INTRA - TRADE AND ECONOMIC GROWTH IN ECOWAS SUB - REGION

BY

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A THESIS WRITTEN IN THE DEPARTMENT OF ECONOMICS AND SUBMITTED TO THE COLLEGE OF POSTGRADUATE STUDIES, UNIVERSITY OF BENIN, BENIN CITY, NIGERIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF DOCTOR OF PHILOSOPHY (Ph.D) IN ECONOMICS.

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DECLARATION

I Ohiomah Simeon Suleman, with the matriculation number Mat. No. PG/SSC 1714944 do hereby declare that this Ph.D thesis is entirely my work and composition. The research report has not been submitted in candidature for any degree and is not concurrently being submitted for any degree. All references made to the works of other persons have been duly acknowledged.

CERTIFICATION

We certify that this study was carried out by **OHIOMAH SIMEON SULEMAN** in the department of Economics, University of Benin, Benin City, Edo State, Nigeria.

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DEDICATION

This project work is dedicated to God Almighty

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AfCFTA – African continental Free Trade Area

AMU- Arab Maghreb Union

ASEAN- Association of South East Asian Nation

ARDL- Autoregressive Distributed Lag

CRPS- Credit to the Private Sector

FTA- Free Trade Area

FDI- Free Trade Area

FMOLS- Fully Modified Ordinary Least Squares

GNP- Gross National Product

GDP- Gross Domestic Product

GDPC- Gross Domestic Product Per Capita Growth rate

GMM- Generalized Methods of Moments

HCD- Human Capital Development

IGAD- Intergovernmental Authority on Development

IIT- Intra Industry Trade

INV- Investment

IRTS- Intra-regional Trade Shares

IRTR- Intra-regional Trade Ratio

ITC- International Trade Centre

MDGs- Millennium Development Goals

MG- Mean Group

NTBs- Non Tariffs Barriers

ODI- Overseas Development Institute

PMG- Pool Mean Group

POP- Population Growth

PVAR- Panel Vector Autoregressive

PVECM- Panel Vector Error Correction Model

R and D- Research and Development

REC- Regional Economic Community

RIS- Regional Integration Strategy

RTII- Regional Trade Intensity Index

SSA- Sub-Saharan Africa

TFI- Trade Freedom Index

TO- Trade Openness

TOI- Trade Openness Index

UNCTAD- United Nations Conference on Trade and Development

VAR- Vector Autoregressive

WAEMU- West African Economic and Monetary Union

WTO- World Trade Organization

VECM- Vector Error Correction Model

ABSTRACT

This study empirically examines the nexus between intra-trade and economic growth in thirteen ECOWAS countries. ECOWAS was formed to promote Trade liberalization scheme (ETLS) ECOWAS Common External Tariffs (CET) to eliminate trade barriers, encourage free flow of goods and services, simplify customs procedures and harmonized tariffs on goods imported from non ECOWAS countries. This has not improved the economy of the sub-region.

Employing copious sequential econometric tools of descriptive statistics, correlation analysis as well as the causality analysis, the panel unit root, co-integration test and fully modified ordinary least square (FMOLS) method for the period 1990 – 2023. The empirical finding for the correlation analysis revealed a negative relationship between economic growth (GDP per capita growth rate) and intra-regional trade. The correlation between human capital development (HCD) and economic growth is positive. The result between trade openness (TO) and economic growth is positive. The correlation coefficients among the explanatory variables are weak which implies that there is no multi-collinearity among the explanatory variables. For the granger causality test using the pair-wise Dumitrescue-Hurlin tests revealed that there is no causality between economic growth (GDP per capita growth) and intra-regional trade with causality running from either economic growth or intra-regional trade share to each other. However, the test showed that human capital development (HCD) causes economic growth (GDP per capita growth rate) implying that causality runs from human capital development to economic growth in the ECOWAS sub-region. For the panel cointegration tests (the Pedroni, Kao, and Johansen Firsher) revealed that there is a long run relationship among the study variables. Also, for the fully modified ordinary least square (FMOLS) method, the signs of all the estimated coefficients of the explanatory variable in the model conformed to their a priori expectations except intra-regional trade share and credit to the private sector as a share of GDP. The coefficient of intra-regional trade share is negative but insignificant implying that intra-regional trade does not have a significant effect on economic growth (GDP per capita growth rate) in ECOWAS sub-region. The coefficient of human capital development is positive and significant at 5 percent level, implying that it has a significant impact on economic growth in ECOWAS sub-region. The coefficient of trade openness is positive but fails the significant test at the 5 percent level of significant.

Against the backdrop of these empirical findings, we recommend amongst other; ECOWAS should intensify efforts to fully implement the ECOWAS Common External Tariff and eliminate policy induced and non tariff barriers such as inconsistent customs procedures, excessive checkpoints, and unofficial fees that hinder the free movement of persons, goods and services to boost intra-regional trade in order to enhance rapid and sustained economic growth within the ECOWAS sub-region.

CHAPTER ONE

INTRODUCTION

1.1 Preamble

Intra-trade refers to trade within a specific group or bloc such as South African Development Community (SADC), Economic Community of West African States (ECOWAS), and Common Market for Eastern and South Africa (COMESA) etc. This type of trade occurs among countries that are part of the same regional trade agreement or economic community. In particular, in trade, larger sized markets enable domestic economies to absorb the potential benefits of increasing returns to scale (Ades & Glaeser, 1999). Thus, nations that has access to bigger markets benefit more from trade than countries that do not. In this context, a good volume of intra-trade should be a major influence on economic growth if it expands market sizes for economies in the region which adopt mediating trade policies.

The Economic Community of West African States (ECOWAS) is a regional economic community comprising of 15 West African countries was established in 1975 to promote intra- trade, economic integration and cooperation among its member states through various initiatives such as ECOWAS Trade Liberalization Scheme (ETLS) which aims to promote intra- trade among ECOWAS member states by creating a free trade area. The scheme seeks to eliminate trade barriers, such as tariffs, quotas, and subsidies to encourage free flow of goods and services across borders, simplify customs procedures, and enhance market access for businesses within the region. Also, the imposition of uniform trade barriers such as ECOWAS Common External Tariffs (CET) to harmonized tariffs on

goods imported from non ECOWAS countries (Akpan & Atan, 2016). This has not improved the economy of the sub region as they still export primary products while they import manufactured products from developed and industrialized countries. Tariffs and non tariff barriers, poor trade infrastructure, corruption and bureaucracy and dependence on primary commodities are still present in their economies which discourage intra trade making economic growth in the region to slow. These are critical components of ECOWAS's efforts to boost intra regional trade (Adeleye, 2017).

Previous studies including Wooster, Banda and Dube (2008) show that intra regional trade has direct effects on economic growth distinct from the effect of extra-regional trade. The finding based on study of the European Union (EU) countries is that extra regional trade has a larger effect on output growth per capita. Younes (2016) opined that intra regional trade has a smaller impact on economic growth in output per capita than extra regional trade. Also, Musila and Yiheyis (2015) study examined the impact of regional integration on economic growth in Africa with a panel dataset covering 33 African countries over the period 1990-2010 and using the panel data analysis found that regional integration has led to an increase in trade flows among African countries and having a positive and significant impact on economic growth in Africa. However, intra- trade can create jobs, both directly and indirectly in industries such as transportation, logistics and trade facilitation (IMF, 2019; Fofack & Mold, 2021). Intra-trade relations appear to be low in ECOWAS sub region.

Considering the nature and composition of trade in the ECOWAS region with the rest of the World, Onyekwena and Oloko (2016) showed that economic growth within the ECOWAS region is increasing. They however, added that extra regional trade is increasing

rapidly at a disproportionate rate to intra-regional trade compared to the SADC; this suggests that there is greater potential for inclusive development in the region if part of extra-regional trade is converted to intra-regional trade. According to Okoro, Ujunwa, Umar, and Ukemenam (2020) in a study of the impact of intra and extra-regional trade on economic growth in ECOWAS region, confirmed that trade between ECOWAS member states is an important predictor of growth, while trade with the rest of the World either hurts or does not promote growth. This is consistent with competitiveness problems and factor equalization theories (Pierce & Schott, 2016, 2017). This is also explained by the nature of ECOWAS trade with exports of primary products commodities and in return import finished goods, which is inimical to growth.

The benefits of regional trade cannot be overemphasized, this includes opportunities to reap trade efficiency gains, exploit economies of scale, and reduce the thickness of borders (De Mello & Tsikata, 2014). To promote intra-trade, regional trade blocs such as the South African Development Community (SADC), East African Community (EAC), and Economic Community of West African State (ECOWAS) etc are formed by the countries in such geographical areas. The ECOWAS intra African trade between 2000 and 2010 experienced significant growth from $2.5 billion in 2000 to $10.2 billion in 2010 and the share of intra ECOWAS trade in total trade rose from 9.5% in 2000 to 15.6% in 2010 (WITS, 2011). ECOWAS had an intra-regional economic trade value of $11.4 billion in 2016. This indicates that ECOWAS does contribute significantly to Africa's overall intra trade (UNCTADSTAT, 2017).

Despite the resilience of intra African trade in a context of a sharp global growth deceleration, it represented about 13.8% of total African trade in 2022, slightly lower than

the 14.4% in 2021 (African trade report, 2023). Intra-trade relations among the ECOWAS nation has been much lower than extra-ECOWAS trade which Nigeria is dominant in intra and extra-ECOWAS trade and Ghana, Cote dI voire and Benin seem to follow with their large port.

However, the flows of goods and services contracted sharply in most countries of the ECOWAS sub region. Exports fell by an average of 15% between 2019 and 2020 in the Economic Community of West African States (ECOWAS). Imports also contracted sharply in most of the countries, falling by between 25% for those most affected, such as Nigeria, and 2% for Guinea-Bissau. Nonetheless, six countries grew their imports of goods and services, bringing the average rate of change in ECOWAS to -2% (IMF, 2021). In 2019, only 17% of exports from ECOWAS countries went to African countries, compared to 39% to Europe and 35% to Asia. However, 61% of exports to Africa from ECOWAS countries went to countries in the sub-region, implying that the production linkages between ECOWAS countries are greater than with the rest of the continent. In 2019 the ECOWAS exports of goods and services to percentage of GDP was 19.6 while in 2020 it was 17.0 but marginally increased to 18.1 in 2021. Import of goods and services as a percentage of GDP of the region was 25.4 in 2019 and fell to 23.4 in 2020 but marginally increased to 24.3 in 2021 (IMF African department database World Economic Outlook, 2022).

Economic growth outlook for the ECOWAS region has experienced slower growth over the past year except for Cape Verde, the Gambia, and Guinea (African Development Bank, 2023). The growth rate is not really sufficient for the development needs of the region in the face of several challenges such as increased poverty rate, unemployment rate, high

external debt, low level of exports of goods (UN, 2022). ECOWAS experienced moderate economic growth between 1994 and 2000 driven by various factors. GDP growth rate averages around 4-5% per annum and agriculture remains the dominant sector accounting for around 30% of GDP, industry driven by manufacturing and construction experienced moderate growth while the service sector driven by telecommunications and financial services grew rapidly. Between 2000 and 2005, ECOWAS experienced relatively strong economic growth which averaged 5-6% per annum. Intra-regional trade increased, with ECOWAS countries accounting for around 10% of each other's total trade. Agriculture remains the dominant sector, accounting for around 30% of GDP, with cotton and cocoa being the major exports crops. Industry experienced rapid growth driven by oil production in Nigeria and Ghana while the services sectors continue to grow.

Implementation of the ECOWAS Common External Tariff (CET), establishment of the ECOWAS Bank for investment and development (EBID) and launch of the ECOWAS Regional Integration Program (RIP), ECOWAS efforts to create a customs union and common market, trade facilitation to reduce transaction costs and tariffs, improvement in infrastructures like transportation and communication and effective governance, rule of law, and reduced corruption are some of the regional initiative to pursue growth. Challenges such as dependence on primary commodities, particularly oil, limited economic diversification, infrastructural constraints, low trade flows and security concerns in countries such as Cote di voire and Liberia are some of the challenges faced by ECOWAS.

Also, the average economic growth rate in the ECOWAS region between 2010 and 2022 fluctuated due to various factors. In 2011, the region experienced a robust economic

growth, rising to 6.6% real GDP. However, growth rate declined in subsequent years with an average growth rate of 3.3% in 2020 due to significant impact of the COVID-19 pandemic that affected growth rates across many ECOWAS countries with only few recovering rapidly like Cote di voire that had GDP growth rate of 6.9% in 2022 and Guinea 6.2% in the same year (OEC, 2023). Within the ECOWAS region, to meet the required economic growth, the region will need about 11% increases in GDP per year over a decade (United Nations Economic Commission for Africa, 2019). This could be met by increase in regional trade. However, ECOWAS has made progress in promoting intra-trade, the level of intra-regional trade in the sub region remains low, and the economic growth benefit to the recipient economy has continuously attracted arguments in literature. However, scholarly work in this area seems scanty to the best of the researcher's knowledge. It is against this backdrop that this study seeks empirically to examine intra-trade and economic growth in the ECOWAS sub region.

1.2 Statement of the Research Problem

The research problem of this study is the influence of intra- trade on economic growth in the ECOWAS sub-region. ECOWAS experienced significant economic growth between 2006 and 2010, driven by various factors such as high global commodity prices, increased investment in infrastructure, strong remittances, economic reforms, and regional trade agreement. During the period the average annual growth rate was 5.6%. In the period Nigeria, Ghana, Senegal and Mali have more than 5% average annual growth rate (IMF, 2010). However, the ECOWAS economic growth rate on the average between 2017 and 2022 was 2.62% which was hampered by the 2020 pandemic (WDI, 2023). While in 2023, its economic growth rate was 3.2% (UNECA, 2024). This growth rate is a slight decrease

from the previous year. It is, however, noted that the ECOWAS economic growth has been impacted by global challenges such as COVID-19 pandemic and the ongoing conflict in Ukraine. However, some studies opined that the growth performance of the sub region should have been more impressive (Orji, Uche & Ilori, 2014; World Bank, 2021).

The economic growth performance of ECOWAS sub region may not be unconnected to the extremely low level of the region's share in world trade which was below 3% (UNCTAD, 2022), and low level of intra ECOWAS trade which was 11.4% between 2015 and 2020 on average and 14.4% between 2020 and 2022 while in 2023 it was projected to be 14.1%. This was due to poor trade policies in the context of artificial and natural barriers (impediments) to trade such as prohibitive and restrictive tariffs and non tariffs barrier, trade in low range primary products characterized by low price and income elasticity of demand which are extremely vulnerable to international transmitted price shock which is a characteristic of primary agricultural product (WITS, 2023).

The Economic Community of West Africa States (ECOWAS) was formed in 1975, as ECOWAS member's countries made a big push towards reforming their trade framework to take advantage of intra-trade. In spite of the establishment of the Economic Community of West African States (ECOWAS), aimed at promoting economic integration and cooperation among member states, the level of intra- trade in the ECOWAS sub-region remain relatively low. However, market size growth from high volume of intra-trade in the region may have been hindered by common challenges related to facilitating trade such as poor road network, inadequate port facilities, limited air transport options and high costs that hinder the transportation of perishable goods. There is also the challenge of a poor institutional and regulatory framework that cannot adequately allow implementation of

policies that will ease the movement of persons and products within the sub region (Olayiwola, 2011). Also, credit to private sector due to underdeveloped banking and high risk involved in advancing credit to the private sector and directing credit to unproductive sector. Furthermore, ECOWAS member states impose high tariffs on each other's goods making trade expensive and uncompetitive. ECOWAS member's practical experience of the problem of trade barriers is alarming, this problem is contributing to low intra regional trade among the member countries which is invariably having an adverse effect on the movement of goods and services to enable the region to achieve economic growth (Onyekwena & Oloko, 2016). It is held that relative to domestic trade intra-regional trade in ECOWAS is a major driver of economic growth (Bello & Umar, 2020; Onyekwena & Oloko, 2016). The share of intra ECOWAS trade in total trade rose from 9.5% in 2000 to 15.6% in 2010. Agricultural products dominate intra ECOWAS trade while manufacturing in textiles, food processing and manufacturing showed significant growth in the period.

However, a cursory observation shows that ECOWAS share of world imports ranges from 11.67% to 17.04% between 1999 and 2009 while the exports share was between 8.40% and 14.18% in the same period. This shows that the region has a greater share in world import than export during the period and implies that the region is a net importer during this period (ECOWAS Commission, 2010). Between 2019 and 2021 ECOWAS trade growth rate in the World has been dwindling. In 2019 the ECOWAS exports of goods and services as a percentage of GDP was 19.6% while in 2020 it was 17.0% but marginally increased to 18.1% in 2021. Import of goods and services as a percentage of GDP of the region was 25.4% in 2019 and fell to 23.4% in 2020 but marginally increased to 24.3% in 2021 (IMF African department database World Economic Outlook, 2022). This trend

shows that the ECOWAS sub region is a net importer of goods and services during the period. The reason for the low level of trade could be a result that the regional export base is not well diversified as it depends on primary commodities for exports. Also, due to poor infrastructure and logistics challenges, security and political challenges in some ECOWAS member states and above all limited access to finance and high transaction costs hinder the ability of traders to engage in intra-trade. ECOWAS intra regional trade share of global trade between 2015 and 2016 was 4.8%, between 2019 and 2020 was -3.5% this decline was a result of the COVID-19 pandemic and revamp to 6.3% between 2021 and 2022 (IMF direction of trade Stat., 2023).

