340	72.83550	89.38105	28.62522	53.27796
Minimum	-15.45036	0.911235	5.388008	14.90391	9.063329	9.135846
Std. Dev.	5.181806	2.855208	16.51313	18.91927	6.164899	12.25143
Skewness	-0.849644	0.738750	1.892215	1.015948	0.487905	-0.340463
Kurtosis	4.812181	2.073699	5.460058	3.679322	1.599662	2.284309
Jarque-Bera	10.80027	5.321816	35.65415	8.032641	5.098018	1.707780
Probability	0.004516	0.069885	0.000000	0.018019	0.078159	0.425756
Sum	18.39768	160.8926	786.8831	1543.966	708.1116	1363.616
Sum Sq. Dev.	1100.895	334.2407	11180.02	14675.49	1558.245	6153.998
Observations	42	42	42	42	42	42

UNIT ROOT TEST

Null Hypothesis: D(GDP) has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 3 (Used-specified) using Bartlett kernel
Sample (adjusted): 1981 2021
Included observations: 41 after adjustments

	P-Statistic
Elliott-Rothenberg-Stock test statistic	22.65766
Test critical values: 1% level	4.220000

	5% level	5.720000
	10% level	6.770000

Null Hypothesis: D(GDP) has a unit root
Exogenous: Constant
Bandwidth: 3 (Used-specified) using Bartlett kernel
Sample (adjusted): 1981 2021
Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		14.14069
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: D(GOVEXP) has a unit root
Exogenous: Constant, Linear Trend
Lag length: 3 (Fixed Spectral OLS AR)
Sample (adjusted): 1981 2021
Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		17.92778
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: D(GOVEXP) has a unit root
Exogenous: Constant
Lag length: 3 (Fixed Spectral OLS AR)
Sample (adjusted): 1981 2021
Included observations: 41 after adjustments

		P-Statistic

Elliott-Rothenberg-Stock test statistic		6.662167
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: D(INFL) has a unit root

Exogenous: Constant

Bandwidth: 9 (Used-specified) using Quadratic Spectral kernel

Sample (adjusted): 1981 2021

Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		10.47277
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: INV has a unit root

Exogenous: Constant

Bandwidth: 2 (Used-specified) using Quadratic Spectral kernel

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		18.60676
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: INV has a unit root

Exogenous: Constant, Linear Trend

Bandwidth: 2 (Used-specified) using Quadratic Spectral kernel

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		10.37286
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: M3 has a unit root
Exogenous: Constant
Bandwidth: 3 (Used-specified) using Quadratic Spectral kernel
Sample: 1980 2021
Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		19.67112
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: D(M3) has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 3 (Used-specified) using Quadratic Spectral kernel
Sample (adjusted): 1981 2021
Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		5.836001
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: OPEN has a unit root
Exogenous: Constant, Linear Trend
Bandwidth: 3 (Used-specified) using Quadratic Spectral kernel
Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		8.845364
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: OPEN has a unit root

Exogenous: Constant

Bandwidth: 3 (Used-specified) using Quadratic Spectral kernel

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		3.516395
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

ARDL Long Run Form and Bounds Test

Dependent Variable: D(GDP)

Selected Model: ARDL(2, 1, 3, 3, 3, 3)

Case 2: Restricted Constant and No Trend

Date: 06/08/23 Time: 11:25

Sample: 1980 2021

Included observations: 39

Conditional Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.61760	6.618219	2.964181	0.0083
GDP(-1)*	-0.736269	0.192629	-3.822206	0.0012
GOVEXP(-1)	0.242710	0.321612	0.754667	0.4602
INFL(-1)	-0.185879	0.049619	-3.746135	0.0015

INV(-1)	-0.135018	0.070714	-1.909350	0.0723
M3(-1)	-0.656168	0.221998	-2.955737	0.0085
OPEN(-1)	-0.013284	0.066221	-0.200596	0.8433
D(GDP(-1))	-0.399412	0.162147	-2.463276	0.0241
D(GOVEXP)	-0.632267	0.403492	-1.566986	0.1345
D(INFL)	-0.098904	0.041947	-2.357821	0.0299
D(INFL(-1))	0.055587	0.039756	1.398211	0.1790
D(INFL(-2))	0.125035	0.041114	3.041155	0.0070
D(INV)	-0.203981	0.127415	-1.600918	0.1268
D(INV(-1))	-0.150064	0.133091	-1.127527	0.2743
D(INV(-2))	0.207261	0.113057	1.833241	0.0834
D(M3)	-0.982200	0.266559	-3.684739	0.0017
D(M3(-1))	0.215367	0.230532	0.934218	0.3626
D(M3(-2))	0.539852	0.179437	3.008592	0.0075
D(OPEN)	-0.035797	0.062220	-0.575329	0.5722
D(OPEN(-1))	0.239008	0.064972	3.678640	0.0017
D(OPEN(-2))	0.126685	0.058337	2.171616	0.0435

* p-value incompatible with t-Bounds distribution.

Levels Equation

Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOVEXP	0.329648	0.431180	0.764526	0.4545
INFL	-0.252460	0.077952	-3.238677	0.0046
INV	-0.183382	0.091089	-2.013220	0.0593
M3	-0.891207	0.181377	-4.913562	0.0001
OPEN	-0.018042	0.090051	-0.200351	0.8435
C	26.64459	8.133712	3.275822	0.0042

EC = GDP - (0.3296*GOVEXP -0.2525*INFL -0.1834*INV -0.8912*M3 -0.0180 *OPEN + 26.6446)

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	

F-statistic	3.576928	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

ARDL SHORT RUN AND ECM

ARDL Error Correction Regression
Dependent Variable: D(GDP)
Selected Model: ARDL(2, 1, 3, 3, 3, 3)
Case 2: Restricted Constant and No Trend
Date: 06/08/23 Time: 11:29
Sample: 1980 2021
Included observations: 39

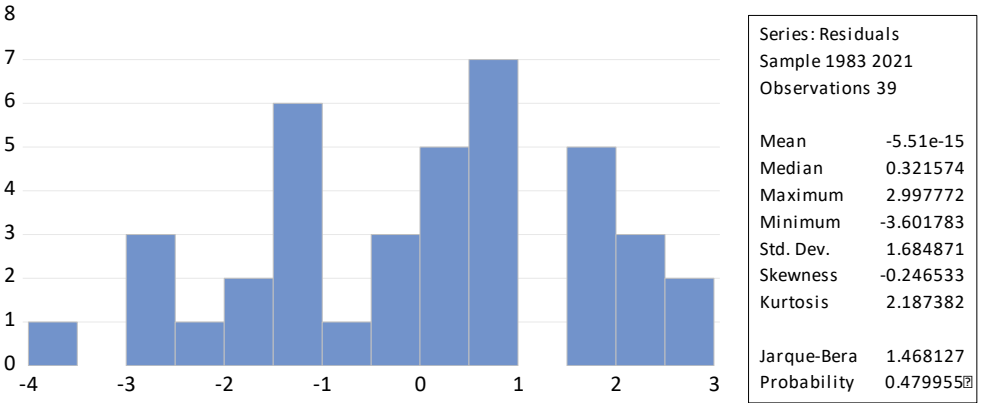
ECM Regression
Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GDP(-1))	-0.399412	0.116355	-3.432706	0.0030
D(GOVEXP)	-0.632267	0.319285	-1.980258	0.0632
D(INFL)	-0.098904	0.030420	-3.251229	0.0044
D(INFL(-1))	0.055587	0.031238	1.779434	0.0921
D(INFL(-2))	0.125035	0.033078	3.780050	0.0014
D(INV)	-0.203981	0.087511	-2.330923	0.0316
D(INV(-1))	-0.150064	0.107112	-1.401004	0.1782
D(INV(-2))	0.207261	0.082973	2.497926	0.0224
D(M3)	-0.982200	0.200664	-4.894754	0.0001
D(M3(-1))	0.215367	0.180383	1.193945	0.2480
D(M3(-2))	0.539852	0.135300	3.990043	0.0009
D(OPEN)	-0.035797	0.045658	-0.784035	0.4432
D(OPEN(-1))	0.239008	0.049144	4.863458	0.0001
D(OPEN(-2))	0.126685	0.048041	2.636995	0.0167
CointEq(-1)*	-0.736269	0.127428	-5.777946	0.0000

R-squared	0.866737	Mean dependent var	0.263150
Adjusted R-squared	0.789000	S.D. dependent var	4.615420
S.E. of regression	2.120083	Akaike info criterion	4.624510
Sum squared resid	107.8740	Schwarz criterion	5.264342
Log likelihood	-75.17795	Hannan-Quinn criter.	4.854076

Durbin-Watson stat	2.225634

NORMALITY TEST



SERIAL CORRELATION TEST

Breusch-Godfrey Serial Correlation LM Test:

Null hypothesis: No serial correlation at up to 2 lags

F-statistic	0.606061	Prob. F(2,16)	0.5576
Obs*R-squared	2.746482	Prob. Chi-Square(2)	0.2533