The ECOWAS region has made significant contributions to intra-African trade between 2000 and 2023. The Economic Community of West African States (ECOWAS) contribution to intra-African trade between 2000 and 2010 increased from $2.5 billion in 2000 to $18.7 billion in 2010. Between 2010 and 2022, its intra Africa trade has been growing with some fluctuations. In 2010, the value of ECOWAS intra - African trade was US$18.7 billion and gradually increased to US$44.3 billion in 2015 and to US$55.8 billion in 2019 but fell to US$48.3 billion in 2020 (see Fig. 2.2). It intra –Africa trade value however, stood at US$61.7 billion in 2022, as this growth could be attributed to increase production of diverse items including natural resources especially crude petroleum oils, unwrought non monetary gold, liquefied natural gas, and agricultural commodities leading to high exports that are traded among the partner states. The Economic Community of West African States (ECOWAS) accounted for 18.2% of total intra-African trade in 2022, compared with 17.1% in 2021 (WITS, 2023). ECOWAS's intra-Africa trade share in 2023

accounted for 25.7% of total intra-African trade. This indicates that ECOWAS member states played a significant role in intra-African trade in 2023 (Fig. 2.2).

Empirical studies conducted on intra-trade and economic growths, to the best of the researcher's knowledge, are scanty. Some of the studies include, impact of intra and extra regional trade on economic growth: evidence from ECOWAS (Okoro, Ujunwa, Umar & Ukemenam, 2020); regional trade for inclusive development in West Africa (Onyekwena & Oloko, 2016) and implementation of ECOWAS trade liberalization scheme and its influence on ECOWAS GDP (Souleymane, Wayne & Namfukwe, 2024). These studies focus on trade liberalization, trade agreements, and other macroeconomic variables. However, there are no extant literatures that have examined the impact of intra- trade and economic growth in the ECOWAS sub region. Since ECOWAS is a regional grouping formed to accelerate economic integration, industrialization, and economic development of participating member countries through intra-trade, this cannot be facilitated without appropriate macroeconomic policy in the region. This raises concerns about the potential impact of intra-trade and economic growth in the ECOWAS sub-region. However, extending the coverage of the study by examining the impact of intra-trade on economic growth could be plausible. Therefore, this study seeks to investigate the relationship between intra-trade and economic growth in the ECOWAS sub-region, with a view to identifying the factors that hinder or promote intra-trade and its impact on economic growth in the sub-region using intra-regional trade share, human capital development index, investment (gross capital formation, trade openness, credit to the private sector, and population growth rate as variables. This will be given much attention in the study; an empirical examination of the nexus between them becomes imperative.

1.3 Research Questions

The research questions are as follows:

i. What is the impact of intra-trade on economic growth in the ECOWAS sub region?

ii. Do human capital developments have a direct impact on economic growth in ECOWAS sub-region?

iii. Does investment influence economic growth in ECOWAS sub-region?

iv. Is there a causal relationship between intra-trade and economic growth in the ECOWAS sub region?

1.4 Objectives of the Study

The broad objective of the study is to investigate the influence of intra-trade on economic growth in the ECOWAS sub region. The specific objectives of the study are to:

i. examine the impacts of intra-trade on economic growth in the ECOWAS sub region.

ii. investigate the impact of human capital development on economic growth in ECOWAS sub-region.

iii. examine the impact of investment on economic growth in ECOWAS sub-region.

iv. examine whether there is a causal relationship between intra- trade and economic growth in ECOWAS sub region.

1.5 Hypotheses of the Study

The following hypotheses are stated to guide this study:

i. Intra- trade does not have an impact on economic growth in the ECOWAS region.

ii. Human capital development does not have an impact on economic growth in the ECOWAS sub-region.

iii. Investment does not influence economic growth in ECOWAS sub-region.

iv. Intra- trade does not have a causal relationship with economic growth in the ECOWAS sub region.

1.6 Significance of the Study

The importance of this study results from the fact that the economic community of West African states (ECOWAS) as one of the regional economic communities recognized in Africa could provide the institutional framework for policy makers. The ECOWAS as an instrument for promoting intra-trade, integration, industrialization and development is also characterized with basic features such as increasing population, political conflicts, economic and heterogeneity of the countries with disparities varying from countries with low to medium income distribution, to landlocked, coastal, and island countries. It also offers possibilities to leverage and extend economic comparative advantage at regional level in ways not accessible through national programmes (Mbekeani, 2013). The countries within the sub region trade in primary products with little value added and such are affected by international price shocks impacting on the revenue inflow needed for growth.

The findings in this study will essentially contribute to the literature on policy, strategy and institutions help to identify areas for improvement and opportunities that will drive economic growth in the ECOWAS region. Also, studying intra-trade in ECOWAS can provide insights for comparative analysis with other regional economic communities. However, the policy recommendations in the study will be of immense importance to the various government, academic and policy makers in the sub region to stimulate economic

growth through trade. Also, the empirical study will further call for more research in the subject matter.

1.7 Scope of the Study

The study will cover 13 countries of the Economic Community of West African states (ECOWAS) sub-region. The countries are; Benin, Burkina Faso, Cape Verde, Gambia, Ghana, Guinea, Cote di voire, Mali, Niger, Nigeria, Senegal, Sierra Leone and Togo excluding Liberia and Guinea Bissau because data are not available for some of the variables of interest. The study covers the period from 1990 to 2023 (34 years). This period was chosen because it covers a period when ECOWAS countries implemented trade policy reforms which had a significant impact on intra-regional trade, various phases of economic growth in ECOWAS countries, including periods of rapid growth, stagnations and decline, the military and civilian rule in many of the ECOWAS countries of interest, and also because of the unavailability of data for some of the variables of interest in some of the countries within ECOWAS sub region for this study.

1.8 Organization of the Study

Following this introductory section which is Chapter One, the study will be organized as follows. Chapter two contains an overview of intra regional trade in ECOWAS, trade openness, and economic growth performances in the ECOWAS sub regional countries as well as stylized facts. Chapter three is the literature review which will consider conceptual clarification, the theoretical and empirical literature on intra regional trade, trade openness, and economic growth in the sub region. Chapter Four contains methodology, theoretical framework, model specification, estimation techniques and sources of data. Chapter Five

presents the empirical results and the analysis. The analysis of results starts with the presentation of descriptive statistics, the correlation analysis as well as the causality analysis. Also, the panel unit root and the co-integration tests are presented. The results of the estimated model are reported as well as the post diagnostic results. Finally, the findings are discussed and policy implications suggested. Chapter Six presents the summary of findings. Next, the recommendations of the study, contribution to knowledge and recommendations for further studies and lastly conclusion.

CHAPTER TWO

BACKGROUND TO THE STUDY

2.1 Introduction

This chapter presents a brief history of the formation of ECOWAS, the pattern and trends in trade openness, intra regional trade, as well as economic growth in the ECOWAS sub region.

2.2 Regional Economic Communities (Economic Community of West Africa States- ECOWAS)

The establishment of the CFA franc in 1945 brought together the French- speaking countries of the region into a single monetary union, via the agreement signed in 1965 by Côte dIvoire, Guinea, Liberia and Sierra Leone, for a West African economic union. The Economic Community of West African States (ECOWAS), by a treaty in Lagos was established on 28 May 1975 aimed at promoting economic growth through the integration of its 15 member countries. The countries made up of eleven developing and four emerging economies are linguistically made up of eight Francophone, five Anglophone and two Lusophone countries. For over four decades, regional integration remains a major aspiration with daunting institutional building and challenges to trade and desired economic transformation.

The ECOWAS faces several challenges that hinder its progress towards regional integration and development which include poor infrastructure, including transportation, energy and telecommunications, hinders trade and economic integration. Many ECOWAS

member states rely heavily on primary commodities, making them vulnerable to trade shock. ECOWAS also faces insecurity and conflict in some member states, such as Mali, Niger and Nigeria, pose a threat to regional stability. Limited data availability and quality hinder evidence-based decision –making.

The ECOWAS trade policy is developed along the line of boosting exports to member states as well as to the rest of the world. Imports into the region are therefore seen as complimentary to the exports of goods and services. External trade of ECOWAS is dominated by a number of products and generates local value added due to the preponderance of fuel coming from extractive industries. This represents three quarters (75%) of exports (excluding re-exports) and provided mainly by Nigeria (73%). Cocoa and cocoa food preparation (5% of exports), precious stones (3%) and cotton, edible fruit, rubber, plastics, wood and wood products, fish and shellfish (about 1% each), these form the major export product of the West African Economic Community.

In terms of ECOWAS exports, Europe accounts for about 28% with 23% for the European Union. The Americas account for 40%. Trade openness fostered by the development of South-South trade shows substantial breakthroughs of Asian countries and those of Oceania, capturing 16% of exports, with 0.3% for the near and Middle East. The regional exports are dominated by Nigeria and Cote di voire that carry between them 87% of these transactions. Nigeria provides 77% and Cote di voire 10%. For their part, Ghana and Senegal are placed third and fourth with 4% and 2% respectively while Mali, followed the traditional leaders with 1.7% of regional exports. Five countries (Benin, Burkina Faso, Guinea, Niger and Togo) each carry 1% of regional exports (ECOWAS, 2016).

As for regional commodities imports, they are dominated by about ten products. Fuel holds a leading position in this list and represents 24% of total imports. It is followed by motor vehicles, tractors, cycles and other vehicles, machinery, mechanical appliances and boilers, machinery and electrical appliances, cereals, plastic, works in iron and steel, iron, cast iron, steel, pharmaceuticals and fish and seafood's. As for exports, Nigeria appears to be dominated by making 41% of transactions against 18% of Ghana, 10% each for Senegal and Cote di voire. Hence, Nigeria and Ghana together perform 59% of the community imports against 36% for the eight countries of the West African Economic and Monetary Union (WAEMU). The other five countries of the (ECOWAS) member states realize only 5% of the community imports. To some extent, trade in services which ought to promote growth in West Africa is hampered by international, regulatory and infrastructural constraints.

In addition to the lack of visibility and data for the potentiality of the service sector at the regional level, various other internal and external constraints are undermining its competitiveness. The internal constraints consists of fiscal pressure, development of the informal sector, difficulty of access to credit and inadequacy of the financing mechanisms for the export of services, poor quality of performance, energy deficit, lack of transparency and good governance, execution of a substantial part of public contracts by foreign companies in many West African countries, inadequacy of service infrastructure, high cost of trade transactions etc.

There were also misgivings about the effects of intraregional trade liberalization on individual member countries' balance of payments and government revenue since most countries depended heavily on international trade taxes. The 1970s, 1980s and part of the

1990 were also periods of regional conflicts, political instability and weak governance, which did not speak well for regional integration. The revised ECOWAS treaty in 1993 was to move from intentions to defining strategies. This laid out the vision on trade and designed the ECOWAS trade liberalization scheme (ETLS) as a free trade area that will form the foundation for the development of a common market.

2.3 ECOWAS Trade Openness

ECOWAS trade openness showed a steady rise between 2001 and 2010 with an annual growth ratio of 53.1%. It showed a cyclical trend between 2010 and 2022 driven by regional economic integration initiatives. It shows a steady progress between 2011 and 2015 where the ratio was 46.5% in 2011 and decreased to 45.6% in 2015. It however faced some constraints such as non tariffs barriers (NTBs), regulatory differences and dependence on primary commodities (International Trade Centre – Trade Map, 2015). It increased from 43.8% in 2016 to 44.6% in 2022 and it was estimated to increase to 55.67% in 2023 (WDI, 2023) driven by ECOWAS regional integration strategy (RIS).

ECOWAS countries benefited from increased trade, particularly Ghana and Nigeria, which established a long run relationship between economic performance and trade openness. Fig. 2.1 and Table 2.1, trade openness indicator (total trade % of GDP) show that Cape Verde performed significantly better than the other countries in terms of openness of their economy, but nevertheless the performance of few others like Guinea, Ghana and Mali were also good. Intuition from the chart shows that there has been a differential in their trade openness performances in these countries. Also, the performance has not been consistent and upward over the years but has been fluctuating.

Table 2.1: Trade Openness Indicators for some selected ECOWAS countries

	1990	1995	2000	2005	2010	2015	2020	2023
Benin	45.72	63.80	47.35	39.10	51.43	56.75	44.82	51.35
B/ Faso	40.44	65.29	49.21	47.88	49.07	59.08	60.73	64.82
Cape Verde	85.95	77.52	87.52	104.34	85.54	94.30	78.39	94.73
Cote dI voire	58.80	76.20	54.96	62.02	67.47	52.72	42.02	52.0
Gambia	132	95	57	41.2	40.1	41.2	47.1	42.3
Ghana	42.73	57.42	116.05	98.17	75.37	76.52	66.57	69.03
Guinea	55.6	58.5	54.0	53.5	73.54	72.44	115.7	90.54
Mali	56.9	56.2	55.4	52.8	57.88	63.63	66.04	69.39
Niger	35.9	37.8	33.5	38.6	63.4	42.1	35.5	30.4
Nigeria	39.3	56.8	63.6	51.5	43.32	62.4	25.40	39.30
Senegal	49.8	50.9	48.68	55.7	52.45	58.11	60.04	71.0
Sierra Leone	68.69	45.03	57.53	46.87	32.77	42.36	30.61	55.86
Togo	60.0	68.4	48.81	56.1	65.85	68.20	55.54	61.42

Source: Author's Computation based on World Bank Development Indicator, 2025.

Examining trade openness indicators for each of the ECOWAS countries, Benin total trade to GDP between 1990 and 2000, show a steady rise from 45.72% in 1990 to 47.35% in 2000. Benin total trade to GDP as presented in Table 2.1, Benin total trade to GDP ratio has fluctuated between 2010 and 2023. In 2010, the ratio was approximately 51.43% and decreased to 44.83% in 2020 and then increase to 51.35% in 2023. The highest ratio was 65.26% in 2014 while the lowest ratio was 44.83% in 2020 which was due to the COVID-19 global pandemic.

Burkina Faso's total trade to GDP ratio fluctuated between 1990 and 2000 rising from 40.44% in 1990 to 49.21% in 35.12% in 2000. Between 2010 and 2023 it fluctuated as in 2010, the ratio was 49.07%, while in 2020 it was 60.73% and it further increased to 64.82% in 2023 (see Table 2.1). The highest ratio was in 2022 with 64.84% while the lowest ratio was in 2010 with a ratio of 49.07%.

Cape Verde's total trade to GDP ratio increased steadily between 1990 and 2005 from 85.95% in 1990 to 87.52% in 2010. Between 2010 and 2023 the indicator is relatively high, indicating a significant dependence on international trade and the ratio is influenced by factors such as changes in global trade patterns, tourism, and remittances. In 2010 the ratio was 85.54% and while in 2020 it decreased to 78.39% and in 2023 it increased to 94.73%. Cape Verde's highest ratio was in 2018 with 105.9% while the lowest was in 2021 with a ratio of 77.45%.

Cote dI voire total trade to GDP was 58.80% in 1990 and decreased to 54.96% in 2000 and increase to 67.47% in 2010. In 2020, the ratio was 42.02% and increased to 52.0%. Gambia in 1990 had astronomically high ratio of 132.0% and decreased to 57.0% in 2000 and further decline to 40.0% in 2010. In 2020 its ratio was 47% while it further declined to 42.0% in 2023.

Ghana's total trade to GDP ratio showed a significant increase between 1990 and 2000 as it was 42.73% in 1990 and rising to 116.05% in 2000. The ratio is influenced by factors such as changes in global trade patterns, commodity prices, and domestic economic policies. In 2010, the ratio was 75.37% and decreased to 63.85% in 2014 and increased to 76.52% in 2015. In 2019 the ratio was 76.82% and decreased to 66.57% in 2020 and a marginal increase to 69.03% in 2023. The highest trade to GDP ratio was in 2019 with 76.82% and the lowest is in 2021 with a ratio of 62.70%.

Guinea's trade to GDP ratio is relatively moderate but decrease from 55.6% in 1990 to 54.0% in 2000 influenced by factors such as changes in global trade patterns, commodity prices, and domestic economic policies. Guinea's economy has been diversifying, with a

growing services sector, which may have contributed to the fluctuations in the trade to GDP ratio. In 2010, the ratio was 73.54% and increase to 115.7% in 2020 but decreased to 90.54% in 2023. The highest trade to GDP ratio was in 2020 with a ratio of 115.7% while the lowest ratio was 72.44% in 2015.

Mali's total trade to GDP ratio increased steadily between 1990 and 2000 as it increased from 56.2% in 1990 to 56.9% in 2000. It has been relatively stable between 2010 and 2023 driven by its agricultural sector, mining industry, and trade with neighboring countries. In 2010, the trade to GDP ratio was 57.98% and increased to 66.04% in 2020 while it further increased to 69.39% in 2023. The highest trade to GDP ratio was 73.46% in 2022 while the lowest ratio was 53.95% in 2011.

The Niger total trade to GDP was 35.9% in 1990 and declined to 33.5% in 2000 and increased to 63.4% in 2010. In 2020 it was 35.5% while it decline to 30.4%. Niger trade to GDP ratio was 39.3% in 1990 while it increased to 63.6% in 2000. In 2010 it was 43.32% and significantly declined to 25.40% in 2020 but marginally increased to 29.30% in 2023.

Sierra Leone's trade to GDP ratio increased steadily from 60.69% in 1990 but declined to 57.53% in 2000. It has been relatively stable with some fluctuations between 2010 and 2023. The country's trade is heavily reliant on exports of iron ore, diamonds, and other minerals. The economy has been growing, but it remains vulnerable to external shocks, such as changes in global commodity prices. The trade to GDP ratio in 2010 was 32.77% and decreased to 30.61% in 2020 which is a result of COVID-19 global pandemic but increased to 55.86% in 2023. The highest trade to GDP ratio was 55.90% in 2013 while the lowest was 30.61% in 2020.

Senegal's total trade to GDP ratio increased from 49.8% in 1990 to 48.68% in 2000. The trade to GDP ratio has been relatively stable with some fluctuations between 2010 and 2023 driven by its strategic location, making it a hub for trade in West Africa. Senegal's economy has been growing, driven by sectors such as agriculture, fishing, and tourism. The trade to GDP ratio was 52.45% in 2010 and increased to 60.04% in 2020 while it further increased to 71.0% in 2023. The highest trade to GDP ratio was 80.03% in 2022 while the lowest trade to GDP was 52.45% in 2010.

Togo's total trade to GDP ratio in 1990 was 60.0% increased steadily but decreased to 48.81% and has fluctuated between 2010 and 2023. The country's trade is diversified, with major exports including cement, cotton, phosphates, and its strategic location, making it a hub for trade in West Africa. Its economy has been growing, driven by investments in infrastructure, agriculture, industry and services. The trade to GDP ratio was 65.85% in 2010 and decreased to 55.54% in 2020 but increased to 61.42% in 2023. The highest trade to GDP ratio was 80.99% in 2013 while the lowest trade to GDP ratio was 55.54% in 2020 (see Table 2.1).

2.4 Regional Intra - Trade Performance

2.4.1 ECOWAS Intra-Regional Trade Performance with other African Regional Communities

Regional trade refers to the exchange of goods and services within a specific geographical region, such as a continent, economic community, or free trade area. It is organized to increase economic integration, improved market access, enhanced competitiveness etc. ECOWAS is one regional economic community that is recognized in Africa. It is

important to examine ECOWAS intra – regional trade performance vis-à-vis other RECs in sub-Saharan Africa, such as the Southern African Development Community (SADC), East African Community (EAC), Community of Sahel-Saharan states (CEN-SAD), and Common Market for Eastern and Southern Africa (COMESA).

The Southern African Development Community (SADC) intra Africa trade was $3.1 billion in 1990 and experienced significant growth as its intra SADC increased from $4.3 billion in 2000 to $28.2 billion in 2010 and its share of intra SADC trade in total trade rose from 12.1% in 2000 to 20.5% in 2010. This is driven by agricultural products and manufacturing particularly in textiles, food processing, and machinery. In the period, it faced infrastructural constraints, particularly in transport and energy, non tariff barriers and limited economic diversification and dependence on primary commodities.

Southern African Development Community (SADC) maintained its position as the leading intra-African trading nation between 2010 and 2023. In 2010 the country's intra-Africa trade was US$28.2 billion while it increased to US$55.9 billion in 2015. In It was US$61.7 billion in 2020 which resulted from the COVID-19 pandemic lockdown but significantly increased to US$79.5 billion in 2023 (see Table 2.2). This was largely due to the rebound in oil prices, which accounted for the lion’s share of Southern Africa’s imports from the rest of the continent. Southern African Development Community accounted for 21.5% of total intra-African trade in 2022, compared with 20.2% in 2021 (Afrexim bank, 2022). Intra-African trade increased by 7.2% in 2023, reaching $192 billion, with the Southern African Development Community driving 41.4% of this trade (African Trade Report, 2024). While Africa is an important source of Southern Africa’s imports, accounting for 11.8% of the country’s total imports in 2022, the continent is an even more important

export destination for Southern Africa. During the review period, Africa was the destination of more than 27% of total Southern African exports. South Africa's main African destination markets are the countries of the Southern African Customs Union and the Southern African Development Community. Mozambique is South Africa's largest bilateral trade partner within the region, followed by Botswana, Namibia, Zimbabwe, and Zambia (Afrexim bank, 2022).

The Common Market for Eastern and Southern Africa (COMESA) is one of the key regional Economic Communities (RECs) considered as building blocks in Africa trade. COMESA's intra Africa trade in 1990 was $1.2 billion and was $3.0 billion in 2000. It experienced moderate growth, driven by regional integration efforts and trade liberalization. The share of intra COMESA trade in total trade rose from 6.8% in 2000 to 10.9% in 2010. The COMESA creates a large market for member states to exchange goods and services and enhance regional value chains. Statistics indicate that approximately 16 member states out of the 21 member states are responsible for about 27% of COMESA's trade while the remainder is carried out by members involved in multiple RECs (UNCTAD, 2018). Intra Africa trade value by COMESA is lower than that of SADC and ECOWAS but higher than the EAC and CEN-SAD but fluctuates between 2010 and 2022, and this fluctuation could be attributed to the global economic challenges.

In 2010, COMESA intra Africa trade value was US$12.2 billion and grew gradually to US$28.7 billion in 2015 and to US$35.8 billion in 2019 but then fell to US$31.3 billion in 2020. The fluctuation during this period could be attributed to the global COVID-19 pandemic and followed by a decrease to US$28.8 billion in 2023 (see Table 2.2). The Common Market for Eastern and Southern Africa accounted for 13.4% of total intra-

African trade in 2022, compared with 18.2% in 2021 (WITS, 2023). However, intra-African trade increased by 7.2% in 2023, reaching $192 billion, and COMESA accounted for 15% of Africa's total trade (Africa trade report, 2024). The paradox in intra African trade is that the lowering of tariffs does not often translate into increased intra regional trade. According to UNCTAD (2018), removal of tariff and non tariff barriers to trade accompanied by enhancement in trade facilitation measures would result in a 22% increase in intra African trade. According to (International Trade Centre-Trade Map, 2020), COMESA's top 5 exports to Africa included Tobacco and tobacco substitutes, ores, slag and ash, essential oils and resinous, sugar and sugar confectionary.

The Eastern Africa Community (EAC) is one of the most integrated regional economic communities in Africa. It functions as a customs union with most goods and services being exchanged duty free between member states and having a common external tariff with third countries. People, goods, services and capital can move freely within the shared market. The East African Community (EAC) is dedicated to enhancing economic efficiency and fostering regional integration through strategic investments and the utilization of established industries. The goal is to position the community as a single investment area, harmonizing trade policies, investment incentives, and product standards.

The East African Community (EAC) has made relative contributions to intra-African trade was $0.28 billion in 1990 while it was $0.68 billion in 2000. In 2010 its share of intra EAC trade in total trade rose from 13.4% in 2005 to 20.6% in 2010. It however, faces a tariff barrier, such as bureaucratic and corruption, infrastructural constraints, particularly in transportation and energy and limited economic diversification and dependence on primary commodities (WITS, 2011). Between 2010 and 2023 Table 2.2 shows that in 2010, the

value of intra - African trade was US$4.70 billion and gradually increased to US$10.85 billion in 2015 and to US$13.64 billion in 2020. Its intra –Africa trade value however, stood at US$27.09 billion in 2023, as this growth could be attributed to increased production of agricultural commodities leading to high exports that are traded among the partner states especially maize, rice and dairy products; elimination of non tariff barriers. The East Africa Community accounted for 13.2% of total intra-African trade in 2022, compared with 12.1% in 2021 (WITS, 2023). The East African Community's (EAC) intra-Africa trade share has been growing steadily between 2020 and 2023. Intra-EAC trade rose by 13.1% to $12.1 billion in 2023 up from $10.7 billion in 2020, hence accounting for 14.1% of the EAC's total trade.

The Community of Sahel-Saharan States (CEN-SAD) has played a role in promoting intra-African trade between 2000 and 2022. It has implemented various regional integration initiatives, including the establishment of a free trade area, the construction of roads, railways, and ports to improve connectivity and to facilitate trade and investment within the region. CEN-SAD's intra-African trade is dominated by agricultural products, including cotton, livestock, and cereals.

The Community of Sahel-Saharan States (CEN-SAD) contribution to intra-African trade between 2000 and 2022 is lowest among the regional economic community reviewed and fluctuates during the period. Between 2000 and 2010, the share of intra-CEN-SAD trade in total trade rose from 2.5% in 2000 to 4.2% in 2010. In 1990 the value of intra-Africa trade was nil as it was not formed yet. In 2010, the value of intra - African trade was US$2.6 billion and gradually increased to US$8.4 billion in 2015 and to US$10.2 billion in 2020. Its intra –Africa trade value however, stood at US$14.9 billion in 2023, as this growth

could be attributed to increased production of agricultural commodities leading to high exports that are traded among the partner states including cotton, livestock, and cereals. The Community of Sahel-Saharan States (CEN-SAD) accounted for 13.2% of total intra-African trade in 2022, compared with 12.1% in 2021 (WITS, 2023). However, CEN-SAD‘s intra-Africa trade share in 2023 declined to 7.77% of its total trade. This indicates that a significant portion of CEN-SAD’s trade is with external partners rather than within African continents.

Overall, CEN-SAD’s contribution to intra-African trade has been growing, driven by its commitment to regional integration, trade facilitation, and infrastructure development. However, the region still faces significant challenges, including limited economic diversification, infrastructure deficits, and non-tariff barriers.

Similar to other economic communities in the continent, the ECOWAS region has made significant contributions to intra-African trade between 2000 and 2022. The region has been promoting intra-African trade through various initiatives, including the ECOWAS Trade Liberalization Scheme (ETLS), the Common External Tariff (CET) to facilitate trade and economic integration among member states, African Continental Free Trade Area (AfCFTA) which is expected to increase intra-African trade by reducing tariffs and non-tariff barriers among African countries. Despite progress in reducing tariffs, non-tariff barriers (NTBs) remain a significant challenge to intra regional trade in ECOWAS.

The Economic Community of West African States (ECOWAS) contribution to intra-African trade was $1.2 billion in 1990 and increased from $2.5 billion in 2000 to $18.7 billion in 2010 and the share of intra ECOWAS trade in total trade rose from 9.5% in 2000

to 15.6% in 2010. Agricultural products dominate intra ECOWAS trade while manufacturing in textiles, food processing and manufacturing showed significant growth in the period. Between 2010 and 2022, its intra Africa trade has been growing with some fluctuations. In 2010, the value of ECOWAS intra - African trade was US$18.7 billion and gradually increased to US$44.3 billion in 2015 and an increase to US$48.3 billion in 2020 (see Table 2.2). It intra –Africa trade value however, stood at US$49.3 billion in 2023, as this growth could be attributed to increase production of diverse items including natural resources especially crude petroleum oils, unwrought non monetary gold, liquefied natural gas, and agricultural commodities leading to high exports that are traded among the partner states. The Economic Community of West African States (ECOWAS) accounted for 18.2% of total intra-African trade in 2022, compared with 17.1% in 2021 (WITS, 2023). ECOWAS's intra-Africa trade share in 2023 accounted for 25.7% of total intra-African trade. This indicates that ECOWAS member states played a significant role in intra-African trade in 2023.

Table 2.2 present intra-African trades of ECOWAS compared to other RECs in Africa. It however, revealed that ECOWAS intra-regional trade has experienced fluctuations over the years. The intra-regional trade value increased from $18.7 billion in 2010 to $44.3 billion in 2015, and to $48.3 billion in 2020 and finally, a significant increase to $49.3 billion in 2023. However, its increase has been very slow compared to that of SADC, resulting from global economic challenges. This is explained by the wider gap between SADC and ECOWAS when it had $40.1 billion an average intra-regional trade value between 2015 and 2020 and $55.0 billion between 2020 and 2023. SADC had $60.3 billion between 2015 and 2020 and $72.8 billion between 2020 and 2023 (WITS, OEC, 2023). In

2023, SADC had $79.5 billion intra-Africa trade share while ECOWAS had $49.3 billion in the same year. Apparently, the value of ECOWAS intra-African trade is lower than that of SADC, but higher than that of EAC, COMESA, and CEN-SAD.

Table 2.2: Total intra regional trade value ($b), ECOWAS and other African RECs

Year/country	ECOWAS ($b)	EAC ($)	COMESA ($b)	CEN-SAD ($b)	SADC ($b)
1990	1.2	0.28	1.2	Nil	4.5
1995	1.8	0.41	2.1	Nil	6.7
2000	2.8	0.62	3.0	1.4	8.10
2005	3.8	1.28	8.17	1.9	15.18
2010	18.7	4.70	12.2	2.6	28.2
2015	44.3	10.85	28.7	8.4	55.9
2020	48.3	13.64	31.3	10.2	61.7
2023	49.3	27.09	28.8	14.9	79.5

Source: Computation based on WITS, OEC, 2023

2.4.2 ECOWAS Countries Intra-Regional Trade

In examining the contributions of each of the ECOWAS countries to its intra-regional trade presented in Table 2.3, the share of ECOWAS countries to intra-regional trade between 2010 and 2023 shows that Benin intra trade dynamics are influenced by its membership in the West African Economic and Monetary Union (WAEMU) and the ECOWAS. Regional integration and informal trade are crucial aspects of the Benin trade landscape (WITS, 2023). The intra ECOWAS trade of Benin in 1990 was 1.4% while it increased to 1.9% in 1995 and further increased to 2.8% in 2000. The intra trade share exhibited a steady and sustained rise from 5.7% in 2010 to 7.7% in 2015 and to 10.8% in 2020 (see table 2.3). While it declined to 4.93% in 2023. Benin's intra ECOWAS trade comprises agriculture which contributes 44.75% of total intra ECOWAS trade while manufactured goods

contribute 32.1%, mineral products contribution is 14.2%. Its top intra ECOWAS trade partners are Nigeria (38.2%), Togo (22.1%) and Ghana (14.5%) in 2022 (OEC, 2023).

Burkina Faso intra ECOWAS trade in 1990 was 2.6% while it increased to 4.8% in 1995 and again increased to 5.9% in 2000. Between 2010 and 2023 showed an increased trend from 9.6% in 2010 to 13.6% in 2015 and then fell to 8.5% in 2020. Burkina Faso intra ECOWAS trade share declined to 3.59% in 2023. Its highest contributors to intra ECOWAS trade in 2022 are agriculture which contributes 53.4%, manufactured goods (26.3%) and mineral products (12.5%). However, its top intra ECOWAS trade partners are Mali (34.1%), Cote di voire (23.4%) and Ghana (15.6%), this is influenced by the closeness of the country with them (OEC, 2022).

Cape Verde intra ECOWAS trade in 1990 was 0.5% and rose to 0.9% in 1995 and later increased to 1.2% in 2000. It steadily increased between 2010 and 2023 from 2.1% in 2010 to 3.1% in 2015 and further increased to 4.9% in 2020. Its intra ECOWAS trade share significantly declined to 0.87% in 2023. The location and economic integration into the ECOWAS have fostered trade relationships. The country's trade performance has been influenced by global economic trends, regional integration efforts, and domestic policy reforms. Cape Verde highest contribution to intra ECOWAS trade are Fish (51.2%), refined products (40.6%), footwear (15.9%) while it top intra ECOWAS trade partners are Senegal (38.5%), Nigeria (34.2%), and Guinea Bissau which contributed 26.9% (OEC, 2023).

Cote di voire intra ECOWAS trade in 1990 was 7.21% and increased to 13.43% in 1995 while it further increased to 15.34% in 2000. It steadily increased between 2010 and 2023

from 20.3% in 2010 to 26.3% in 2020 but declined to 14.79% in 2023 (see Table 2.3). The intra ECOWAS trade is influenced by key factors such as emerging manufacturing sector, particularly textiles and food processing, agricultural products such as Cocoa, Coffee and Cashew exports drive intra ECOWAS trade and ECOWAS membership and regional trade agreements such as ECOWAS Trade Liberalization Scheme (ETLS), ECOWAS Common External Tariff (CET). Geographic location in West Africa facilitates trade with neighboring countries. Its top intra ECOWAS trade partners include Nigeria which contributes 30.6% to its intra trade, Ghana (18.5%) and Mali (14.5%).

Gambia intra ECOWAS trade in 1990 was 1.3% while in 1995 it was 2.5% and further increased to 3.1% in 2000. It increased gradually between 2010 and 2023 from 4.3% in 2010 to 9.6% in 2020. The Gambia intra ECOWAS trade declined to 0.63% in 2023. The Gambia intra ECOWAS trade performance has been shaped by its economic integration into ECOWAS and country geographic location and historic ties with Senegal influenced its trade relationships. Its intra trade is dominated by Peanuts which contribute (44.8%), Petroleum (40.6%), and Fish (26.9%), while its top intra trade partners are Senegal (40.8%), Nigeria (34.2%) and Guinea Bissau which contributed 26.5% (ODI, 2023).

Ghana intra ECOWAS trade was 1.6% in 1990 while it increased to 2.5% in 1995 and also increased to 3.8% in 2000. It steadily increased between 2010 and 2023 from 6.09% in 2010 to 19.2% in 2020. Ghana intra ECOWAS trade was 14.91% in 2023. Its intra trade performance is attributed to Gold contribution of 44.8%, oil (23.9%) and Cocoa (16.3%) in 2022 while its top intra ECOWAS trade partners are Nigeria (34.6%), Cote di voire (24.5%) and Togo (14.2%) in 2022 (OEC, 2023).

Guinea intra ECOWAS trade in 1990 was 0.6% while it was 1.4% in 1995 but increased again to 1.8% in 2000. Between 2010 and 2023 it rose steadily but not very encouraging. In 2010 intra ECOWAS trade share was 2.97% which rose to 3.57% in 2015 and to 33.64% in 2020 (see table 2.3). The intra ECOWAS trade was 3.19% in 2023. Its intra ECOWAS trade is influenced by economic, political and infrastructural factors. The economic factors include the growing demand for goods and services which attract regional trade, the demand for its natural resources like bauxite, iron ore, gold which drive exports. The political factors include promotion of regional integration and cooperation which enhances its intra regional trade, its trade policies such as tariffs and non tariffs barriers, influence regional trade flows coupled with bilateral agreements with neighboring countries (Mali, Cote di voire) facilitate trade. While the infrastructural factors include the transportation networks such as seaports, airport in Conakry, road network facilitate trade and efficient border management and customs procedures reduce trade costs. Guinea's top intra ECOWAS trade partners are Nigeria which contribute 31%, Mali (23%) and Cote di voire 19% (WITS, 2023).