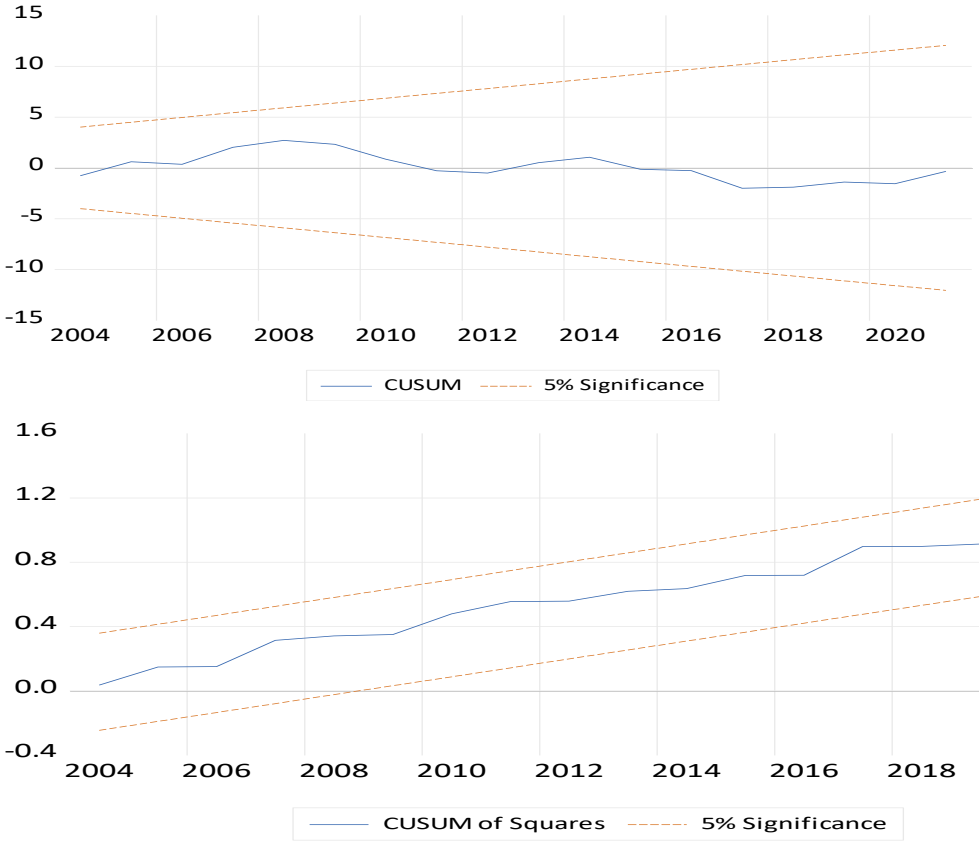
HETEROSKEDASTICITY TEST

Heteroskedasticity Test: Breusch-Pagan-Godfrey

Null hypothesis: Homoskedasticity

F-statistic	0.429957	Prob. F(20,18)	0.9647
Obs*R-squared	12.60818	Prob. Chi-Square(20)	0.8936

STABILITY TEST



ARDL MODEL BOUND TEST AND ARDL LONG-RUN AND SHORT-RUN TESTS- SOUTH AFRICA

	GDP	GOVEXP	INFL	INV	M3	OPEN
Mean	0.245147	17.30157	8.539642	18.42971	55.93989	48.40948
Median	0.825801	17.25289	7.047930	17.64783	50.83937	47.68802
Maximum	4.277768	20.65017	18.65492	31.90399	74.59783	65.97452
Minimum	-7.615876	12.77051	-0.692030	12.74555	41.51655	34.32135
Std. Dev.	2.700134	1.650002	4.659434	3.930654	10.17666	7.473463
Skewness	-0.725186	-0.574449	0.404677	1.613929	0.355381	-0.012094
Kurtosis	3.225060	3.618573	2.157936	5.962595	1.519462	2.373394
Jarque-Bera	3.769906	2.979551	2.387220	33.59306	4.720058	0.688135
Probability	0.151836	0.225423	0.303125	0.000000	0.094417	0.708881
Sum	10.29616	726.6658	358.6650	774.0478	2349.475	2033.198
Sum Sq. Dev.	298.9197	111.6227	890.1234	633.4518	4246.144	2289.959
Observations	42	42	42	42	42	42

UNIT ROOT TEST- SOUTH AFRICA

Null Hypothesis: D(GDP) has a unit root

Exogenous: Constant

Lag length: 0 (Spectral OLS AR based on SIC, maxlag=9)

Sample (adjusted): 1981 2021

Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		3.490178
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: D(GDP) has a unit root

Exogenous: Constant, Linear Trend

Lag length: 0 (Spectral OLS AR based on SIC, maxlag=9)

Sample (adjusted): 1981 2021

Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		7.430535
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: GOVEXP has a unit root

Exogenous: Constant

Lag length: 0 (Spectral OLS AR based on SIC, maxlag=9)

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		45.53884
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: GOVEXP has a unit root

Exogenous: Constant, Linear Trend

Lag length: 0 (Spectral OLS AR based on SIC, maxlag=9)

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		22.94568
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: INFL has a unit root

Exogenous: Constant

Lag length: 0 (Spectral OLS AR based on SIC, maxlag=1)

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		8.422767
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: INFL has a unit root

Exogenous: Constant, Linear Trend

Lag length: 0 (Spectral OLS AR based on SIC, maxlag=1)

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		7.493593
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: INV has a unit root

Exogenous: Constant, Linear Trend

Lag length: 3 (Fixed Spectral OLS AR)

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		27.23172
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Null Hypothesis: OPEN has a unit root

Exogenous: Constant

Bandwidth: 3 (Used-specified) using Parzen kernel

Sample: 1980 2021

Included observations: 42

		P-Statistic
Elliott-Rothenberg-Stock test statistic		5.440004
Test critical values:	1% level	1.870000
	5% level	2.970000
	10% level	3.910000

Null Hypothesis: D(M3) has a unit root

Exogenous: Constant, Linear Trend

Bandwidth: 3 (Used-specified) using Parzen kernel

Sample (adjusted): 1981 2021

Included observations: 41 after adjustments

		P-Statistic
Elliott-Rothenberg-Stock test statistic		5.898266
Test critical values:	1% level	4.220000
	5% level	5.720000
	10% level	6.770000

Levels Equation

Case 2: Restricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GOVEXP	-1.048771	0.199541	-5.255911	0.0000
INFL	-0.081312	0.056783	-1.431970	0.1656
INV	-0.191518	0.111369	-1.719673	0.0989
M3	-0.019052	0.033654	-0.566125	0.5768
OPEN	0.160968	0.043507	3.699794	0.0012
C	16.71769	3.232315	5.172047	0.0000

EC = GDP - (-1.0488*GOVEXP -0.0813*INFL -0.1915*INV -0.0191*M3 + 0.1610*OPEN + 16.7177)

F-Bounds Test Null Hypothesis: No levels relationship

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	11.10731	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

ECM Regression

Case 3: Unrestricted Constant and No Trend

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17.74572	2.086638	8.504452	0.0000
D(INV)	0.373503	0.137817	2.710127	0.0109
D(M3)	-0.247768	0.095271	-2.600668	0.0141
D(OPEN)	0.283560	0.058185	4.873402	0.0000
CointEq(-1)*	-0.986072	0.118180	-8.343840	0.0000

Dependent Variable: GDP

Method: ARDL

Date: 06/08/23 Time: 11:52

Sample (adjusted): 1983 2021

Included observations: 39 after adjustments

Maximum dependent lags: 2 (Automatic selection)

Model selection method: Akaike info criterion (AIC)

Dynamic regressors (3 lags, automatic): GOVEXP INFL INV M3 OPEN

Fixed regressors: C

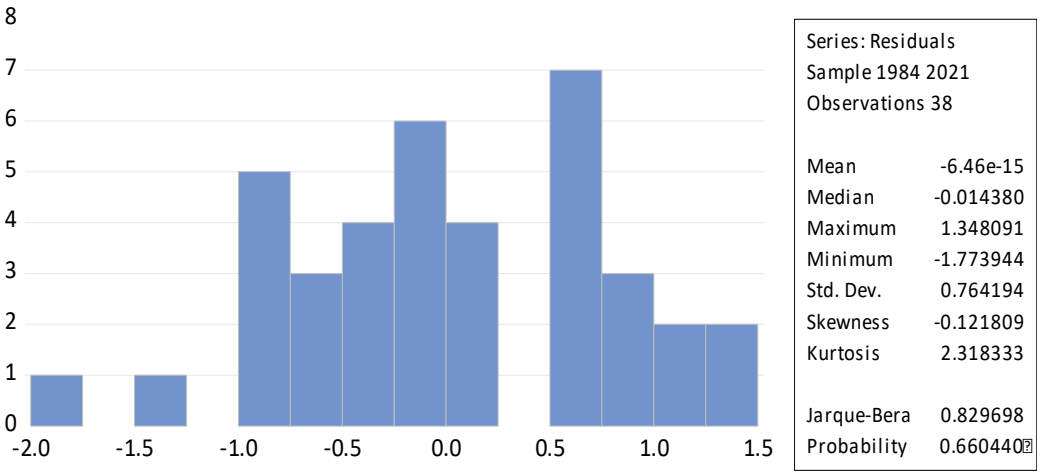
Number of models evaluated: 2048

Selected Model: ARDL (1, 3, 0, 2, 2, 2)

Huber-White-Hinkley (HC1) heteroskedasticity consistent standard errors and covariance

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDP(-1)	-0.588809	0.172708	-3.409280	0.0024
GOVEXP	-1.619486	0.760392	-2.129804	0.0441
GOVEXP(-1)	-0.461913	0.867484	-0.532474	0.5995
GOVEXP(-2)	-0.918051	0.796451	-1.152677	0.2609
GOVEXP(-3)	1.333154	0.462585	2.881963	0.0084
INFL	-0.129189	0.089701	-1.440221	0.1633
INV	0.648488	0.217575	2.980532	0.0067
INV(-1)	-0.134608	0.293940	-0.457944	0.6513
INV(-2)	-0.818166	0.281515	-2.906291	0.0080
M3	-0.163864	0.123648	-1.325237	0.1981
M3(-1)	-0.187892	0.175779	-1.068910	0.2962
M3(-2)	0.321485	0.136143	2.361380	0.0271
OPEN	0.318278	0.065788	4.837951	0.0001
OPEN(-1)	-0.151107	0.065771	-2.297477	0.0310
OPEN(-2)	0.088577	0.050727	1.746136	0.0941
C	26.56121	5.203499	5.104489	0.0000

R-squared	0.853838	Mean dependent var	0.177197
Adjusted R-squared	0.758515	S.D. dependent var	2.660156
S.E. of regression	1.307230	Akaike info criterion	3.666144
Sum squared resid	39.30357	Schwarz criterion	4.348631
Log likelihood	-55.48980	Hannan-Quinn criter.	3.911014
F-statistic	8.957312	Durbin-Watson stat	1.838502
Prob(F-statistic)	0.000002		



Breusch-Godfrey Serial Correlation LM Test:

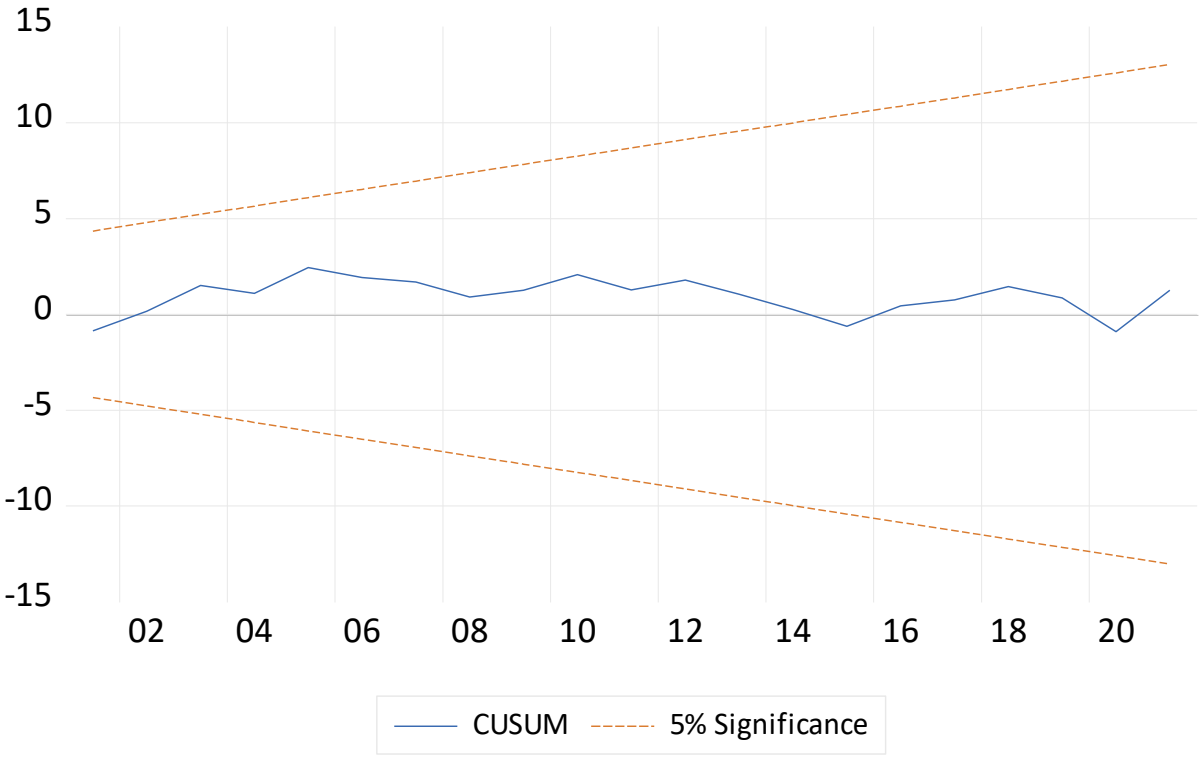
Null hypothesis: No serial correlation at up to 2 lags

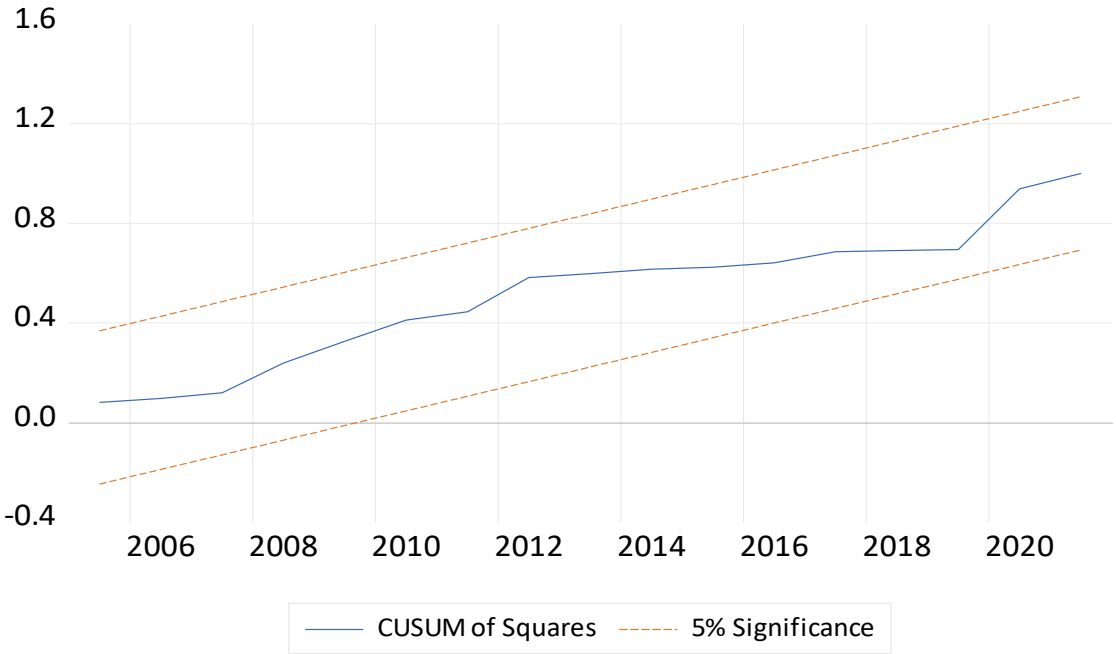
F-statistic	0.721231	Prob. F(2,19)	0.4990
Obs*R-squared	2.681357	Prob. Chi-Square(2)	0.2617