Mali intra ECOWAS trade was 1.45% in 1990 while it increased to 2.67% in 1995 and further increased to 3.58% in 2000. Between 2010 and 2023 increased from 6.28% in 2010 to 8.32% in 2015 and steadily increased to 9.3% in 2020. Mali intra ECOWAS trade declined to 5.47% in 2023. The intra trade is facilitated by its location in West Africa which facilitates trade with neighboring countries. Also Mali cotton industry, gold mining attract foreign investment and boost trade and infrastructure development (roads, ports) enhance trade facilitation. Mali's top intra ECOWAS trade partners include Nigeria which

contributes 30.4% to its intra trade, Cote di voire (24.5%) and Ghana (19.2%). Mali's security challenges have posed disruption to its intra regional trade.

The intra ECOWAS trade of Niger was 1.7% in 1990 while it increased to 2.4% in 1995 while it further increased to 3.6% in 2000. Between 2010 and 2023 is also very low as it was 5.0% in 2010 and rose to 6.9% in 2015 and to 8.1% in 2020. The intra ECOWAS trade was 2.15% in 2023 (see Table 2.3). The intra trade is influenced by its agricultural production, specifically cotton and livestock, mining of uranium and gold attract foreign investment and drive export to regional markets. Niger has experienced security concerns (terrorism) in the Sahel region, poor roads conditions, inadequate storage facilities and inefficient border management, corruption and dependence on very few products (Uranium and Cotton) make it vulnerable to price fluctuation. Its top intra trade partners include Nigeria which contributes 41.2% of intra trade, Benin (23.4%) and Burkina Faso (14.5%). However, there are opportunities for expanding intra trade through other sectors such as manufacturing and services.

Nigeria appears to have recorded the highest contribution to intra-ECOWAS trade as it share was 21.5% in 1990 while in 1995 it was 25.7% and late increased to 29.8% in 2000. Between 2010 and 2023 from 37.4% in 2010 and steadily rose to 42.9% in 2015 and to 48.7% in 2020. (see table 2.3). Nigeria intra ECOWAS trade increased to 68.9% in 2023. The dynamics of Nigeria intra trade performance has been influenced by various factors, including market access conditions and non tariff barriers and bilateral non oil trade with other ECOWAS members, such as Ghana has increased significantly. Nigeria intra trade products include Petroleum oil which contributes 24.5%, Natural gas (13.1%) and crude oil (10.8%) while the top intra trade partners includes Ghana which contributes 34.6% to intra

trade, Benin 17.6%) and Cote di voire 15.7%). Its participation in regional trade agreements such as ECOWAS Trade Liberalization Scheme (ETLS), and African Continental Free Trade Area (AfCFTA) has enhanced its regional trade.

Senegal intra ECOWAS trade in 1995 was 3.6% while it increased to 4.3% in 1995 and further increased to 5.6% in 2000. Between 2010 and 2023 experienced a significant increase from 7.3% in 2010 to 9.0% in 2015 and to 11.4% in 2020 (see table 2.4). The intra ECOWAS trade share declined to 7.74% in 2023. Its top intra trade partners includes Nigeria which contributed 30.4% to its intra trade while Cote dI voire contributed 24.5% and Ghana contributed 17.3% and its top intra trade products includes agricultural products that contribute 43.2%, food products (24.5%) and chemicals (14.2%). The country's intra trade is influenced by agricultural products, regional trade agreements such as ECOWAS Trade Liberalization Scheme (ETLS), West African Monetary Zone (WAMZ) and African Continental Free Trade Area (AfCFTA) which further enhance its intra regional trade (OEC, 2023).

The intra ECOWAS trade of Sierra Leone was 0.7% in 1990 and increased to 1.4% in 1995 and later increased to 1.8% in 2000. Between 2010 and 2023 was sluggish from 2.6% in 2010 to 3.6% in 2015 and to 5.1% in 2020 (see table 2.3). In 2023 it ECOWAS intra trade share declined to 1.97%. The top intra trade products includes minerals which contributes 63.2%, agricultural products (21.5%) and food products (12.1%) while its top intra trade partners includes Nigeria that contributes 34.6% to intra ECOWAS trade, Guinea (23.4%) and Liberia (17.1%). The intra trade is influenced by its location which enables it to carry out intra trade among the neighbors.

Togo intra ECOWAS trade in 1990 was 1.6% and increased to 2.4% in 1995 while in year 2000 it grew to 3.8%. Between 2010 and 2023 was also low compared to Benin, Ghana and Nigeria that are close neighbors. Its intra trade share was 5.0% in 2010 which rose to 6.9% in 2015 and to 9.2% in 2020 and declined to 2.95% in 2023 (see table 2.3). Togo intra ECOWAS trade was 2.95% in 2023. Its intra trade is primarily driven by its strategic location along the West African coast. The country serves as a critical transit point for regional trade with its port being one of the busiest in the ECOWAS. Togo's main intra ECOWAS trade partners include Nigeria, Ghana and Benin while its top intra trade products are refined petroleum, crude petroleum, palm oil and electricity. Despite growth opportunities, Togo faces challenges in its trade relationship, including uneven benefits from trade agreements. To address this, the country needs to diversify trade partnership and improve regional infrastructure.

Table 2.3: ECOWAS countries % Share of ECOWAS intra trade

	1990	1995	2000	2005	2010	2015	2020	2023
Benin	1.4	1.9	2.8	3.7	5.7	7.7	10.8	4.9
B/Faso	2.6	4.8	5.9	7.2	9.6	13.7	8.5	3.59
Cape Verde	0.5	0.9	1.2	1.8	2.1	3.1	4.9	0.87
Gambia	1.3	2.5	3.1	3.9	4.3	6.3	9.6	0.63
Ghana	1.6	2.5	3.8	5.4	6.09	7.19	19.2	14.91
Guinea	0.6	1.4	1.8	2.1	2.97	3.57	3.64	3.19
Cote dI voire	7.21	13.43	15.34	18.54	20.3	24.3	26.3	14.79
Mali	1.45	2.67	3.58	4.69	6.38	8.32	9.3	5.47
Niger	1.7	2.4	3.6	4.3	5.0	6.9	8.1	2.15
Nigeria	21.5	25.7	29.8	34.5	37.4	42.9	48.7	68.9
Senegal	3.6	4.3	5.6	6.1	7.3	9.0	11.4	7.74
S/Leon	0.7	1.4	1.8	2.3	2.6	3.6	5.1	1.97
Togo	1.6	2.4	3.8	4.4	5.0	6.9	9.2	2.95

Source: Author's Computation from ODI, 2023; WITS, 2023

2.5 Economic Growth Rate in Africa: Regional Overview

The regional overviews of economic growth rate in Africa show that the Eastern Africa economic growth between 1990 and 2005 was a mixed bag. During this period, the region's economic performance was influenced by various factors, including trade integration, financial market development, and economic reforms. During this period Kenya real GDP grew at an annual average rate of 2.2%. Uganda experienced more robust growth, with its real GDP growing at an annual average rate of 6.8% while Tanzania also showed moderate growth, with its real GDP growing at an annual average rate of 3.1%.

The Eastern Africa experienced significant growth between 2010 and 2022, driven by various factors such as infrastructure development, improved agricultural productivity, and a growing services sector. The region's average GDP growth rate was around 5-6% during this period, with some countries like Ethiopia having an average GDP growth rate of between 8-10% between 2010 and 2022 while Kenya had average growth rate around 5-6% between 2010 and 2022. However, in 2020 the region's GDP growth rate was -1.97% which was due to the COVID-19 pandemic but rebound to 3.66% in 2022 from 4.26% in 2021. Between 2022 and 2023, the economic growth was marked by resilience and promise as the region faces several challenges, including inflation, debt vulnerabilities, and climate change.

Northern Africa's economic growth between 1990 and 2005 was significant, driven mainly by its large oil and gas deposits. The region's GDP increased by 151.1% from $358 billion in 1990 to $900.3 billion in 2019. The North Africa's economy experienced fluctuation between 2010 and 2022. The region's GDP growth rate was inconsistent, with an average annual growth rate of around 3-4% during this period. The region's GDP growth rate

peaked at 5.75% in 2022 from 4.02% in 2020. The growth was driven by robust domestic demand and a rebound in stagnated demand from Europe, the region's largest external trade partner. In the region, Egypt's economy experienced steady growth, with GDP growth rates averaging around 5-6% between 2010 and 2022 while Morocco's economy experienced moderate growth, with GDP growth rate averaging around 3-4% between 2010 and 2022. Overall, Northern Africa's economy faced significant challenges between 2010 and 2022, including the COVID-19 pandemic, inflation, and current account deficits. Between 2022 and 2023, the economic growth was moderate, with a growth rate of 4.1% in 2022 to 4.6% in 2023 (WDI, 2024).

The ECOWAS economic growth between 1990 and 2005 was marked by significant challenges. The region faces wars and instability, which hindered economic development. The ECOWAS's economy experienced fluctuation between 2010 and 2022. The region has an average annual GDP growth rate of around 3-4% during this period. The region's GDP growth rate peaked at 6.7% in 2010 while in 2020 it declined to -1.4% due to the COVID-19 pandemic. In 2022 the GDP growth rate was 3.1% from 4.1% in 2021 (WDI, 2024). Country specific performance saw Nigeria's economy, the largest economy in the region, experienced significant fluctuations, with GDP growth rates ranging from 6.7% in 2010 to -1.4% in 2020 while Ghana's economy experienced steady growth, with GDP growth rates averaging around 6-7% between 2010 and 2022. The ECOWAS economy faced significant challenges between 2010 and 2022, including the COVID-19 pandemic, inflation and current account deficits. ECOWAS economic growth between 2022 and 2023 showed a moderate increase, in 2023, the region's total exports reached $167 billion, with a

significant portion coming from gold ($50.5 billion), crude petroleum ($49.7 billion), and petroleum gas ($8.6 billion).

Central Africa's economic growth between 1990 and 2005 was slow and uneven. The region's GDP growth rate averaged around 2.1% per annum from 1990 to 2000.From 2000 to 2005, the GDP growth rate accelerated slightly, averaging around 3.4% per annum. Agriculture and oil and gas are the major contributors to the growth of the GDP. The region faced significant challenges, including political instability, corruption, high debt burden, limited economic diversification etc. Country specific growth rate varied with Angola having a growth of 3.2% between 1990 and 2000 and 10.4% between 2000 and 2005. Cameroon had 2.1% growth between 1990 and 2000 and 3.5% between 2000 and 2005. Republic of Congo growth was 2.5% between 1990 and 2000 and 5.1% between 2000 and 2005. Democratic Republic of Congo growth rate was -2.1% between 1990 and 2000 and 5.5% between 2000 and 2005.

The Central African economy experienced significant challenges between 2010 and 2022. The region's economic growth was impacted by various factors, including commodity price fluctuations, security concerns and climate change. The GDP growth was volatile, with a peak of 5.26% in 2010 and declined to -2.07% in 2020 due to the global pandemic, floods and fuel shortages and increased to 3.44% in 2022 from 4.14% in 2021. The region's economy is heavily reliant on commodity exports, with fuels, especially oil, accounting for approximately 70.8% of total exports in 2021. Between 2022 and 2023, the region's growth was marked by resilience and is expected to continue with a projected growth rate of 4.9% in 2023 (WDI, 2004).

Southern Africa's economic growth between 1990 and 2005 was marked by significant transformation and progress. The Southern Africa's regional economy experienced fluctuation between 2010 and 2022. The economic growth rate was inconsistent, with a peak of 4.7% in 2021 and a low of -5.96% in 2020. The average annual growth rate between 2010 and 2022 was around 1.5%. The Southern Africa regional economic situation deteriorated in 2019, with several economies in the region experiencing economic recession amid serious economic challenges such as; weak investment, high unemployment, energy shortages and bad climatic/weather conditions. However, the region shows resilience in the face of challenges, but it needs to address structural issues to achieve sustained growth and development. The economic growth between 2022 and 2023 was relatively slow as its growth rate for 2023 was 0.6%, a 1.31% decline from 2022 (WDI, 2024).

2.5.1 Gross Domestic Product per Capita in some ECOWAS Countries

Countries in the ECOWAS sub region's economies have been performing at a very low rate over the year which is a source of concern to economic analysts within the region and the various governments. The region is portrayed to be having high poverty rate, low human development index, low level of income and hence low savings rate coupled with low level of standard of living/GDP per capita growth rate. The nominal GDP per capita of ECOWAS was $535 in 2005 while in 2010 it rose to $784 driven principally by high global commodity prices, regional trade reforms that saw an increase in the gross domestic product. In 2015, the nominal GDP increased to $1,074 driven by economic diversification, strong agricultural performance. However, challenges persisted, including dependence on

primary commodities and infrastructure constraint (African Development Bank-African Economic Outlook, 2016).

Table 2.4 show absolute values of GDP per capita for some selected countries in the ECOWAS sub region. The GDP per capita has been abysmally and atrociously low and not encouraging except for some countries such as Ghana, Cape Verde and Nigeria that show some significant difference over time. The other countries were not encouraging and have been consistently low with marginal increase and in some cases decrease in the period. It also shows that there has been differential growth in the ECOWAS region and the pattern over the years has been diminishing and in some cases constant. The low GDP per capita is driven by plethora of factors such as monetary and exchange rate policy distortions, increase trade protection, dependence on primary commodities for exports which lead to fluctuation in gross domestic product (GDP) due to changes in global market prices, limited economic diversification and external shocks such as COVID-19 pandemic, corruption, political instability, weaken economic fundamentals leading to high inflation, dependence heavily on foreign aid which can create dependency and hinder economic growth (World Bank, 2023).

The GDP per capita for ECOWAS by country from Table 2.4 showed that Cape Verde, Ghana and Nigeria had a different overtime in their GDP per capita. The other countries were not so encouraging. The intractable difficult situation is making it difficult to achieve the requirement for the Millennium development goals (MDGs) of reducing extreme poverty and hunger.

Table 2.4: GDP Per Capita of some selected ECOWAS Countries in US dollar ($)

	1990	1995	2000	2005	2010	2015	2020	2023
Benin	393.69	367.39	512.67	822.79	804.7	1,031.6	3.316.9	6.35
B/ Faso	372.89	341.18	475.88	612.49	972.18	699.08	1,047.12	1,184.37
Cape Verde	957.37	1,278.16	1,399.09	3,090.99	3,818.60	3,560.70	3,646.83	4,912.82
Côte d'Ivoire	905.32	774.67	1,007.47	1,309.59	1,296	1,731	2,054.77	2,302.79
Gambia	305.45	633.23	545.38	670.69	488	657.24	717.35	857.86
Ghana	407.19	361.50	485.88	870.09	1,318	2,206	2,274.57	2,328.97
Guinea	411.12	380.05	413.28	497.29	667	756	1,008.69	1,542.76
Mali	278.84	288.93	391.43	483.96	691	876	863.78	957.55
Niger	376.27	235.28	192.78	315.68	474.48	485.54	579.58	621.04
Nigeria	621.48	1,122.82	579.70	1,178.06	2,070	2,020	4,916.7	2,184.34
S/Leone	274.38	326.74	227.30	322.08	670.77	959.19	844.46	756.52
Senegal	717.64	613.52	701.50	1,045.47	1,044	1,357	3,320.7	1690
Togo	674.13	473.53	421.06	564.09	705.56	751.13	864.72	1,043.38

Source: Author's computation from IMF World economic outlook database (2023).

Table 2.5 GDP per capita growth rate (annual %), shows that Benin GDP per capital growth rate was 3.71% in 1990 but decreased to 2.69% in 2000 and a further decrease to -4.9% in 2010. In 2020 it was 0.95% while it increased to 6.35% in 2023. The economy experienced significant fluctuation with notable dips in 2010.

Burkina Faso GDP per capita growth rate experienced significant fluctuations as it was -3.21% in 1990 while it increased to 2.69% in 2000 and a decrease to -4.9% in 2010. The GDP per capital growth rate was -0.77% in 2020 but significantly rose to 2.96% in 2023. The economy experienced serious challenges during this period such as the global COVID-19 pandemic.

The Cape Verde GDP per capita growth rate experienced significant fluctuations as in 1990 it was 2.21% with notable increase to 11.64% in 2000 and a decline to 6.45% in 2010. It experiences a notable dip of -6.0% in 2020 which is attributed to the global pandemic that contracted the gross domestic product while it increased to 11.27% in 2023.

The Cote dI voire GDP per capita growth rate in 1990 was -3.07% and -2.82% in 2000 it increased to 3.8% in 2010 and dip to –0.78% in 2020 but in 2023 the GDP per capita growth rate significantly increased to 20.8% (see table 2.5).

The Gambia GDP per capita growth rate in 1990 was -0.77% while it increased to 2.25% in 2000 but decreased to 2.59% in 2010 It however, experienced notable dips in 2020 with GDP per capita growth rate of -1.95% which was due to the COVID-19 pandemic. In 2023 the GDP per capita growth rate was 4.97%.

Ghana GDP per capita growth rate in 1990 was 0.53% while it increased to 1.13% in 2000 and a significant increase to 7.7% in 2010. The sectors that drove the growth were improvement in Agriculture, mining, oil and gas. In 2020 the growth rate was -1.54% which resulted from the COVID-19 pandemic and in 2023 the GDP per capita growth rate increase marginally to 0.89%.

Guinea GDP per capita growth rate fluctuates between 1990 and 2023 and was 1.29% in 1990 and 0.19% in 2000 but declined to -0.44% in 2010. In 2020 it was 2.31% while the GDP per capita growth rate significantly increased to 9.82% in 2023. The growth rates indicate that Guinea's economy experienced varying levels of expansion and contraction during this period.

Mali's GDP per capita growth rate experienced significant fluctuations and experienced various levels of expansion and contractions. In 1990 it was 0.80% but decreased to -2.54% in 2000 but increased to 5.31% in 2010 while in 2020 it recorded -4.3% which results from the global pandemic. In 2023 the GDP per capita growth rate increased to 5.24%.