Heteroskedasticity Test: Breusch-Pagan-Godfrey

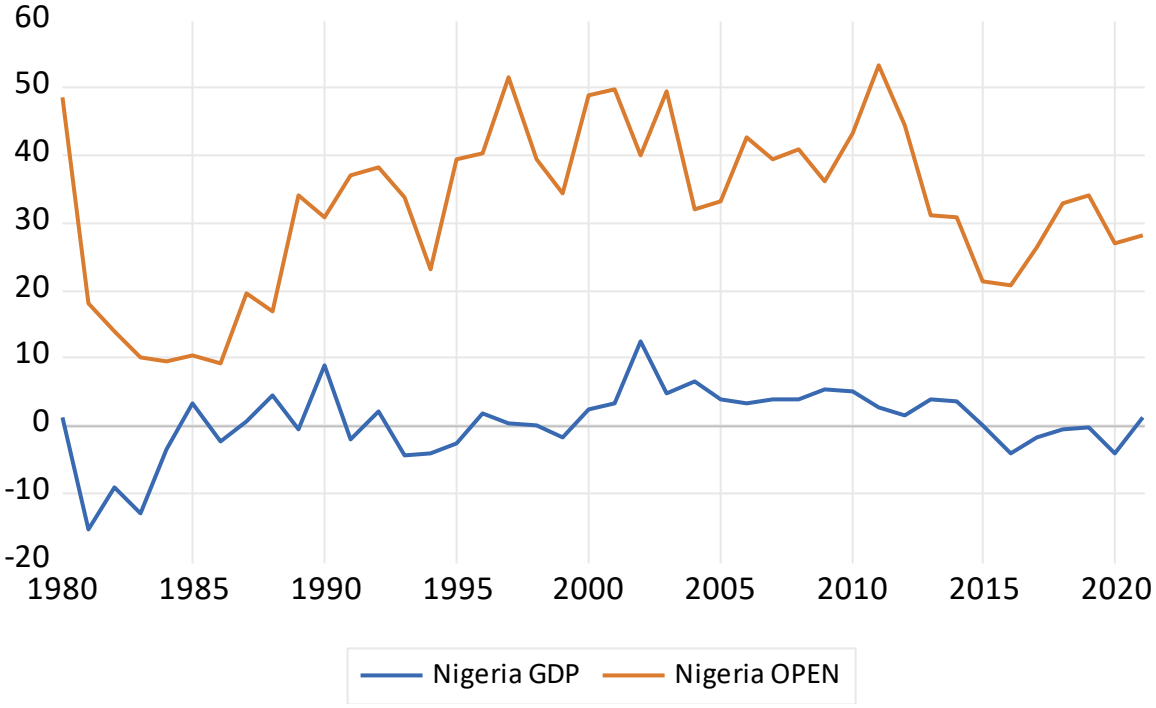
Null hypothesis: Homoskedasticity

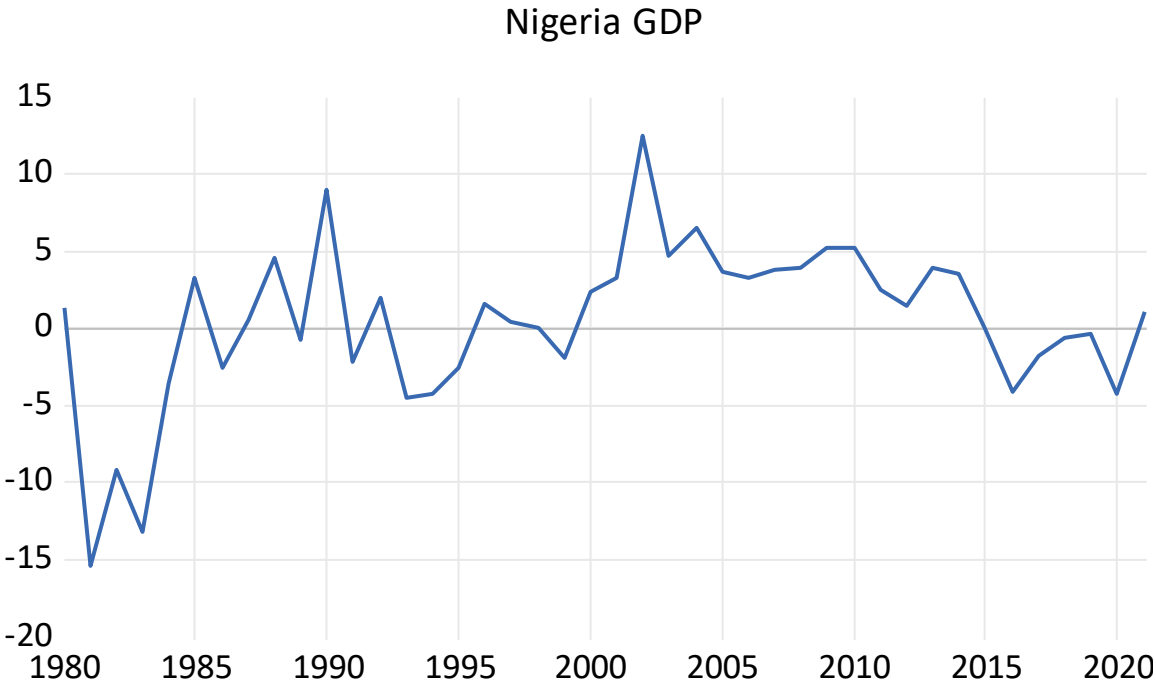
F-statistic	1.117496	Prob. F(16,21)	0.3992
Obs*R-squared	17.47528	Prob. Chi-Square(16)	0.3555

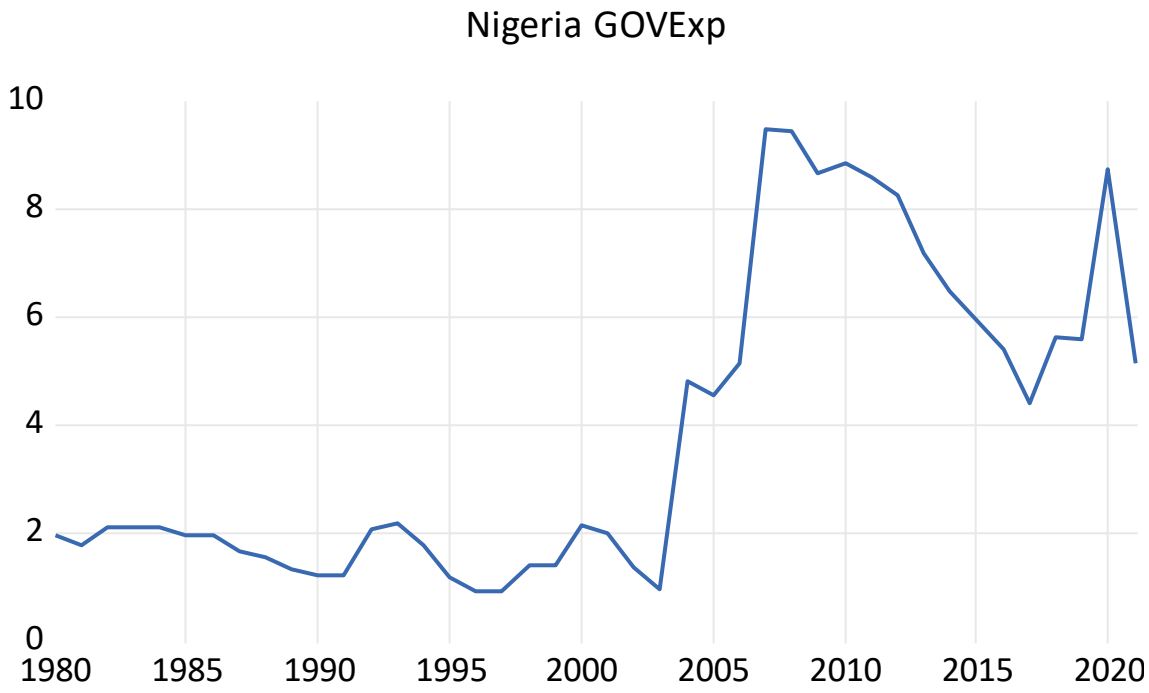

15
10
5
0
-5
-10
-15
02
04
06
08
10
12
14
16
18
20
CUSUM
5% Significance

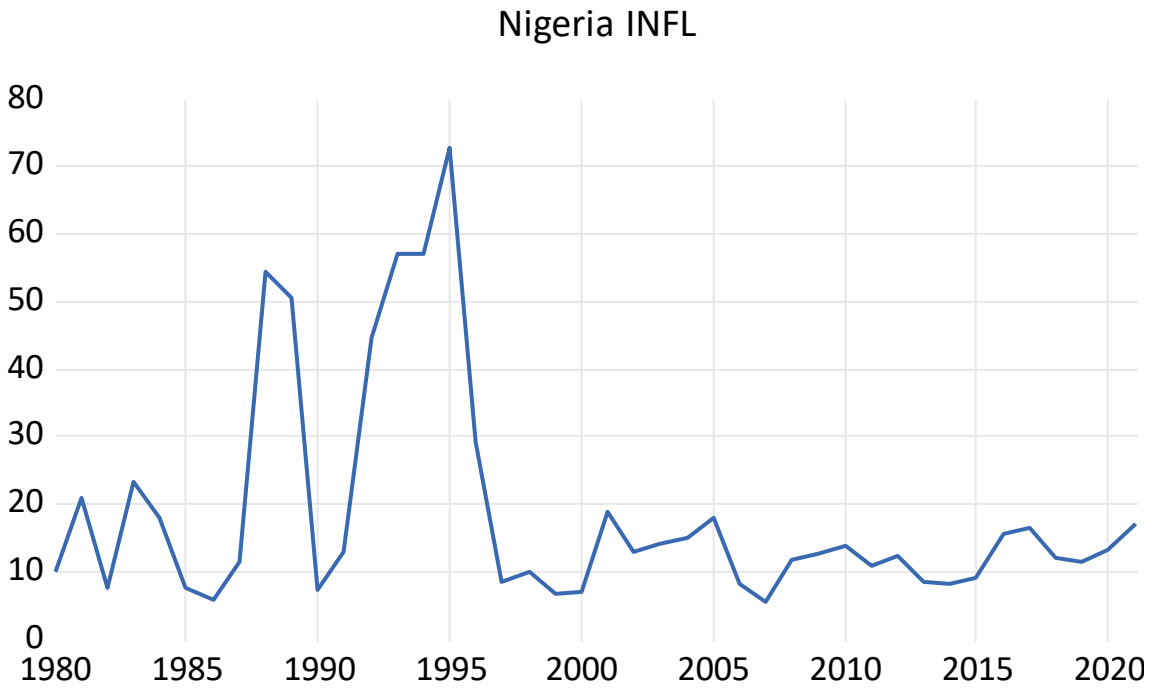

1.6
1.2
0.8
0.4
0.0
-0.4
2006
2008
2010
2012
2014
2016
2018
2020
CUSUM of Squares
5% Significance

NIGERIA GRAPHS






Nigeria GOVExp
10
8
6
4
2
0
1980
1985
1990
1995
2000
2005
2010
2015
2020


Nigeria INFL
80
70
60
50
40
30
20
10
0
1980
1985
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1995
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2015
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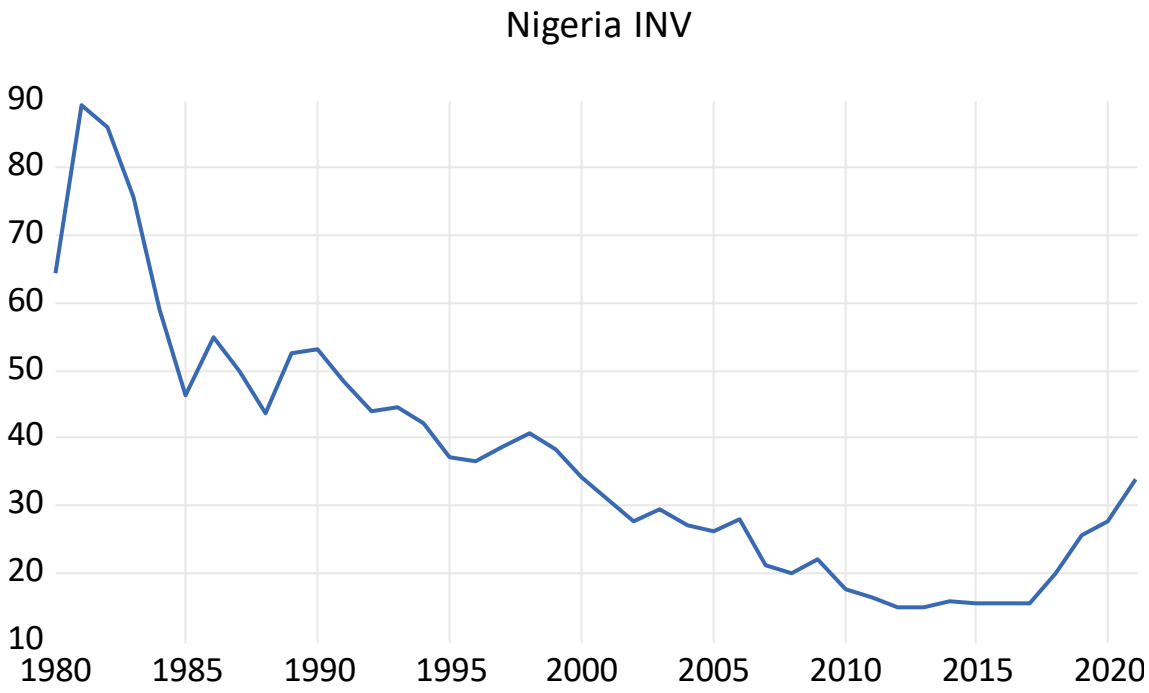
Nigeria INV
90
80
70
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1980
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2005
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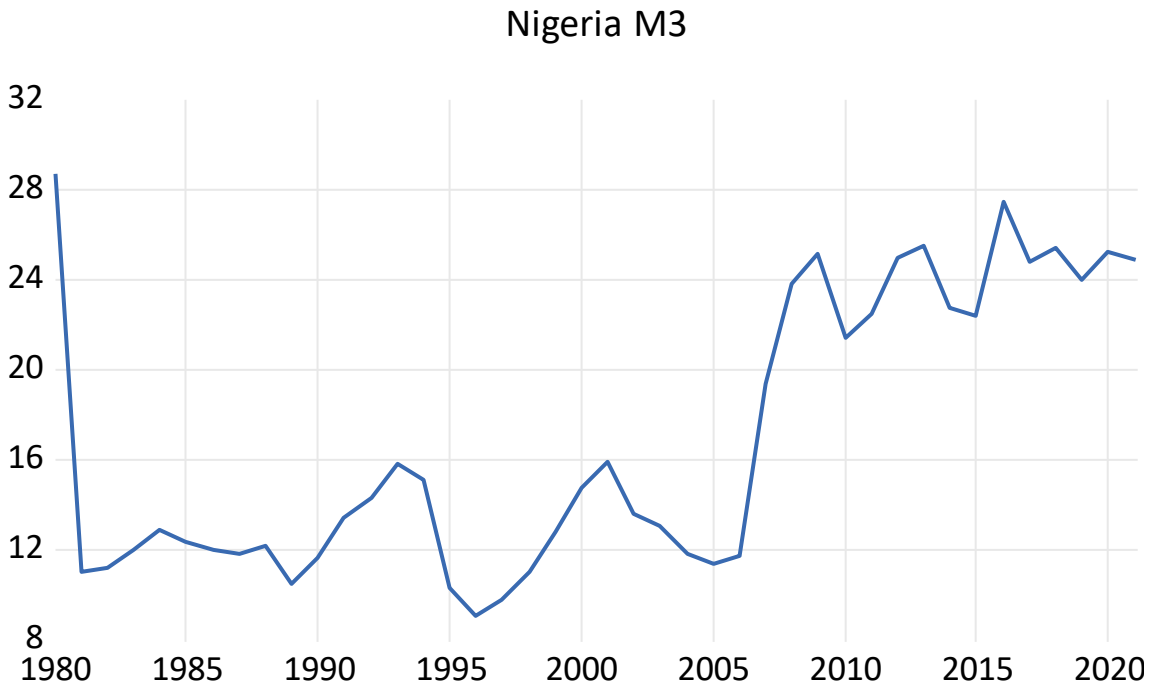
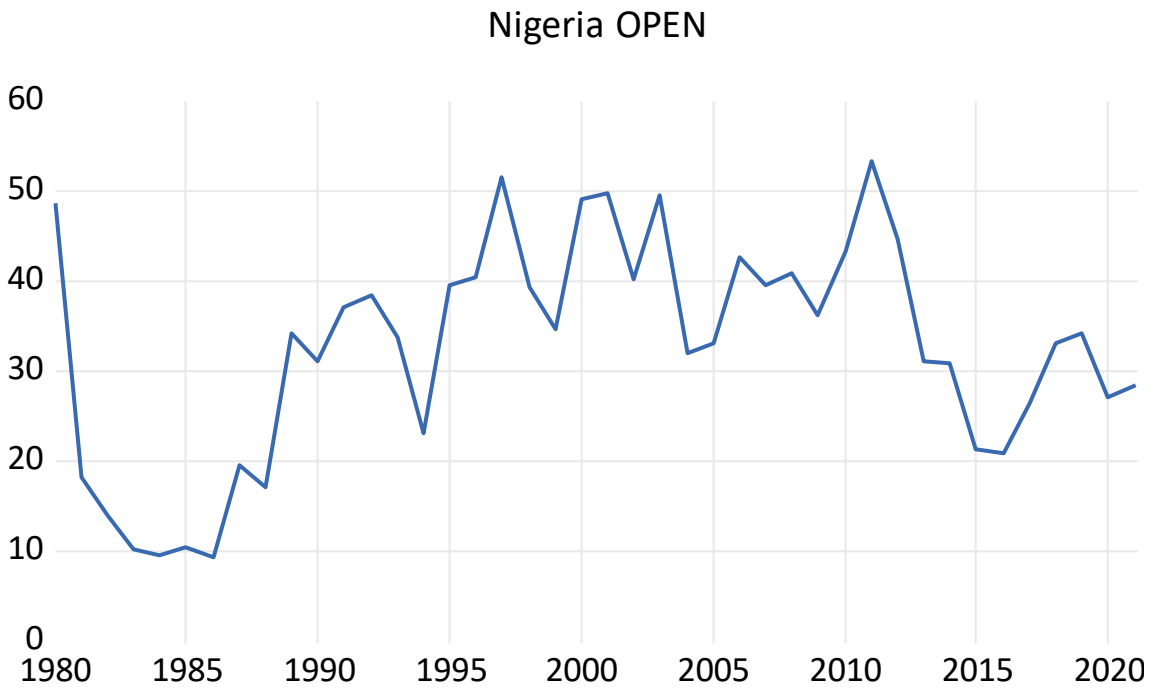
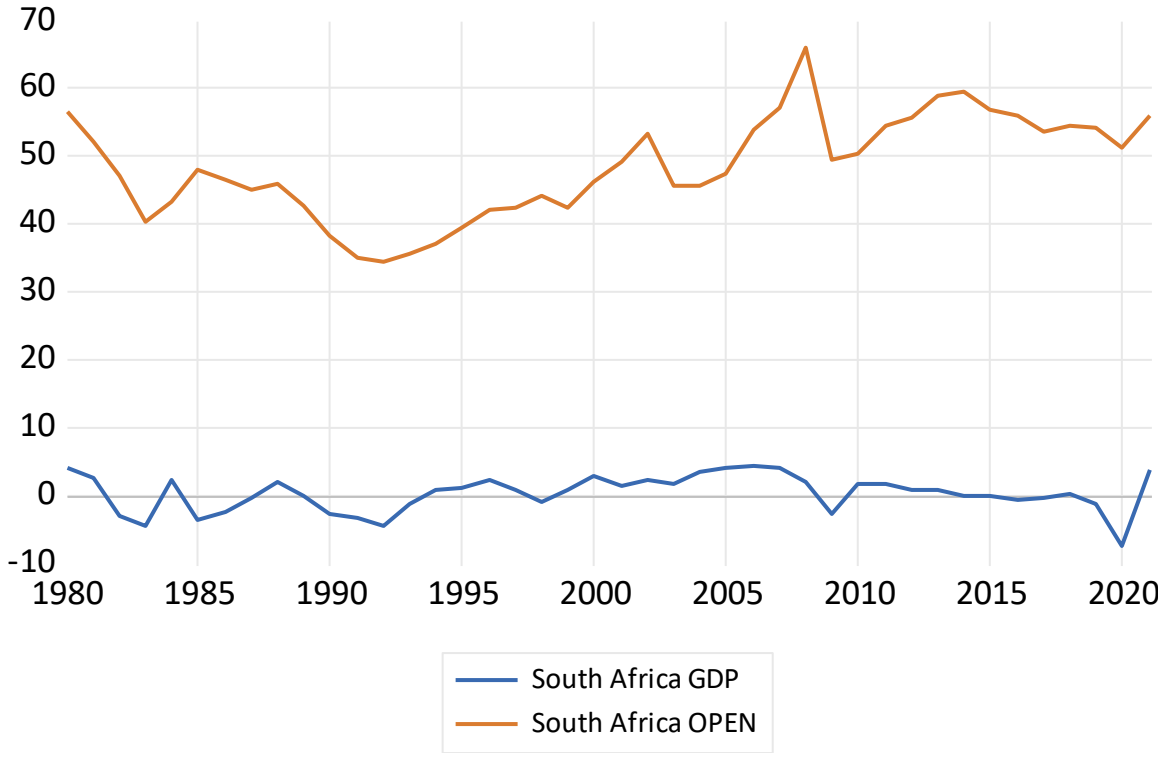
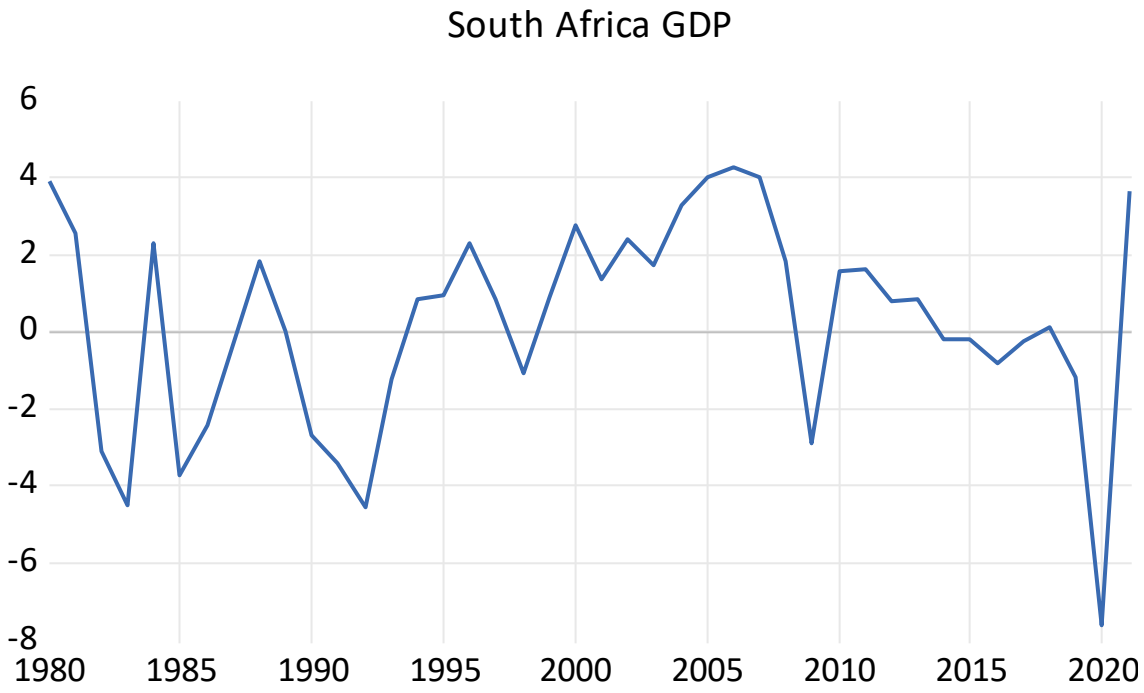
2015
2020