Niger GDP per capita growth rate experienced significant fluctuation as it had a growth rate of -4.81% in 1990 but declined to -4.05% in 2000 and further decreased to -14.2% in 2010. It however, increased to negative 0.24% in 2020 but rebound back to 2.50% in 2023.

Nigeria GDP per capita growth rate was 3.89% in 1990 and significantly decreased to 2.24% in 2000 and increased to 4.66% in 2010. It decline to -4.16% in 2020 but marginally increased to 1.18% in 2023. The growth rate experienced varying levels of expansion and contraction during this period.

Sierra Leone GDP per capita growth rate fluctuates significantly and shows that the economy experienced varying levels of expansion and contraction during this period. It steadily decreased from 4.79% in 1990 to 3.81% in 2000 and to 3.65% in 2010. It further fell to -4.2% in 2020 and marginally rebound back to 3.43% in 2023.

The GDP per capita growth rate of Senegal was -1.30% in 1990 and increased to 2.10% in 2000 and a further increase to 4.3% in 2010. It declined to -1.34% in 2020 but declined again to -2.19% in 2023. The growth rate indicates that Senegalese economy steadily expands during the period and that the economy is driven by key sectors such as agriculture, manufacturing (textiles, processing) and services (tourism, finance).

Togo GDP per capita growth rate was 3.37% in 1990 and deceased to -3.70% in 2000 but increased to 2.9% in 2010 while it slipped into -0.43% in 2020 and significantly increased to 9.72% in 2023. The growth rate indicates that Togo's economy experienced steady expansion during the period driven by increases in agricultural production for exports of crops like cotton, cocoa and coffee, manufacturing such as textiles, food processing industries and expansion in tourism, finance and transportation sectors.

Table 2.5: GDP per capita growth (annual %) in some ECOWAS Countries

	1990	1995	2000	2005	2010	2015	2020	2023
Benin	5.71	3.89	2.69	1.23	-4.9	-16.8	0.95	6.35
B/ Faso	-3.21	2.85	-0.95	5.49	3.87	-17.6	-0.77	2.96
Cape Verde	2.27	11.64	12.84	6.45	-2.5	-6.0	-20.1	11,27
Côte d'Ivoire	-3.07	3.62	-2.82	-1.12	3.8	5.4	-0.78	20.8
Gambia	-0.77	-2.19	2.25	-5.34	-2.59	6.2	-1.95	4.97
Ghana	0.53	1.34	1.13	3.16	7.7	2.5	-1.54	0.89
Guinea	1.29	1.90	0.19	0.92	-0.44	-2.34	2.31	9.82
Mali	0.80	-2.38	-2.54	3.22	5.31	6.17	-4.3	5.24
Niger	-4.81	-1.10	-4.05	2.57	2.88	-14.2	-0.24	2.50
Nigeria	9.89	-2.53	2.24	3.53	4.66	-1.05	-4.18	1.18
S/Leone	4.79	-7.88	3.81	0.59	3.65	-17.2	-4.20	3.43
Senegal	-1.30	2.23	2.10	2.20	4.3	4.8	-1.34	-2.19
Togo	3.37	16.28	-3.70	-7.41	2.9	5.2	-0.43	9.72

Source: Author's Computation based on World Bank Development Indicator, 2023

However, ECOWAS member countries GDP per capita growth rate is very low and at times countries had negative growth rates like Burkina Faso and Nigeria that performed very poorly as a result of the economic crisis and COVID-19 pandemic experienced around the world. In fact, there has been a differential rate of growth in the ECOWAS region. This has made the sub region remain in the poverty threshold.

2.5.2 Distribution of ECOWAS Gross Domestic Product by Size

ECOWAS experienced varying degrees of economic growth between 2001 and 2005. In 2001, the economic growth rate was 1.8% driven by increased trade from trade openness of the various countries. During this period Ghana experienced steady growth, while other countries faced challenges. Nigeria's growth was driven by oil and gas production, while Sierra Leone's growth was slower due to post conflict reconstruction efforts (ECOWAS Commission, 2005).

ECOWAS countries appear to perform well in terms of the promotion of economic growth in the region. The region experienced significant economic growth between 2010 and 2022 driven significantly by key sectors such as petroleum, gold and cocoa. The region's total exports also grew from $106 billion in 2017 to $154 billion in 2022, with crude petroleum accounting for $58.2 billion of those exports. Nigeria's export value was $70.7 billion accounting for 46.1% of ECOWAS total exports while Ghana and Cote dI voire had $20 billion and $17.5 billion in exports.

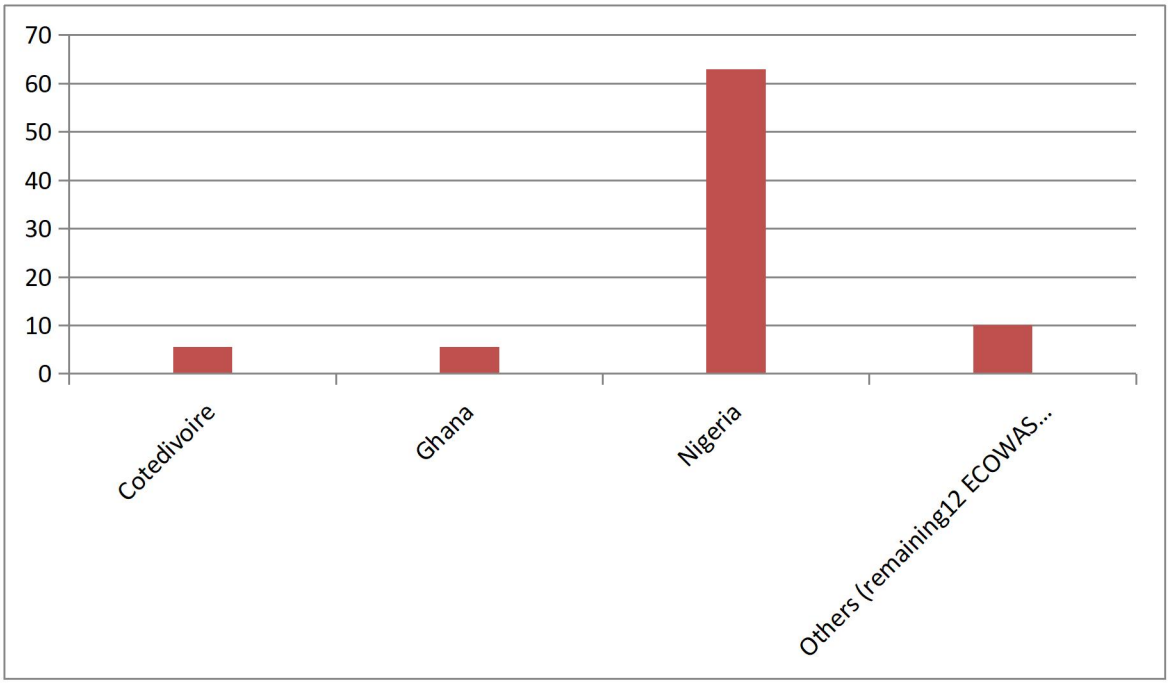

Figure 2.1: ECOWAS Gross Domestic Product by Country Size 2019-2020
Source: Graphed by Author based on IMF's World Economic Outlook database, 2021

Between the period 2011 and 2015, the region's economic growth was also influenced by the decline in oil production, with West African production experiencing an 11.2 million barrel per day decrease between 2011 and 2014. Despite these challenges, ECOWAS

continued to experience upward economic growth trends during this period (African Development Bank-African Economic Outlook, 2015).

Fig. 2.1 shows the distribution of GDP based on the size of economic activities among countries within the ECOWAS sub region. Data from World Bank (2021) shows that the ECOWAS region recorded a 0.7% contraction in economic activity in 2020, down from a 3.6% growth in 2019. The report shows further that with the exclusion of Nigeria, ECOWAS economy expanded by 0.4% in 2020, compared to 2.0% in 2019. This points to the fact that the overall sub-regional performance is largely influenced by the Nigerian economy, which accounted for approximately 63% of regional GDP between 2019 and 2020 while Cote di voire and Ghana were with about 5.5% GDP each. However, with the exclusion of Burkina Faso, other countries within the ECOWAS sub region accounted for about 10% of the region's GDP.

Also, the World Bank (2021) report shows that while Guinea's growth was about 6.1% in 2019, Cape Verde recorded a decline in economic activity to the tune of -5.5% in 2020 after having grown by 5.2% in 2019. This was however largely attributed to border closures and apprehension of tourists (with tourism being the mainstay of the economy) at the wake of COVID 19 Pandemic which was a global concern in 2020 around the globe. In order words, with a general underperformance across countries within ECOWAS, the volume of economic activity is disproportionate among countries in the sub region.

Table 2.6: ECOWAS Gross Domestic Product Growth Rate by Country Size

	Benin	B/Faso	Cape Verde	Cote dI Voire	Gambi	Ghana	Guinea	Mali	Niger	Nigeria	Senegal	S/Leone	Togo
1990	9.0	1.7	0.69	-1.1	2.88	3.3	4.32	-2.5	-3.04	8.27	-0.7	3.35	5.90
1995	6.1	4.6	14.2	5.57	2.39	4.2	4.61	0.92	4.4	2.59	5.5	-8.0	19.69
2000	5.9	5.7	14.2	-2.1	5.48	3.6	2.5	-0.1	-0.82	5.37	3.9	6.65	-0.97
2005	2.3	7.1	6.91	1.72	5.4	6.2	3.0	6.53	8.93	3.44	4.31	4.51	-4.67
2010	2.11	8.44	1.83	6.84	5.90	7.89	4.81	5.31	8.57	8.00	3.39	6.63	5.85
2015	1.77	3.92	0.93	7.19	4.05	2.12	3.82	6.17	4.39	2.65	6.36	-2.0	5.46
2020	3.84	2.01	-21	0.69	0.59	0.51	4.70	-1.2	3.55	-1.8	1.34	-1.3	1.99
2023	6.35	2.96	5.47	6.2	4.79	2.94	6.74	4.65	2.5	2.86	4.58	5.71	6.40

Source: Author's Computation from World Bank, World Development Indicator, 2025

From Table 2.6, Benin economy is among those in the sub-region with positive growth during the period 1990 to 2023. It recorded a GDP growth rate of 9.0% in 1990 and 2.11% in 2010 and sliding down to 1.77% in 2015. It however, bounced back to 3.84% in 2020. Economic activity increased the growth to 6.35% in 2023.

The economy of Burkina Faso also showed a positive GDP growth having a growth rate of 1.7% in 1990 and an impressive growth rate of 8.44% in 2010 and decreased significantly to 3.92% in 2015 due to unfavorable economic conditions their major capital generating sectors-hospitality industry, and mining sector that was affected by low demand and low prices, thus the GDP growth rate later dropped to 2.01% in 2020 but later increased to 2.96% in 2023 (see Table 2.6).

Cape Verde economy in 1990 GDP growth rate was not impressive as it was 0.69 but significantly increased to 14.2% in 2000. The growth rate declined significantly to 0.93% in 2015. The economy depended on tourism and in 2020 because of the pandemic and movement restriction, the economy slid into a negative economic growth of 21% but this was reversed in 2023 to 5.47% (see Table 2.6).

The economy of Cote dI voire shows a negative growth rate of 1.1% in 1990 and slide further to -2.1% in 2000. Its GDP growth rate was 7.19% in 2015 but declined to 0.69% in 2020 being affected by the COVID-19 that affected the global economy and rebound to 6.2% in 2023.

The Gambia's economic growth rate in 1990 was 2.88% and increased to 5.48% in 2000 but was marked by fluctuations, influenced by various internal and external factors that made it to fall to 4.05% in 2015. In 2020 it was 0.59% because of the COVID-19 pandemic experience, which severely impacted tourism and private consumption. The economic growth accelerated to 4.79% in 2023. These indicators suggest that Gambia's economy faced significant challenges in the period, including external shocks and internal structural issues.

Ghana's economic growth rate in 1990 was 3.3% and was quite eventful with hills and valleys in its trend. In 2000 the GDP growth rate was 3.6% while in 2015 it further declined to 2.12%. The country's GDP growth rate fluctuated, with a notable decline in 2020 to 0.51% from 2.12% 2.12% in 2015 due to the COVID-19 pandemic. However the GDP growth rate rebounded to 2.94% in 2023. However, the growth indicates an improvement in the standard of living for Ghanaians. The country still faces challenges, including a high inflation rate which reached 38% in 2023 (World Bank, 2023).

Guinea's economy growth rate in 1990 was 4.32% and declined to 2.5% in 2000 but significantly increased to 3.82% in 2015. It was 4.70% in 2020 from and in 2023, it was 6.74%. Guinea highlights that growth was driven by structural change, increased mining activity and, to a lesser extent, by within-sector productivity growth (World Bank, 2023).

The Mali economic growth rate in 1990 was -2.5% and experienced fluctuation and was largely driven by the agricultural sector and mining industry. The GDP growth rate was -0.1% in 2000 but significantly increased to 6.17% in 2015. The GDP growth rate fell to -1.24% in 2020 due to COVID-19 pandemic but showed resilience despite facing challenges from ECOWAS sanctions and war in Ukraine with an increase in their GDP to 4.65% in 2023 (see Table 2.6).

Niger economy GDP growth rate in 1990 was -2.04% and further declined to -0.82% in 2000 but increased to 4.39% in 2015. The economy has been quite challenging due to various crises particularly insecurity and in 2020 it was 3.55% due to the global pandemic. The country faced a triple crisis comprising security, humanitarian, and health issues particularly with the COVID-19 pandemic. In 2023 the GDP growth rate declined to 2.5% in 2023 (see Table 2.6). Agriculture is the backbone of Niger's economy accounting for 40% of its GDP. However, the sector's growth has been hindered by factors like food insecurity and limited economic diversification.

Nigeria's economic growth rate was 8.27% in 1990 and experienced fluctuations in the GDP growth rate largely driven by changes in oil prices and revenues as the GDP growth rate was 3.9% in 2000 but increased to 6.36% in 2015. The GDP growth rate however moved in a cyclical trend as it fell to -1.8% in 2020 due to the COVID-19 pandemic. The country has struggled with high and rising inflation, reaching a 17 year high in 2022. In 2023 the GDP growth rate was 2.86% (see Table 2.6). The performance of the agricultural and industrial sectors reduced in 2022 relative to 2021, while the services sector improved in 2022. There is a need for structural reforms to diversify the economy, improve

governance, and increase investment in human capital (World Bank, 2023). This is also expected to translate to an improvement in the GDP in subsequent years if implemented.

Sierra Leone economic growth in 1990 was 3.35% but increased to 6.65% in 2000 and declined to -2.0% in 2015. In 2020 it was impacted by the COVID-19 pandemic leading to a slowed growth with -1.3%. The Sierra Leone's economy experienced significant growth to 5.71% in 2023 (see Table 2.6) as the mining sector, particularly iron ore production and exports occupied an enviable spot in the economy.

The GDP growth rate of Senegal in 1990 was -0.7% while it increased to 3.9% in 2000 and further increased to 6.56% in 2015 making it to be one of the fastest growing economies in the West African Economic and Monetary Union (WAEMU) but fell to 1.34% in 2020 due to the COVID-19 pandemic. It decelerated to 4.58% in 2023 due to domestic and external shocks affecting industrial and agricultural production. The decline was also driven by a decrease in exports, agriculture, and mining.

Economic activity in Togo experienced a hills and valley fluctuation as in 1990 it was 5.9% while in 2000 was -0.97% and in 2015 it was 5.46%. The country showed resilience despite facing various challenges but declining to 1.99% in 2020 due to the COVID-19 pandemic which restricted economic activities globally. The GDP growth rate grew to 6.40% in 2023. Togo's economic growth was largely driven by the government's fiscal policies, industrial and services sectors, with the agricultural sector contributing significantly in boosting economic growth.

2.6 Intra ECOWAS Trade Volume

ECOWAS intra-regional trade between 1994 and 2000 was relatively low and stagnant. Despite the implementation of the ECOWAS Trade Liberalization Scheme (ETLS), in 1990, intra-regional trade remained weak, accounting for less than 10% of total trade in the region. Intra ECOWAS trade has shown significant growth over the past two decades, driven by regional integration efforts and trade facilitation reforms. The value of intra ECOWAS exports was $1.42 billion in 1990 and increased to $3.32 billion in 2000 and a further increase to $7.8 billion in 2015. Also, the value of intra ECOWAS imports increased from $1.6 billion in 1990 to $3.8 billion in 2000 and to $9.1 billion in 2015. However, the intra ECOWAS exports declined to $6.9 billion in 2020 due significantly to the effects of COVID-19 pandemic. Also, intra ECOWAS imports declined to $7.3 billion in 2020. Intra ECOWAS exports increased to $8.9 billion in 2023 and intra ECOWAS imports also increased to $10.6 billion in 2023 (Table 2.8). Nigeria, Cote di voire, Ghana and Senegal have consistently ranked as the top performers in terms of intra ECOWAS trade potential. Countries like Mali, Burkina Faso and Niger have seen their trade potential increase between 2001 and 2019, while countries like Guinea and Benin have experienced a decline.

Intra ECOWAS trade is dominated by a few countries based on ECOWAS commission data for 2020-2023. The top exporter is Nigeria which has about 60-70% of intra ECOWAS exports. It exports includes petroleum products, chemicals, plastics, food products and manufactured goods. It's re-exports fuel and manufactured goods to landlocked Sahel countries and cement is a big one to Ghana. Cote di voire contributes about 10- 15% of intra ECOWAS exports and its exports includes cocoa products,

electricity, chemicals, rubber and palm oil. Main destination is Mali, Burkina Faso, Senegal and Ghana. Ghana contribution to intra ECOWAS trade is between 8-12% and it export includes petroleum products, cocoa products, electricity, chemicals and food products. The main destination includes Togo, Burkina Faso, Nigeria and Cote di voire. Senegal contribution to intra ECOWAS trade is between 5-7% and its export includes phosphates, petroleum products, fish, chemicals, and cement. It main destination is Mali, Guinea, Mauritania and Gambia. The top importing countries are Mali which contribute to intra ECOWAS import to be between 20-25% and its import commodities includes petroleum product from Cote di voire, cement from Nigeria and Senegal and food products, chemicals and manufactured goods while it import electricity from Cote dI voire. The reason for this is because it is landlocked, no port and relied on Dakar and Tema ports as the import come from ECOWAS neighbors. Burkina Faso contribution to intra ECOWAS import is 15-18% and its import includes petroleum products from Cote di voire and Ghana, cement, food, chemical and electricity from Cote di voire and Ghana. This is because it is landlocked while Ouagadougu corridor is the main route. Niger share of intra ECOWAS import is between 12-15% and its imports include food, petroleum products, cement, and manufactured goods from Nigeria, Togo and Benin. It is landlocked and Nigeria is the dominant supplier due to proximity. Togo and Benin share is between 10-12% 0f intra ECOWAS trade and their imports include petroleum products, manufactured goods, and food from Nigeria, Cote di voire, and Ghana. Much of the re-export informally to Niger, Burkina Faso and Mali. Guinea and Senegal contribute 8-10% to intra ECOWAS trade and their imports include petroleum products, chemicals, manufactured goods from Nigeria and Cote dI voire. Senegal also imports electricity and food from neighbors.

However, Nigeria,Cote dI voire and Ghana export most of the commodities traded within ECOWAS. Mali Burkina Faso and Niger are the major importer.

Intra ECOWAS trade has been faced with several challenges such as trade facilitation which include lengthy customs procedures, inadequate infrastructure, and high transportation costs. Non tariff barriers such as regulatory differences and standards, also pose significant challenges to intra ECOWAS trade. It is also faced with institution weakness, including inadequate trade policies and lack of coordination among member states, also hinder intra ECOWAS trade. However, the implementation of the African Continental Free Trade Area (AfCFTA) is expected to boost intra ECOWAS trade by reducing tariffs and non-tariff barriers, simplified customs procedures, increased market access, improved trade facilitation and enhanced competitiveness. The ECOWAS Trade Liberalization Scheme aims to promote intra-regional trade by reducing tariffs and non tariff barriers while investment in infrastructural development such as roads, ports, and energy, are expected to improve trade facilitation and reduce transportation costs.

Table 2.7: Intra ECOWAS Trade Volume

Year	Intra ECOWAS Exports	Intra ECOWAS Imports
1990	1.42	1.6
1995	2.32	2.41
2000	3.32	3.8
2005	4.24	6.12
2010	6.85	7.73
2015	7.8	9.1
2020	6.1	7.3
2023	8.9	10.6

Source: Author's Computation Based on WITS, 2024

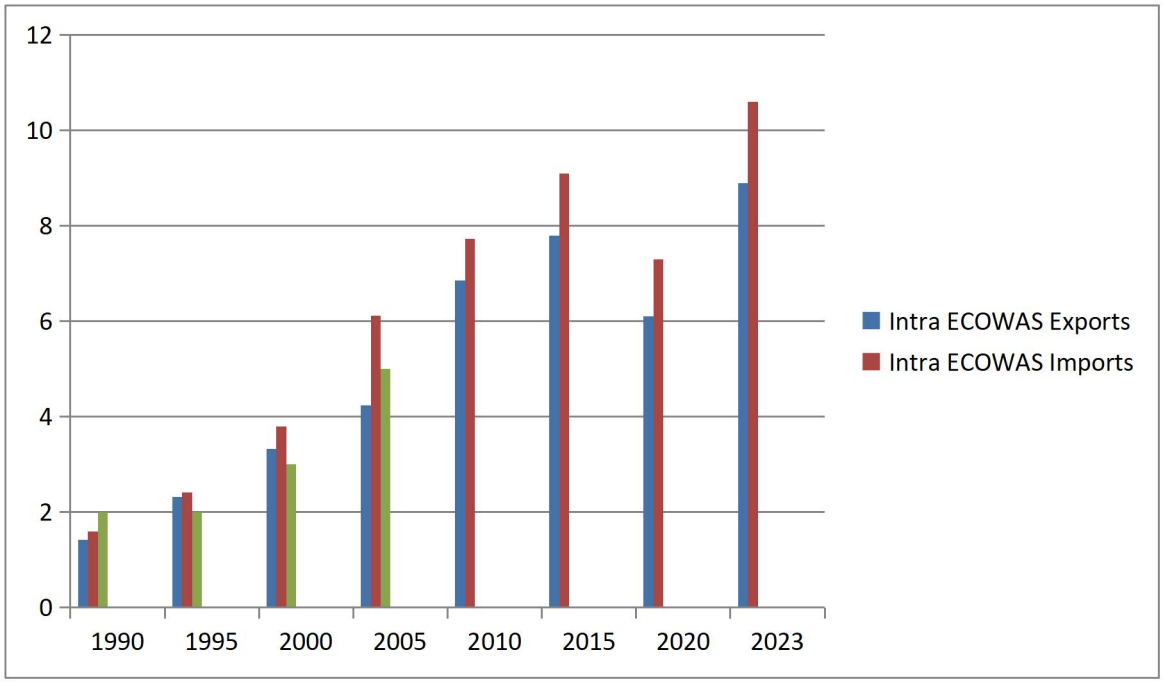

Figure 2.2: Intra ECOWAS Trade Volume

Source: Graphed by Author Based on WITS, 2024

2.7 Key regional Economic Integration in Africa

At the Abuja Treaty establishing the African Economic Community in 1991, which came into force in 1994 adopted eight Regional Economic Communities (RECs) as its building blocs: Arab Maghreb Union (AMU), Economic Community of West African States (ECOWAS), East African Community (EAC), Intergovernmental Authority on Development (IGAD), Southern African Development Community (SADC), Common Market for Eastern and Southern Africa (COMESA), Economic Community of Central African States (ECCAS), Community of Sahel-Saharan States (CEN-SAD).The Declaration by the Assembly of Heads of State and Government of the African Union, in January 2012, to strengthen intra-African trade gave a decisive impetus to the preparation and establishment of the African Continental Free Trade Area (Africa statistical year book, 2019)

African Regional and Continental Integration Processes started on 21 March 2018, at the Extraordinary Summit of the African Union in Kigali, forty-four (44) African countries signed an agreement establishing the African Continental Free Trade Area thus committing themselves to the establishment of an African Common Market. The initial forecast for its entry into force was projected in January 2019, upon reaching the necessary number of ratifications (22 States as referred to in the Agreement). This initiative is a further step in the process of African regional and continental integration, aimed at increasing and promoting the Continent's opportunities for growth and economic development, in line with the objectives of structural transformation and poverty reduction contained in the African Union's Agenda 2063.

2.7.1 The African Continental Free Trade Area (AfCFTA)

Regional integration has been a long-cherished ambition towards overcoming the disadvantages of small and fragmented national economies by the African states. This is however because, economic growth, industrialization, sustainable development, regional cooperation are just a few of the desires and expectations riding on the African continent. Removing tariffs on 90% of traded goods and allowing services, commodities, products and people free movement are among some of the basic ingredients to counter trade barriers and improve development on the continent. Africa is a diverse and divided continent with varieties of some tightly controlled capitalism by the state, and some more liberal. The creation of free trade areas in each continent and region was seen as a mechanism to promote economic diversification, development and structural transformation.

In boosting Intra-African Trade and issues affecting it an action Plan for fast tracking of a Continental Free Trade that seeks to provide a foundation for the formation of an African customs union and a single market was proposed as it was envisaged in the Abuja Treaty of 1991. A free trade area (FTA) refers to a specific region wherein a group of countries signs a trade agreement that seals the economic cooperation among them. The FTA's main goals are to bring down barriers in trading; specifically tariffs and import quotas.

At the African Union Summit in 2018 in Kigali, Rwanda, African leaders from 44 African nations gathered and signed the African Continental Free Trade Area (AfCFTA) treaty to create the world's largest single market. The agreement marks the largest trade agreement in history since the creation of the World Trade Organization. Nina, Merin and Mark (2020) observed that the agreement has the potential for catalytic change but, at the same time, poses challenges and even raises the possibility of losses to individual countries, smaller regions and smaller businesses. They went further to argue that Intra-African trade, while still low, is steadily increasing. That particular importance is the influence of the agricultural sector in Africa which is the largest employment sector on the continent, accounting for 19% of intra-African exports and 18% of intra-African imports. Considering the lack of economic diversification in all but a few African countries, this leaves the continent dependent on a sector that has limited job creation potential.

Vellah (2020) opined that the AfCFTA examines various challenges facing the regional regulation of market competition in Africa, including jurisdictional conflicts, conflicts of laws, and absence and/or weak enforcement competition regimes at the national level. Its objectives as provided under

Article 3 of the AfCFTA agreement include the creation of a single, large market for goods and services deepening. It further recognized that, for its objectives to be met, members must be ready and willing to cooperate on specific objectives, and its effective implementation is hinged on several principles.

The specific objectives include progressively eliminating tariffs and non-tariff barriers to trade in goods and trade liberalization in services. In this regard therefore,10 Member States are required to cooperate on investment, intellectual property, competition policy, all trade-related

areas, customs matters and the implementation of trade facilitation matters. Further, the

establishment of a dispute settlement mechanism and an institutional framework on the

implementation and administration of the AfCFTA is key in implementing the gener al objectives of the continental free trade area. Such as, the coordination and harmonization of tariff and non-tariff systems within the regional economic communities, to achieve a continental customs union through the adoption of a common external tariff and Common sectoral policies (agriculture, transport and communications, industry, energy, scientific research). The harmonization of monetary, financial and fiscal policies, implementation of the free movement of persons, and application of the rights of residence and establishment, integration of all sectors; economic, political, social, cultural; establishment of a single internal market; establishment of a pan-African economic and monetary union. And to finalize on the African Monetary Fund, and the establishment of a single African Central Bank and a single currency.

However, at the core of the AfCFTA, is the expectation that its implementation will increase intra-regional trade and in turn increase trade. Africa's global share of trade has continued to lag in intra-regional trade as compared to other regions in the world.

For instance, in 2013, intra-African trade was about 12% while in other regions such as North America intra-regional trade accounted for 40%, 63% in Western Europe, and more than 30% in the Association of the Southeast Asian Nations (ASEAN) region. Africa has also lagged behind in the global share of trade but hopes that Africa's global share of trade shall grow from 2% in 2013 to 12% by 2045. AfCFTA aims to give a major boost to the trade liberalization process between countries across the Continent, leading to an increase in intra-African trade. The establishment of a continental market, with a combined GDP of US$2.2 billion and a population of 1.2 billion in 2017, is expected to grow at a substantial rate and reach 2.5 billion by 2050, which will then host 26% of the world's working-age population, and will experience economic growth at a rate twice as high as developed countries. It offers significant opportunities for intra-African trade.

Africa's share of world trade remains very low, and has even declined in recent years. African exports fell from about 3.5% of the world total in 2012 to 2.3% in 2017, the year they grew at a rate above the world average. Over the same period, the import ratio declined from 3.3% to almost 3%. Average rates of intra-African trade are further reduced compared to other regions of the world (except South America): 17% for exports and 13% for imports (African statistical year book, 2019).

The ECOWAS sub region has made significant gains in the African continental trade area (AfCFTA) to include; increase economic growth as it can stimulate investment and create jobs hence economic growth. Also it will help ECOWAS members improve competition in

the global market and also diversify their exports as ECOWAS is expected to see a 33.8% increase in intra-African trade by 2045, reducing dependence on extra-continental markets. However, some challenges persist which include; poor infrastructure that make it difficult to transport goods across borders within ECOWAS countries. High tariffs and non-tariff barriers that limit competition and discourage trade as many countries have small domestic markets which limit opportunities for businesses to achieve economic of scale.

It is expected that, with an increase in trade at both continental and global level, Africa will become more competitive leading to the exploitation of the untapped potential and in turn reduce the poverty levels in the region.

CHAPTER THREE

LITERATURE REVIEW

3.1 Introduction

This chapter reviews both the theoretical and empirical review of literature to enable a preliminary analysis of the key propositions of the study.

3.2 Conceptual Clarification

This section includes a clarification of the concept of intra-trade, intra regional trade, extra regional trade, trade openness, investment (Gross Capital Formation), human capital development, and economic growth.

3.2.1 Intra-Trade

Intra-trade refers to trade within a specific group or bloc, such as ECOWAS. It involves exchange of goods and services among member countries, promoting economic integration and cooperation. Intra-trade can be categorized into; intra-industry trade (IIT) which is a trade in similar products within an industry, such as automobiles or electronics. Inter-industry trade is a trade in different products between industries, such as textiles and machinery. Horizontal intra-trade is a trade in similar products at the same stage of production. Also, the vertical intra-trade is a trade in products at different stages of production, such as raw materials and finished goods.

The key benefits of intra-trade are; to boosts trade volumes', fostering economic growth, strengthens regional ties, promoting cooperation and stability. Also to encourage diversification, reducing dependence on external markets and fosters competition, driving innovation and promoting gains. Intra-trade is typically measured using intra-trade share

which is calculated as the value of intra-trade divided by the total trade of the group or bloc. It can also be measured using intra-trade intensity index which is calculated as the ratio of intra-trade to the group's or blocs total trade. And also, trade share of GDP calculated as the value of intra-trade divided by the groups or bloc's total GDP. The common indicators to calculate intra-trade are; intra-regional trade share (IRTS) which is calculated as the value of intra-regional trade divided by the total trade of the region. The study uses the intra-regional trade share. Some challenges of intra-trade are Non tariff barriers and regulatory hurdles that limit trade, poor infrastructure that hinders trade facilitation and countries reliance on primary commodities.

3.2.2 Intra-Regional Trade

Regional trade refers to the exchange of goods and services between countries within a specific geographic region, such as a continent, subcontinent, or economic bloc. Regional trade is carried out as intra or extra regional trade. Intra regional trade refers to the exchange of goods and services within a specific geographic region, or economic bloc (ECOWAS, SADC, COMESA etc). This type of trade occurs among countries that are part of the same regional trade agreement or economic community. Some types of intra regional trade includes; bilateral trade which involves a trade between two countries within the region, Multilateral trade which is a trade among multiple countries within the region and the horizontal and vertical trade which involves trade in similar products among countries or different stages of production.

The most widely accepted and used measure of intra regional trade is the intra regional trade share (IRTS) or intra regional trade ratio (IRTR) measured by dividing the value of

intra-regional trade by the region's total trade. This is (value of intra-regional trade/region's total trade) x 100. A high intra-regional trade share indicates that a significant portion of the region's trade takes place within the region, while a low intra-regional trade share indicates that the region's trade is more focused on external partners. It is widely accepted because it is simple and easy to calculate, provides a clear indication of regional trade intensity and allows for comparisons across regions and time. It is widely used by international organizations (e.g. WTO, UNCTAD, and ITC). It is useful for policy makers and researchers to assess regional integration. Other measures include, regional trade intensity index (RTII) measures the intensity of trade within a region and is sensitive to GDP fluctuations, Intra industry trade (IIT) index which focus on similar products, not overall trade. This study will make use of the intra regional trade share which is widely used and more accepted by international organizations.

3.2.3 Extra Regional Trade

Extra-regional trade refers to trade that takes place between a region or country and countries outside of that region. In other words, it is trade that occurs between a country or region and countries that are not part of the same regional trade agreement or geographic region. Some types of extra-regional trade are; bilateral extra-regional trade which is a trade between two countries, one of which is outside the region. Multilateral extra-regional trade is a trade between multiple countries, some of which are outside the region, and inter-regional trade which is a trade between two or more regions, such as trade between the ECOWAS and European Union or ECOWAS and SADC.

Extra-regional trade is measured as (extra regional trade/total trade) X 100. This indicator shows the proportion of a region's total trade that is conducted with countries outside the region. Institutions like the World Trade Organization (WTO) use this measure to analyze trade patterns and promote regional integration. Also, extra-regional export share is the share of exports to countries outside the region's total exports.

Extra-regional trade is important in several ways;

It can help countries diversify their trade and reduce dependence on a single region or market.

Extra-regional trade can provide countries with access to new markets and customers.

It can increase competition and encourage countries to improve their competitiveness.

It can contribute to economic growth by increasing exports, attracting foreign investment, and promoting economic development.

3.2.4 Trade Openness

Trade openness refers to the degree to which a country's economy is open to international trade and investment. It involves the liberalization of trade policies, reduction of trade barriers, and increased participation in global markets. The types of trade openness are unilateral trade openness which involves a country's decision to liberalize trade without reciprocal agreements, bilateral trade openness which is trade agreements between two countries while multilateral trade openness involves global trade agreements among multiple countries (e.g. WTO).

Trade openness measures includes trade openness index (TOI) which is calculated as the sum of exports and imports divided by GDP multiplied by 100. Trade to GDP ratio, this is

calculated as the ratio of total trade (exports + imports) to gross domestic product (GDP). Average tariff rate is calculated as total tariff revenue/total imports and applied to imported goods, and trade freedom index (TFI) which measures the absence of trade barriers and is calculated as trade freedom score/100. This study is going to use the trade to GDP ratio since it is the most widely used measure of trade openness because of the fact that it is easy to compute, widespread data availability, reflect overall trade activity, cross country analysis and intuitive interpretation. Which by interpretation means a higher ratio indicates greater trade openness, i.e a larger share of the economy engaged in international trade.

3.2.5 Investment (Gross Capital Formation)

Gross capital formation, also known as investment, is a crucial component of a country's economic growth. It encompasses gross fixed capital formation, which can be broken down into gross private domestic investment and gross public domestic investment. Several factors influence capital formation, including;

- Savings: A country's savings rate can impact capital formation, as higher savings can lead to more investment.

- Foreign Direct Investment (FDI): FDI can contribute to capital formation by bringing in new funds and technology.