Nigeria M3
32
28
24
20
16
12
8
1980
1985
1990
1995
2000
2005
2010
2015
2020



SOUTH AFRICA GRAPHS




South Africa GDP
6
4
2
0
-2
-4
-6
-8
1980
1985
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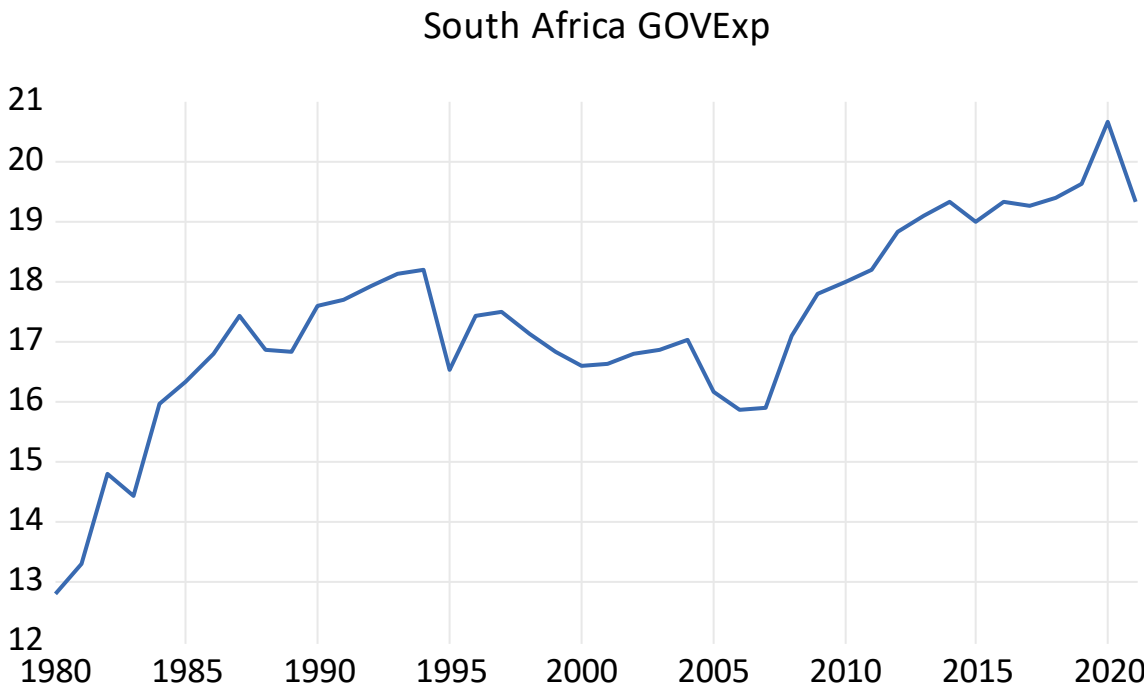
2015
2020


South Africa GOVExp
21
20
19
18
17
16
15
14
13
12
1980
1985
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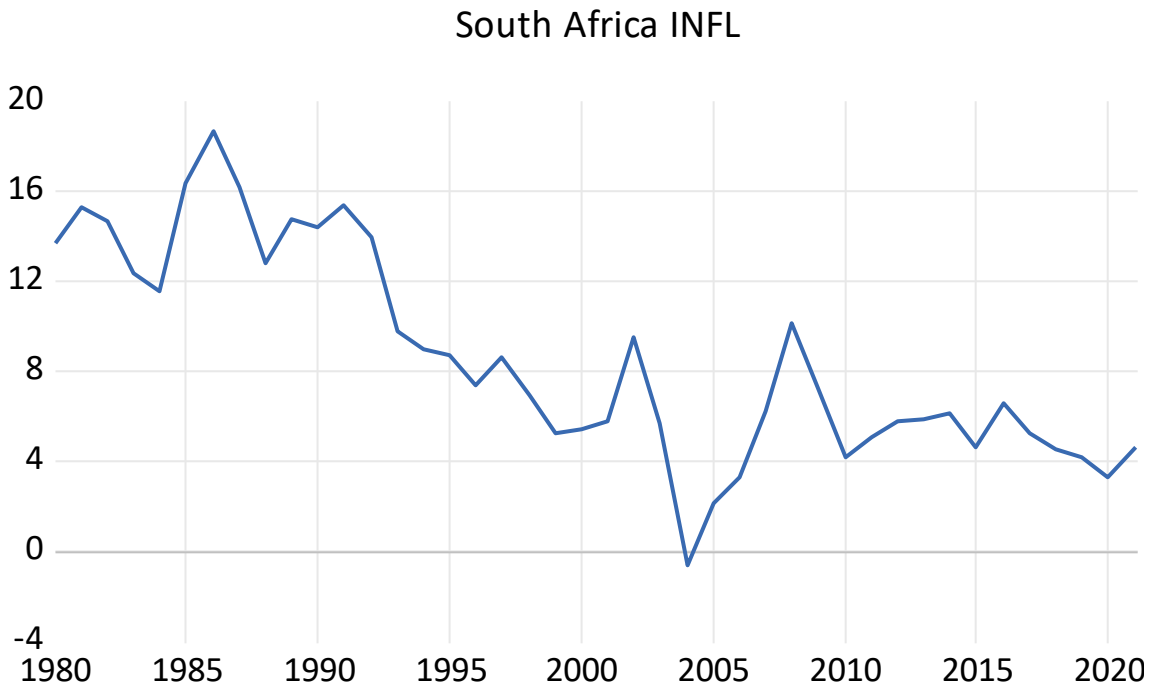
2010
2015
2020