- Population Growth: A growing population can lead to increased demand for goods and services, driving investment.

Capital formation has a positive impact on economic growth, which is as investment increases, economic growth also tends to rise.

3.2.6 Human Capital Development

Human capital development is a crucial driver of economic growth and socio-economic transformation. It encompasses various aspects, including education, health, labour, and employment.

The key component of human capital development includes;

- Education: Investing in education enhances the quality and productivity of the workforce, leading to increased economic growth. Aghion-Howit had suggested that investing in research and development (R and D) can lead to significant economic growth.

- Health: A healthy workforce is more productive, and investing in health care can lead to significant economic benefits.

- Labour and employment: Effective labour laws and employment policies can help create a skilled and productive workforce.

3.2.7 Economic Growth

Economic growth refers to the increase in the production of goods and services in an economy over time. The key characteristics are increase in output which means more goods and services are produced and it is sustainable if growth is maintained over time and improvement in standard of living which infers higher income, better education, healthcare and infrastructure. The types of economic growth includes; extensive growth which is increase in production due to more resources (labour, capital and natural resources), intensive growth which is increase in productivity due to technological advancements, innovation and efficiency, endogenous growth i.e growth driven by internal factors

(investment in human capital, research and development) and exogenous growth which is growth driven by external factors (global demand, trade, foreign investment)/

Economic growth can be measured using various ways which includes; gross domestic product (GDP), gross national product (GNP), GDP per capita growth rate, growth rate of GDP or GNP, growth rate of per capita and increase in national income. This study is going to use the GDP per capita growth rate. The international monetary fund (IMF) uses the gross domestic product per capita growth rate as a key measure of economic growth. The formula used for the calculation by the IMF is current year per capita GDP-previous year per capital GDP/previous year per capita GDP multiplied by 100. This measure provides a comprehensive overview of economic growth across countries and regions. An economy that has 5% or higher is referred to as high growth economies, and the ones having 3-5% are upper middle income economies, 2-3% are classified as lower middle income economies while 0-2% are low income economies.

3.3 Review of Theoretical Literature

The theory of economic growth has been referred to as a long run theory, were in the long run; investment causes the creation of more and better capital equipment. By adding to the economy's capital stock, investment raises potential national income. In the long run, investment has been viewed to be a major cause of rapid economic growth (Lipsey, 1979). It has also been viewed to be related to a quantitative sustained increase in the country's per capita output or income accompanied by expansion in its labour force, consumptions, capital and volume of trade (Jhingan, 2005). However, economic growth means a sustained increase in the capacity of a country to produce increasingly diverse goods and services

leading to a rise in national output or income in a given period (Aigbokhan, 1995). Kuznets (1973) defined a country's economic growth as a long term rise in capacity to supply increasingly diverse economic goods to its population; this growing capacity is based on advancing technology and the institutional and ideological adjustments that it demands.

As observed by Ogwumike and Ozughalu (2001), this definition implies that economic growth is synonymous with a sustained rise in national output, provision of a wide range of economic goods, presence of improved technology and institutional, attitudinal and ideological adjustments. Additionally, West African countries, as developing economies with relatively low technological advancement, are poised for rapid industrial and economic growth. According to the 'catch up theory,' their initial backwardness can actually fuel accelerated development, as they leverage existing knowledge and technologies to bridge the gap with more advanced economies. (Gerschenkron, 1962; Abramovitz, 1986). The Solow-Swan growth theory explains the determinants of economic growth and explicitly states that income per person along the balanced growth path is determined by technology, investment rate and the population growth rate and that there is a relationship between output growth and volume of international trade.

On the other hand, the absolute advantage theory, the comparative advantage theory and the Heckscher-Ohlin theory provide the basis for mutually beneficial trade between countries as they engage in international trade. The contribution of trade to growth varies depending on whether the force of comparative advantage directs the economy's resources towards activities that generate long-run growth or away from such activities. Moreover, theories suggest that, due to technological or financial constraints, less-developed countries may lack the social capability required to adopt technologies developed in more advanced

economies. Thus, the growth effect of trade may differ according to the level of economic development. Despite its potential positive effect on growth, some theoretical studies claim that international trade may hamper growth (Young, 1991; Lucas, 1988). For Redding (1999), opening up to trade might actually reduce long-run growth if an economy specializes in sectors with dynamic comparative disadvantage in terms of potential growth or where technological innovations or learning by doing are largely exhausted. For such economies, selective protection may foster faster technological advances and economic growth

In the growth theory however, there are several competing theories to the study of economic growth. However, each has its strength and weaknesses with different ideological, theoretical and empirical conclusions. The following growth theories are sequentially discussed in this study.

The linear stages of economic growth theories which includes the Rostow stages of economic growth and the Harrod – Domar growth model.

The neoclassical growth theories and

The endogenous growth theory.

The trade and growth theory of Robert Feenstra.

3.3.1 The Stages of Economic Growth Models

The stages of economic growth model view the process of economic development of a country to pass through five stages. The model suggests that having the right mix of saving and investment is what a country will need for growth to take place and hence take off for development. The major proponents here are Rostow (1960), Harrod (1939) and Domar

(1947). The Rostow growth model which is regarded as the stages of economic growth identified five stages that a nation growth process must pass for economic development to take place as; the traditional society; the pre conditions for takeoff into self sustaining growth; the take off; the drive to maturity, and the stage of high mass consumption (Rostow 1960).

The Harrod - Domar growth theory states that the rate of savings and new investment representing new addition to capital stock are major determinants of economic growth. The model presents a description of how investment leads to economic growth. In this model, capital which is assumed to be the only determinant of growth exhibits fixed coefficient and constant returns to scale. However, it stresses the importance of savings and capital – output ratio in economic growth. Hence the more an economy is able to save and invest a higher proportion out of her national output, s(Y), the greater will be the growth rate.

Therefore,

> National savings s, is a proportion of the national income, Y, hence s = S/Y i.e sY = S Investment, I, represents the change in capital stock, K or I = ΔK. But the capital stock K is directly related to the total output, Y, such that the incremental capital – output ratio is given by K/Y = k or ΔK/ΔY = k (capital/output ratio)
>
> Therefore ΔK = kΔY
>
> Hence I = ΔK = kΔY
>
> By the savings – investment identity, the total national savings S, must be equal to the total investment, I
>
> Hence S = I

It therefore follows that

$S = sY = k\Delta Y = \Delta K = I$

$sY = k\Delta Y$ and dividing by Y and then by small k will yield

$$s/k = \Delta Y/Y \qquad (3.1)$$

This equation 3.1 is the simplified form of the Harrod – Domar growth model which implies that the ratio of national savings determines the growth rate of national output and so the ratio of the change in national output will be determined by how productive the investment is. Therefore, any nation that wishes to grow must save a higher proportion out of its national output and plough such back into productive investment.

3.3.2 Neoclassical Growth Model

The dominant theory of economic growth that has gained so much popularity is the neoclassical growth model popularized by some proponents like Solow (1956) and Swan (1959). The Solow model set out an aggregative, competitive general equilibrium perfect-foresight growth model built around three equations: a constant returns to scale, production function with smooth substitution and diminishing returns to capital and labor; an equation describing capital accumulation on the assumption of a constant rate of savings (investment) as a fraction of output; and a labor-supply function in which labor (population) grows at an exogenously given rate. Thus, the model becomes an alternative to the Harrod-Domar formulation by adding a second factor, labour, and introducing a third independent variable, technology to the growth equation.

The model enjoyed widespread usage in aggregate economic analysis because of its simplistic nature. It is also a theory for optimal growth and steady state predictions for per

capita income, consumption, investment and distributive share of income paid to capital and labour inputs which tally with long run experience of most developing countries. Unlike the fixed coefficient and constant returns to scale assumptions of the Harrod-Domar theory, Solow's theory exhibits diminishing returns to labour and capital separately and constant return to both factors jointly. He argued that when production takes place under the neoclassical conditions of variable proportion and constant return to scale, no opposition between natural and warranted growth. Hence, the system will be self adjusting to any rate of growth of the labour force and therefore approach a steady stage proportional expansion.

The neoclassical theory focuses on the dynamic process through which capital-labour ratio approaches long run equilibrium. Technological progress which is not clearly explained in the Solow model becomes the crucial factor in explaining the long run growth, and its level is assumed by Solow and other neoclassical growth theorists to be determined exogenously, that is, independently of other factors (Todaro & Smith, 2003). Solow models conclude that in the absence of technological change all economies will converge to zero growth. In the original version of the Solow model, a feature of a representative infinitely lived agent that inelastically supplied a unit of labour, consumes and saves a fixed fraction of output. He noted that savings and labour force growth rate determine the steady state income level of a country.

Cass (1965) and Koopmans (1965) optimizing representative consumers replaced the fixed savings notion of Solow. In the model, the basic version take the form of maximizing the life time utility of representative household with an initial endowment of a unit of capital,

K_o and one unit of time at each date which could be used for work (n) or labour (p) such that

$$\text{Max}[c(t)\ t-\theta\beta'\boldsymbol{U}[C(t), \boldsymbol{\rho}(t)] \quad (3.2)$$

Subject to

$$F(K_t, n_t) \geq C_t + I_t \text{(resource constraint)} \quad (3.3)$$

$$J_k = k_{t+1} - (1 - \boldsymbol{\delta})k_t \text{(capital accumulation constraint)} \quad (3.4)$$

$$I = n_t + I_t \text{ (time constraint)} \quad (3.5)$$

$$C_t, n_t, k_{t+1} \geq 0 \text{ (inequality constraint)} \quad (3.6)$$

Where

C = Consumption

$\boldsymbol{\rho}$ = Leisure

β = Household discount factor

I = Investment

$\boldsymbol{\delta}$ = rate of depreciation

Hence if expressed in a Cobb-Douglas function, we have

$$Z_t f(k_t, n_t) = Z_t K_t (X_t n_t)^{1-\alpha} \quad (3.7)$$

Where, Z_t is a stochastic disturbance that shifts the production function. However, a shock in the technology affects the marginal product of capital and labour which eventually leads

to reallocation of resources and relative price. X_t is labour augmenting technological change that obeys the law of motion.

$$\boldsymbol{U}_{c(t)} = \boldsymbol{U}_{c(t+1)} f_2(k_t, n_t) \quad (3.8)$$

$$\boldsymbol{U}_{c(t)} = \boldsymbol{\beta U}_{c(t+1)} [f, (k_{t+1}, n_{t+1}) + (1- \boldsymbol{\delta})] \quad (3.9)$$

Equation 3.8 shows equating the marginal utility of labour and the marginal benefit of working in a tradeoff between taking leisure and working. While equation 3.9 represents consuming an additional unit today or investing that one unit and consuming the proceeds tomorrow. The model thus has a steady state where all variables converge to constant.

3.3.3 Endogenous Growth Model

The unexplained source of exogenous technological progress and the apparent inconsistency of the unconditional convergence hypothesis elicited the emergence of a renewed research that generates the endogenous economic growth models. The endogenous growth models is conceived on the evolution of technology within the mechanics and operations of the economy's production process and the motivation for more ideas to be brought to bear, so as to enhance the benefits arising from production. Thus, technology, the key to economic growth is endogenous because it evolves from the operation of the economy rather than coming from an unknown source outside the economy (exogenous) as espoused by the neoclassical model (Romer, 1986).

By embodying technological change, the new growth theory re-emphasized the role of investment in both physical and human capital for long term growth. The original research was based on the work of Romer (1986), omitting technological change. Growths in these

models were due to continuous investment in human capital which had a spillover effect on the economy and reduced diminishing return to capital accumulation. Policies that foster the right kind of investment in physical capital affect both the level and efficiency of investment which increases capital and permanently raises economic growth.

According to the new growth theory, either the savings rate or the allocation of resources among production technologies results in increased capital accumulation (Romer, 1986; Lucas, 1998). It emphasized on promotion of liberal and well developed financial markets through technological innovation to provide a flow of liquidity to finance investment that may modify steady growth (Romer, 1990; Grossman & Helpman, 1991; Aghion & Howit, 1992). As argued, a well developed financial market will serve as a basis for other sectors development and pave the way for maximum economic growth, development and welfare (Plosser, 1992).

New growth models differ as to what mechanism is employed to endogenize the impact of technical progress on growth. The mechanisms according to (Romer, 1986; Lucas, 1988) are dynamic externalities at the aggregate level, i.e. technology is endogenously provided as a side-effect of private investment decisions. Romer (1986) assumes that the stock of knowledge of a firm increases in proportion to the firm's expenditure on research and development, while spillovers from these private investments increase public knowledge and in the long run growth is driven primarily by the creation of new knowledge by forward looking, profit maximizing, private agents. The investment which creates new knowledge displays diminishing returns. But, given the knowledge spillovers due, for example, to the inadequacy of patent protection, the production of goods from new knowledge exhibits increasing returns. Since new knowledge is produced from investment

with diminishing returns, each profit maximizing private agent who invests in knowledge creation and hence incurs invention costs faces an optimal upper limit to his investment. Thus, technical change should be responsive, endogenously, to policy, such as tax and fiscal incentives.

The endogenous growth models help to explain international flow of capital that cause the wide disparity between developed and developing countries in terms of wealth. This results from the high returns on investment by developing countries with low capital labour ratio which is eroded by lower levels of complementary investment in human capital education, research and development (R and D). It also give high recognition to international trade through trade openness in which improvement in technology, efficiency, capital accumulation and productivity brought about openness and foreign direct investment has the capacity to stimulate growth. Romer (1989) in his endogenous growth model opined that increasing trade help to induce marginal returns to capital investment which produce positive spillovers from increasing returns to scale in aggregate production through technological diffusion which improve growth.

In the endogenous growth theory, there exists investment in both physical and human capital which can generate external economies, positive growth enhancing spillovers and improvement in productivity that exceed private gains by an amount that offset diminishing returns. In a model of Research and Development by (Romer, 1990; Grossman & Helpman, 1991; Aghion & Howitt, 1992), set in continuous time, has four basic variables, Labour (L), Capital (K), Technology (A) and Output (Y). Comprise two sectors where goods are produced and R and D as an additional stock of capital to knowledge are made. However, they further said that the fraction of a_i is used in the R and D sector, and in

the goods producing sector the fraction 1 - a_l is used and also the fraction a_k of capital stock used in R and D and the others used in the other sector. However both a_l and a_k are exogenous since the use of an idea or knowledge in one place do not prevent another from using it at another place, both sectors using full stock of knowledge, A. The quantity of output produced at time t is thus expressed in a model

$$Y(t) = [(1 - a_k)K(t)^{\alpha}[A(t)(1-a_l)L(t)]^{1-\alpha}, \qquad o < \alpha < 1 \qquad (3.10)$$

This equation implies constant returns to both capital and labour with a given technology and so doubling inputs will also lead to doubling of output. Producing new idea is dependent on the quantities of capital and labour used in research and development (R and D) and on the level of technology, A. Specifying a model from the generalized Cobb-Douglas production, thus

$$A(t) = B[a_k K(t)^{\beta}[a_l L(t)]^{\gamma}A(t)^{\theta}], \qquad B > 0, \qquad \beta \geq 0, \qquad \gamma \geq 0, \qquad (3.11)$$

In this model, B is a shift parameter while the production function for knowledge is assumed not to have constant return to scale in both capital and labour as it will amount to replication since if the input doubles the new input can do the same thing and hence double output. Hence with knowledge production, what the existing input was doing will cause the same set of discoveries to be made twice thereby making 'A' to remain unchanged. In this case if diminishing returns in research and development are possible, with the same interactions amongst researchers, fixed setup costs and others which may be important in research and development and so doubling capital and labour will more than double output.

The inclusion of human capital variables in the endogenous growth model is intended to capture differences in labour force as non physical capital investment increase the

productivity of existing labour force that relates to education which is measured by index of educational attainment by mean year of schooling or by school enrolment (Barro & Lee, 1993). Investment both domestic and foreign backed up by institutional arrangements by which foreign investors are allowed to reinvest a certain percentage of their capital within the host country will result in expansion in productive capacity. Paul and Truong (2004) shows that foreign capital inflow can generate long lasting economic benefits to the host country when accompanied by good macroeconomic policies and institutional structure.

3.3.4 The AK Model

The endogenous model assumed the absence of diminishing return to capital growth to occur in the long run even without exogenous technological change, anchored on "AK" production function. This provides a channel through which the endogenous growth model takes account of the role of international capital flows and investment in human and physical capital and other policy variables such as trade openness and inflation (proxy for macroeconomic variables) as critical ingredients influencing could positively affect economic growth even without change in technology. This is also known as the linear growth model.

The AK growth model is sometimes termed an endogenous growth model. As an extension of the Solow model, the production functions read:

$$Y = AK^{\alpha} L^{1-\alpha} \qquad (3.12)$$

If we set $\alpha = 1$ and assume A = Constant, we get

$Y = AK$ with $A = \text{constant} > 0$

Where, A is positive constant reflecting an economy's level of technology (usually proxy by total factor productivity).

K = the economy's stock of capital (broad sense to include human capital).

Y = output

Y = AK, output per capita and the average and marginal product are constant at the level

A > 0

Assume that the saving rate is exogenously given. The capital accumulation equation is given as

$$K = sAK - \boldsymbol{\delta}K \quad (3.13)$$

And growth rate of capital turns out to read $K = sA - (n+\boldsymbol{\delta})$. In addition, the growth rate of output is equal to the growth rate of capital.

$$Y = K = sA - (n+\boldsymbol{\delta}) \quad (3.14)$$

However, we can observe that y = AK technology displays a positive long run per capita growth without any exogenous technological development. The per capita growth depends on the behavioral factors of the model as the savings rate and population which is unlike the neoclassical model where higher savings promotes higher long run per capita growth.