South Africa INFL
20
16
12
8
4
0
-4
1980
1985
1990
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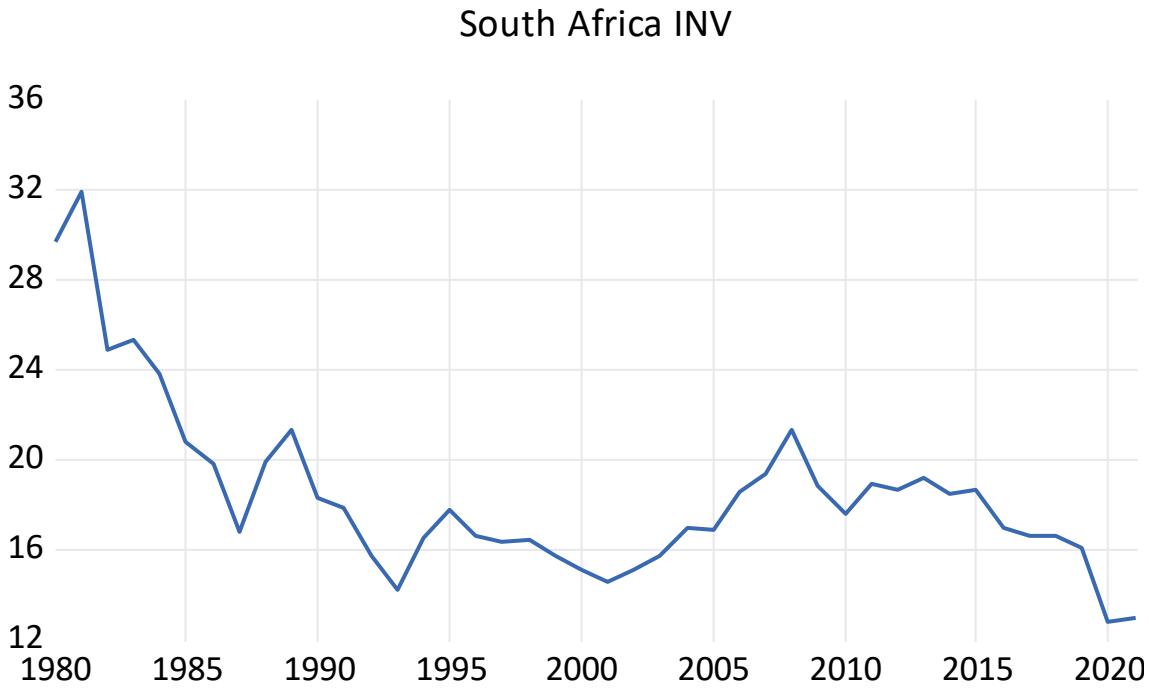
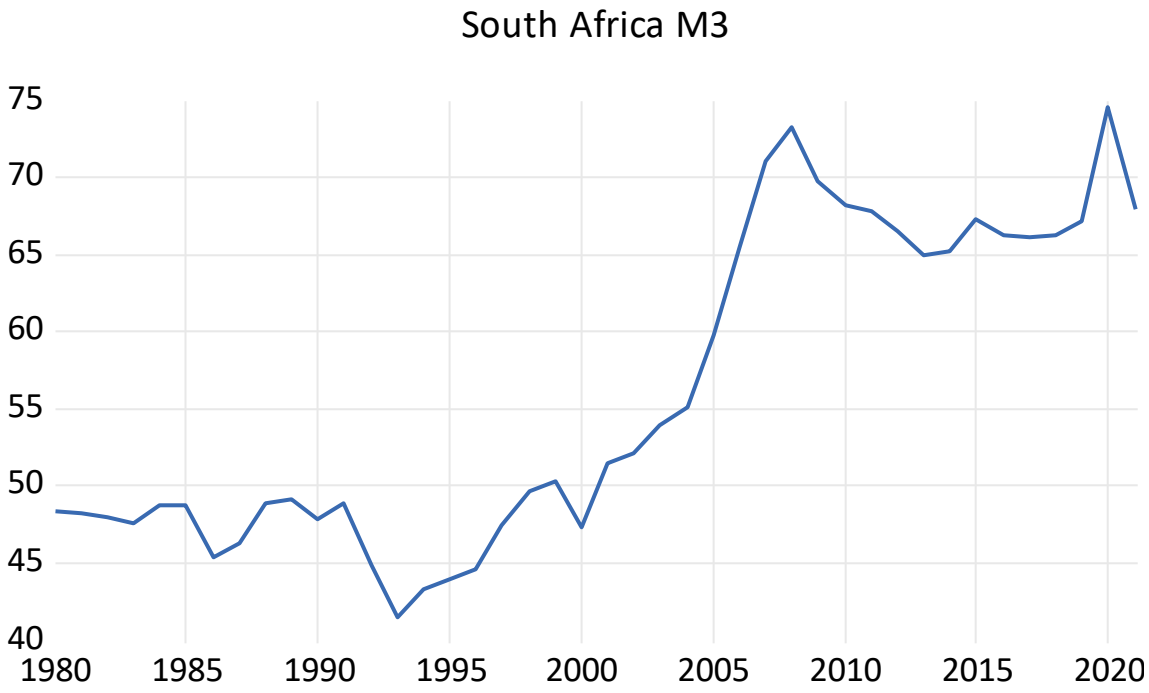
2015
2020


South Africa INV
36
32
28
24
20
16
12
1980
1985
1990
1995
2000
2005
2010
2015
2020


South Africa M3
75
70
65
60
55
50
45
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1980
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2005
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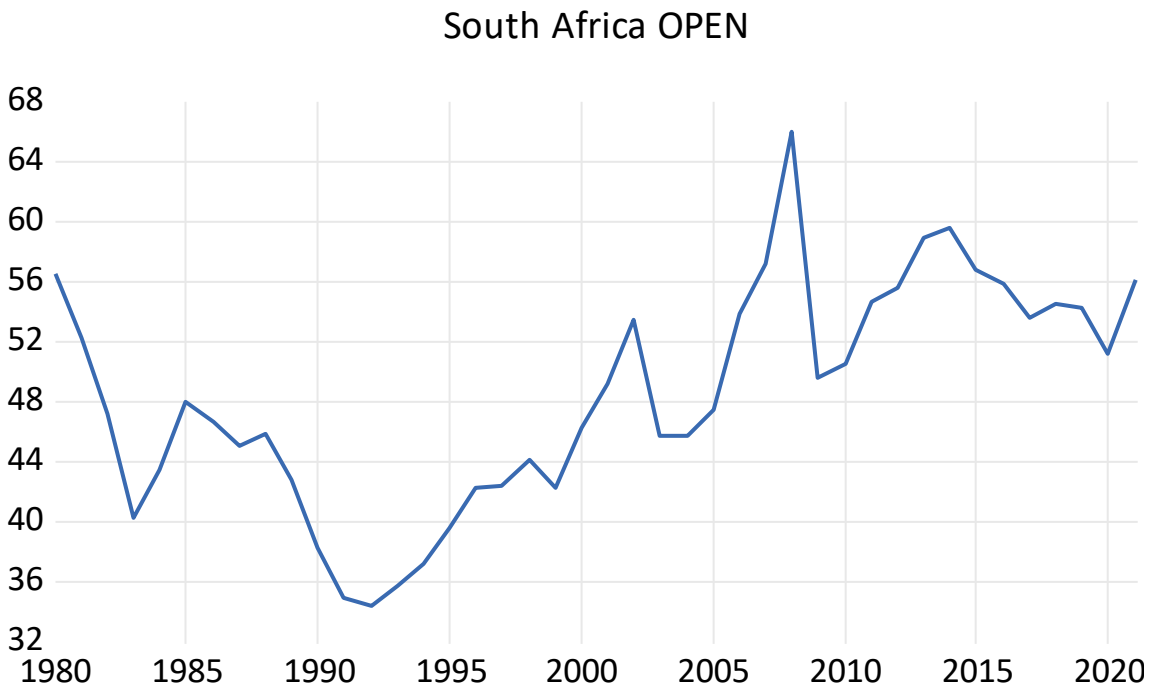
2015
2020


South Africa OPEN
68
64
60
56
52
48
44
40
36
32
1980
1985
1990
1995
2000
2005
2010
2015
2020

CV

WINNIFRED M. DOE

CURRICULUM VITAE

Parker Corner, Brewerville City, Liberia

Cells: 231880416162/ 231770416162

Email Address: doewinniel94@gmail.com

Personal Summary

I am a hardworking researcher who understands economic theories, some supply chain management practices, finance, and monitoring and evaluation.

With over four years of progressive professional working experience, I have the ability to interact with clients and colleagues, carry on data analysis using E-Views, and working in QuickBooks; I am honest and is adaptable to learning new things, innovative and can as work under pressure. I would gladly like to work with your entity to enhance my career development and experience as a resourceful career personnel.

EDUCATION AND QUALIFICATION

June 2023 — **M.Sc. Economics**
Near East University (NEU)
(TRNC) Nicosia, Cyprus, Europe

February 2020 — **Certificate in Money and Banking**
Liberia Institute of Public Administration
Old CID Road, Mamba Point, Monrovia, Liberia

2016/2017 — Bachelor's Degree in Economics
And a Minor in Procurement and Supply Chain Management
United Methodist University

Ashmun Street, Monrovia, Liberia

August 2013 Diploma & WAEC Certificate
Cathedral Catholic High School
Ashmun and Nelson Streets, Monrovia, Liberia

WORK EXPERIENCE

April 2023 - present **Administration and Finance Officer**
Mineke Foundation
Damiefa School Compound, Dabwe Town
Gardnersville, Montserrado, Liberia

Main Responsibilities

- Financial management of all projects and activities at Mineke Foundation; provide recommendations for improvement.

- Coordinate the annual budget process and manage budget expenditure. Also ensure deadlines for the budgeting process are met, and provide timely and actual financial information.

- Oversee and report on all processes pertaining to incoming and outgoing funds, including petty cash and ensure adequate record keeping & receipts. This includes advising the international finance volunteer of the need to transfer funds, based on approved budgets and the annual planning of fund/cash outflows.

- Manage payroll, taxes, deposits and withdrawals; coordinate all funds' transactions, and prepare financial reports for funders and donors as needed and/or provide input for said reports.

- Financial oversight and support of the Savings & Loans Club, any susu clubs, and the Mineke Foundation micro loan facilities, as well as any other financial projects at MF.

- Financial oversight of any sales carried out at Mineke Foundation, either by the vocational training projects or through any business & entrepreneurship projects, and financial management of all Service Provider Contracts and projects that are funded by grants from third parties.

- Carry out correct filing and archiving of all relevant information to ensure adequate record keeping of our projects and activities in line with auditing requirements. Ensure that Mineke Foundation meets any archiving and administrative requirements for grants and third-party projects.

- Prepare draft contracts of service for new staff entering Mineke Foundation and/or update contracts for staff whose contracts are being renewed.

- Ensure that all relevant documentation is archived in line with Mineke Foundation's policies, and/or donor requirements.

Nov. 2018- Oct. 2019 **M&E Intern**

USAID Liberia Strategic Analysis
Social Impact, Liberia
Old CID Road, Republic of Liberia
Placement Site: Kids Educational Engagement Project
Rehab Road, Jallah Mawolo Building

Main Responsibilities:

- Prepared procurement and monitoring and evaluation policy on administrative, internal controls, procurement, and accounts activities covering KEEP's counties of operations.

- Prepared monitoring and evaluation plan and framework for all activities covering KEEP's counties of operations.

- Prepared questionnaires, conducted surveys for all KEEP's projects; and analyzed results using SPSS.

- Assisted in proper control of the supporting documents for payments and financial reports assigned projects; payments execution; supported the processing of financial documentations (vouchers, supporting documents) and maintained internal expenditures control system by ensuring that vouchers processed are matched and recorded; prepared routine correspondence and reports in accordance with KEEP procedures.

- Assisted with payroll preparations, filing and processing of statutory deductions to relevant authorities; ensuring staff timesheets are submitted and reviewed for accuracy of LOE allocated;

- Ensured advances issued for program activities are liquidated in time and no advance holder is issued another advance without clearing the previous advance issued (maintained an advance tracker);

- Took down KEEP's weekly meeting minutes; conducted bi-monthly organization strengthening to provide updates on achievements and deliverables; tracked and followed up on expiration of various legal accreditations and clearances; prepared a monthly report for inventory, procurement, and petty cash;

- Assisted the procurement officer in verifying invoices, payment vouchers, and delivery notes; prepared simple contract forms, bid analysis, and purchase orders.

- Maintained proper filing system for financial records; assisted in the preparation of budgets and financial reports; ensure the safekeeping of cash and cashbooks; controlled Petty cash fund, recording, and disbursements**;**

- Checked and examined all financial documentation and transactions for corrections and compliance with financial policies and procedures; raised all vouchers for approved requests and ensure that corresponding checks are processed for banking transactions; disbursed processed checks to vendors on time; maintained debtors and creditor registers; and prepared supplies and cash journals and posted to the general ledger;

- Photocopied, organized, and filed all financial documentation related to partners; executed all banking transactions on behalf of staff and executives of the Finance department; received and kept proper custody of all bills, invoices, and other claims; raised and processed all checks; made follow-up of debtors and ensure prompt payment; maintained the asset records for the Monrovia office with all field offices of KEEP.

Nov. 2018- Dec. 2020 **Finance Officer**
Books Before Boys Inc.
Nelson and Front Streets
Republic of Liberia

Main Responsibilities:

- Record and examine all financial documentation and transactions for corrections and raised all vouchers for approved requests; issue receipts and invoices for spending and prepared supplies and cash journals and posted to the general ledger
- Provide oversight and financial advice to all committees; attended all executive meetings.

April 2017- Jan. 2018 **Financial Secretary**
Senior Class
United Methodist University
Ashmun Street, Monrovia, Liberia

Main Responsibilities:

- Recorded all financial documents for accountability; issued bank slips, and receipts after souvenir payment; and did bank reconciliation for souvenir funds.

- Helped to coordinate general meetings and provided oversight and financial advice to all committees

May-November 2014 **Volunteer/Field Agent**
Liberia National Red Cross Society (LNRCS)
Lynch Street, Monrovia, Liberia

Main Responsibilities:

- Took down statistics on Ebola-affected homes through interviews with community dwellers; shared relief materials with survivors.
- Created awareness of the contraction and prevention of the Ebola virus
- Made daily statistics reports to Field Supervisor.

PERSONAL ATTRIBUTES

- Very good interpersonal working relationships with others
- Work under pressure
- Very good communication skills
- Dedicated to Financial integrity and cost-effectiveness

OTHER SKILLS

February 2020. **Alumna (YALI)**
Young African Leaders Initiative
Regional Leadership Center, Accra, Ghana

November 15, 2019 **Certificate of Completion**
Monitoring, Evaluation & Learning
USAID- LSA, Social Impact, Liberia

October 23, 2019 **EQUIP Trained**
Evaluation Quality Use and Impact
Social Impact International Standard Test
Social Impact, Liberia

July- 2019 **Certificate of Participation in Model United Nation**
Babcock International Model United Nation

BIMUN'19- Nigeria

October- 2018 **Certificate of Achievement**

Leadership Training

Inspired the Mic- Monrovia

Awakening Giants

July 2014 **Certificate of Achievement**

Microsoft Word and Excel

Humanity Institute of Computer Learning

Capitol Bye-Pass, Monrovia, Liberia

REFERENCES

Available on Request

Appendix X

Turnitin Similarity Report

ASSESSING THE ROLE OF TRADE OPENNESS ON ECONOMIC GROWTH IN AFRICAN COUNTRIES FROM 1980 TO 2021: AN EMPIRICAL ANALYSIS OF NIGERIA AND SOUTH AFRICA

ORIGINALITY REPORT

13%	10%	5%	4%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	core.ac.uk Internet Source	2%
2	mafiadoc.com Internet Source	1%
3	docs.neu.edu.tr Internet Source	1%
4	www.researchgate.net Internet Source	1%
5	uir.unisa.ac.za Internet Source	<1%
6	"The Princeton Encyclopedia of the World Economy. (Two volume set)", Walter de Gruyter GmbH, 2009 Publication	<1%
7	hdl.handle.net Internet Source	<1%
8	cirdjournal.com Internet Source	

NEAR EAST UNIVERSITY

SCIENTIFIC RESEARCH ETHICS COMMITTEE

07.03.2023

Dear Winnifred M. Doe

Your project **"Assessing the Role of Trade Openness on Economic Growth in African Countries from 1980 to 2021: An Empirical Analysis of Nigeria, and South Africa"** has beenevaluated. Since only secondary data will be used the project does not need to go through the ethicscommittee. You can start your research on the condition that you will use only secondary data.

Prof. Dr. Aşkın KİRAZ

The Coordinator of the Scientific Research Ethics Committee