The key implications in this model are:

i. Growth is endogenous in the sense that we did not revert to an exogenous engine of growth and capital does not diminish as capital stock increases and so no tendency for growth to slow down as capital deepening occurs.

ii. The growth rate of the economy depends positively on the saving-investment rate. Hence, any public policy measure that has relative advantage in saving rates, efficiency, depreciation rates will show permanently higher economic growth, if such funds are properly diverted to viable investment projects and the gap between such countries and the slowing growth ones will always widen.

Capital is considered to comprise physical as well as human capital.

3.3.5 Robert Feenstra Trade and Growth Model

The Robert Feenstra (1996) theory provides an overview of trade and growth theories, highlighting their evolution. He combines the classical, neo classical, the new trade theory and the endogenous growth theories and emphasizes the role of international trade in promoting economic growth. He employs a literature review approach, synthesizing existing research to provide a comprehensive overview of trade and growth theories. The model is based on the following assumptions; perfect competition, constant returns to scale, two countries (home and foreign), two goods (X and Y) and the endogenous growth through knowledge accumulation.

The model is given thus:

Household:

The utility function is $U = [C_X^{\alpha} C_Y^{(1-\alpha)}]$ 3.3.1

Subject to budget constraint: $I = P_x C_X + P_Y C_Y$ 3.3.2

Firm:

Production function $X = AL_X^{\beta} K_X^{(1-\beta)}$ 3.3.3

Knowledge accumulation: $A = Ao(1+\lambda x)$ 3.3.4

Trade:

Free trade

Price equalization: $P_x = P_x^F/(1+\bar{\tau})$ 3.3.5

Where;

A = Total factor productivity (measure the overall efficiency with which inputs (Labour, Capital and intermediate inputs) converted into output., L = Labour, K = Capital, C_x = Consumption of commodities X, C_Y = Consumption of commodities Y, P_x = Price of commodities X, P_Y = Price of commodities Y, β, α are parameters, A_o = Initial TFP, λ = Coefficient of X, $\bar{\tau}$ = Tariffs, π = Profit, g = growth rate.

Household optimization:

Max. U Subject to budget constraint;

$du/dC_x = \alpha[C_Y/C_X]^{(1-\alpha)} = P_x$ 3.3.6

$du/dC_y = (1-\alpha)[C_X/C_Y]^{\alpha} = P_Y$ 3.3.7

Firm optimization:

Max. Profit:

$d\pi/dLx = \beta Alx^{(\beta-1)}K_X^{(1-\beta)} = P_x$ 3.3.8

$d\pi/dK_x = (1-\beta)AL_x^{\beta}K_X^{(-\beta)} = P_x$ 3.3.9

Knowledge accumulation:

$dA/dt = \lambda x$ 3.3.10

Deriving the trade and growth model:

Combining household and firm optimization conditions;

$P_X/P_Y = [\alpha/(1-\alpha)](C_X/C_Y)$ 3.3.11

Substitute production function and knowledge accumulation into the household and firm optimization conditions;

$P_X/P_Y = [\alpha/(1-\alpha)][AL_X^{\beta}K_X^{(1-\beta)}/A_o(1 + \lambda X)]$ 3.3.12

When equation 3.3.12 is simplified and solve for growth rate (g) we have;

$g = dx/dt/X = \lambda X$ 3.3.13

Equation 3.3.13 is the Robert Feenstra growth equation which shows the following;

Trade liberalization (reduced $\bar{\iota}$) increases growth rate (g)

Increase trade (X) leads to knowledge accumulation (A) and higher growth

Countries with initial comparative advantage in knowledge-intensive goods experience faster growth.

However, the limitations in the model are;

Omitting other growth determinants (e.g institutions, innovation) and

Simplifying assumptions (e.g perfect competition).

3.4 The Gravity Model

The gravity model is the workhorse model for explaining bilateral trade flows. It says trade between two countries is like gravitational attraction between two measures. The core ideas of trade flow are:

1. Positively related to the economic size of the two countries- bigger economies produce and consume more, so they trade more.
2. Negatively related to the distance between them- distance increases transport costs, time and information barriers.

The equation is $$T_{ij} = G \frac{Y^{\alpha}_{i} Y^{\beta}_{j}}{D^{\theta}_{ij}}$$

Where

T_{ij} = trade flow from country j

Y_i, Y_j = GDP or economic mass of country i and j

D_{ij} = distance between i and j

G = constant

α, β, θ = estimated coefficients usually close to 1 for GDP and 0.8-1.2 for distance

In log it becomes linear for estimations

$T_{ij} = InG + \alpha InYi + \beta InY_j - \theta InD_{ij} + \varepsilon_i$

Applying it to ECOWAS explain why intra trade is low.

GDP mass: Most ECOWAS economies are small. Nigeria is 70% of regional GDP, so trade revolves around it.

Distance matters: Landlocked countries face higher effective distance due to border delays.

Resistance is high: Border checkpoints, different currencies, and non tariffs barriers act like extra distance.

Limitations:

It describes trade, doesn't explain why comparative advantage exists.

Distance is a proxy for all trade costs, so it doesn't tell you which specific barrier matters most.

Doesn't handle services or digital trade well.

However, if you want to increase intra ECOWAS trade the gravity model says make countries bigger economically; reduce distance costs, and lower trade resistance. That is why fixing border delays and harmonizing regulations have a bigger impact than cutting the last 2% of tariffs.

3.5 The Theoretical Nexus between Trade Openness and Economic Growth

Theoretically, a strong positive relationship could exist between trade openness and economic growth since expansion in trade stimulates economic growth. Trade openness partly implies trade liberalization as it is trade policy that entails reduction in or total removal of all barriers (tariffs and non tariffs) to the free flow of goods and services across borders of a regional bloc or outside the regional bloc.

Theory points to a number of possible costs and benefits of trade openness, not mutually exclusive in general. Some theories stress technological spillovers and the international transmission of knowledge as a source of growth for open economies. Wacziarg (2001) observed that more traditional static theories invoke allocative efficiency, which can be achieved more easily with an open trade regime even when factors of production are assumed to be immobile. Higher levels of output are attained when countries specialize according to comparative advantage, so growth rates can be expected to increase in the transition that follows a liberalization episode. Hassan (2001), Kopperschmidt and Matutes (1997) and Tupy (2005) argued that free trade could have a positive impact on the economy. However, free trade was not seen as a strategy for sustainable development by Hassan (2001), and Tupy (2005) but believed that its role was often exaggerated.

Another set of theories points to the complementary aspect of virtuous policies; trade openness policy may create incentives for governments to adopt less distortionary domestic policies and more disciplined types of macroeconomic management. Drawing on the new growth theory, Ades and Glaeser (1999) opined that greater openness, by relaxing constraints imposed by the extent of the domestic market, should be associated with higher growth. They hypothesized that initial levels of per capita income should have a greater (positive) impact on growth for more closed economies than for more open ones, since more open economies are less bound by domestic market size.

More importantly, the impact of trade on economic growth depends on many factors, including good macroeconomic policies, institutional quality, rule of law, property rights, labour market and financial liberalization, infrastructure, and education (Hassan 2001). Increased degree of market competition resulting from a wider scale of market interactions yields further gains in efficiency. According to Dash (2021), financial sector growth, financial aid, trade openness, and gross capital accumulation are necessary for South Asian countries' sustained economic advancement. Generally, by increasing the size of the market, trade openness allows economies to better capture the potential benefits of increasing returns to scale.

Moreover, Mbogela (2019) examines the determinants of trade openness in Africa economies between 1989 and 2009. The results of his analyses reveal that population size, income per capita and economic location are determinants of trade openness. In the same vein, Zahonogo (2017) investigated how trade affects economic growth in developing countries using sub-Saharan Africa (SSA) countries. The study employed a dynamic growth model with data from 42 SSA countries covering 1980 to 2012. The result indicates

that a trade threshold exists below which greater trade openness has beneficial effects on economic growth and above which the trade effect on growth declines. Mukhopadhyay (1999) found that import liberalization negatively affected economic growth in low-income countries in Sub-Saharan Africa in the 1980s and early 1990s. Furthermore, Akpan and Atan (2016) observed that trade openness reduced economic growth in the Sub-Saharan African region. They also found evidence that the positive impact of trade openness on growth is conditional on the quality of domestic institutions. Accordingly, if control of corruption, government effectiveness, and the rule of law improve, then the positive effect of trade on income will be stronger.

Also, Akinola and Okunlola (2021), investigates the interactive effect of trade openness and the institutional quality on economic growth in sub-Sahara Africa using Pooled OLS, fixed effect, and Dynamic GMM found that corruption, government stability, law and order, and bureaucratic quality as institutional quality variables harm economic growth. And that the interaction of trade openness and institutional quality variables positively impacted on economic growth. On the other hand, some theories suggest that when a comparative advantage pattern would lead a country to specialize in goods where technological innovations or learning by doing are largely exhausted, opening up to trade might actually reduce long run growth (Young, 1991). Ijirshar (2019) assesses the impact of trade openness on economic growth among ECOWAS countries using secondary data from 1975 to 2017. The study uses non-stationary heterogeneous dynamic panel models through the application of Pooled Mean Group (PMG) and Mean Group (MG) estimators and results show that trade openness has a positive effect on growth in ECOWAS countries in the long-run but mixed effect in the short-run.

Countries in the ECOWAS sub region, has virtually remained among the countries with the weakest institution reflecting on the low performance of their macroeconomic indicator such as low level of per capita income and saving resulting in low growth rate and poor standard of living, high mortality rate, low level of education, poor health care and reckless corrupt practices and political office holder corruption. This macroeconomic indicator is not only disappointing but worrisome for countries that sought for growth.

However, Iyoha and Okim (2017) analyzed the impact of trade on economic growth on ECOWAS member countries using panel data from 1990 to 2013. Using four estimators; pooled OLS, Fixed effects model, Random effects model, and dynamic panel regression model they found that exports, exchange rate and investment were significant determinants of per capita real income growth and that exports were consistently positively related to growth, suggesting that trade has a significant positive impact on economic growth in ECOWAS member countries. Also, Azu and Muhammad (2020) investigate the influence of the political regime on bilateral trade in West Africa. The results revealed a significant effect of the political regime on bilateral trade. In fact, democratic regime positively and significantly influences bilateral trade with homogeneity in exports and imports. They posit that this relationship depends on both income level and the region. Eichengreen, 2001; Oaikhena and Udegbunam, 2008) provided theoretical and also empirical evidence that capital account liberalization and openness to trade propel economic growth.

The fundamental objectives of trade reforms by international institutions like the World Bank, the International Monetary Fund (IMF) and World Trade Organization (WTO) to liberalize trade are to transform it into an engine of growth. Although significant improvements have been made in growth performances of some developing countries since

opening up their economies, the growth performances of others which liberalized theirs without adequate preparations have been quite dismal (Oaikhenn & Udegbunan, 2008).

However, the new growth theory has stressed the importance of trade openness in the growth process. Romer (1989), through the endogenous growth model opined that increased trade openness induces marginal returns to capital investments with positive spillovers and allowing increasing returns to scale in aggregate production through technological diffusion which enhances growth. Hence, the endogenous growth model gives FDI an important source through human capital and technological diffusion which stimulate long run growth. However, increased openness and integration into the world economy carries with it some potential risks such as instability in the economy which may be caused by the vicissitudes of international trade cycles, negative external price shocks, declining terms of trade, rising unemployment and greater economic insecurity.

3.6 Empirical Literature Review

In this section, empirical studies on intra – regional trade, trade openness, and economic growth reviewed the country and cross sectional analysis to give a direction of the study.

3.6.1 Empirical Evidence on Trade Openness and Economic Growth

According to Bi, Alexander, and Zhen (2019), look at the factors affecting trade in services for a sample of 46 countries between the 2004–2015 periods through using the panel methodology. The results of their analyses reveal an ambiguous pattern of the effect of institutional quality on trade in services but strong evidence of the importance of trade in goods for trade in services are evidently portrayed. Tahir, Hasnu, and Estrada (2018) analyze the impact of macroeconomic determinants of trade openness of SAARC countries

using the panel methodology between the 1971–2011 periods. Their results from the 2SLS estimation reveal that investment both in physical and human capital positively impacts trade openness while size of the labour force and exchange rate negatively impact trade openness. According to Merale, Luljeta and Mihail (2015), they examined the empirical analysis of the effects of trade openness on economic growth in South East Europe using the difference GMM and system GMM model and finds the coefficients of trade openness to be positive and statistically significant at 5% level of significance in fixed effects model, differenced GMM and system GMM models but it doesn't show robust evidence in pooled OLS, though the sign of relationship is positive but not significant.

Huchet, Le Mouël, and Vijil, (2018) examine the relationship between trade openness and economic growth using the GMM estimation approach to study the openness-growth connection in an unbalanced panel of 169 countries from 1988 to 2014, adopting quality exports and variety exports as openness channels. According to their findings, the GDP effect of trade openness reflects a non-linear pattern. Their findings also reveal that the positive impact of trade openness on economic growth is reliant on the quality and diversity of a country's export basket. Jariyapan (2012) examines the nexus between economic growth, trade openness and foreign direct investment by using the Generalized Method of Moment in 16 industrialized countries from 2000 to 2008. The result of their finding revealed that trade openness has a positive impact on FDI and growth.

Malefane and Odhiambo (2021) have also look at the impact of trade openness on economic growth in the case of Lesotho using the ARDL bounds testing approach. The study found that trade openness has no significant impact on economic growth both in the short-run as well as in the long-run. The findings suggest that those policies should be

adopted which can enhance human capital and infrastructure so that the benefits of trade openness can be reaped in the long run. Also, Sare, Aboagye, Mensah, and Bokpin (2018), examined the determinants of trade openness in 46 African countries between 1980 and 2015 using the GMM methodology. The results of their analysis reveal that domestic credit, inflation and gross fixed capital formation positively affect trade openness.

Ben, El Weriemmi, and Bakari (2023), examine the impact of domestic investment and trade on economic growth in the case of North Africa countries during the period 1990 – 2021 by using the Panel CSARDL Model. Empirical results indicate that domestic investment and exports don't have any impact on economic growth in the long run. However, they found that the impact of imports is positive in the long run. Hence, the results show that exports and national investments are not considered as a source of economic growth in the country of North Africa over this extended period and suffer from a miserable economic organization and many problems in terms of political and economic instabilities.

Nasir, Bulus and Gomleksiz (2022) investigate the impact of trade openness, FDI inflows from Turkey and economic growth in selected African countries. They used the panel ARDL method with Pooled Mean Group and the Mean Group estimators and panel VECM Granger causality method in a panel of eight African countries for the period 2006-2017. However, their results show that FDI inflows from Turkey and trade openness are significant determinants of economic growth in African countries in the long run. Secondly, net FDI flows excluding Turkey have a significant negative effect on economic growth. The latter result can be attributed to an insufficient level of human capital, productivity, and infrastructure in these countries. And also they find a unidirectional causality

relationship running from trade openness to economic growth in the long run. Uwatt (2003) examine globalization and economic growth using data on 41 African countries that covered the period 1980-1990 sampled, and employing various econometric techniques, which include feasible generalized least squares, the fixed effect, the random effect and the instrumental variables (IV) estimation techniques, find that total trade to GDP ratio (a measure of trade openness) has a positive and significant impact on real GDP per capita growth. However, the empirical results show that a 10 percent increase in domestic openness will increase real GDP per capita growth by 0.2 percent.

Ibrahim, Nchofoungb and Arsène (2021), look at the determinants of trade openness in Sub-Saharan Africa (SSA) countries focusing on the role played by domestic institutions. They used the Generalized Methods of Moments (GMM) on 36 SSA countries over the period 1996-2017. Their results revealed that domestic institutions as a composite index determines trade openness. In addition, government effectiveness, regulatory quality and rule of law were all enhancing trade openness. Also, access to sea, foreign direct investment, and trade openness lagged by one period all positively determine trade openness. When trade share was considered as a robustness check, inflation and population growth were further found to significantly determine trade openness, whereas GDP per capita was trade enhancing. Hence, openness to trade in the Sub - Saharan Africa has moved from about 53 percent of GDP to 67 percent. Despite this increase, Africa remains significantly less integrated than other world regions.

Bruckner and Lederman (2012) examined trade causes growth in Sub-Saharan African using instrumental variable techniques to establish causality and found that a percentage

point increase in trade openness is associated with a short-run increase in growth of about 0.5% in SSA rather than the other way round.

Nthangu and Bokana (2022) empirically investigated the dynamic impact of foreign capital inflows and trade openness on output performance and national productivity in 31 selected countries in sub-Saharan Africa (SSA) countries between 1985 and 2018. The study employed random effects and fixed effects models to estimate the coefficients. However, the results from the two models portray similar behaviors. Both estimates revealed a significant relationship between output performance and the independent variables. The study further found that foreign capital inflows, trade openness and inflation rate have a positive and significant influence on output performance and national productivity. In contrast, exchange rate and interest rate exhibited a negative and significant relationship with such output performance. This result implies that policy makers in SSA countries must formulate policies that can successfully ensure trade openness and promote foreign capital inflows so as to stimulate national productivity and boost output performance in the region.

Jirbo, Jonathan and Atayi (2022), examine the nature of the relationship between trade openness, FDI and economic growth in ECOWAS countries. Using autoregressive distributed lag (ARDL) technique, panel data spanning the period from 1994 to 2019, Kao and Pedroni co integration tests were used to analyze long-run relationships among the variables. They found that there is a co integration and long run relationship between the variables used. The ARDL results show that in the long run FDI will increase growth by 0.087%, while trade share has a negative and insignificant effect on economic growth.

Adamu, Ighodaro and Iyoha (2012) investigate the impact of trade openness, foreign direct investment and economic growth in the countries of the West African Monetary Zone and employ the Instrumental Variable (IV) Two stage least square (2SLS) technique. The empirical result revealed that trade openness; foreign direct investment, domestic investment, human capital development and lag of economic growth are very important to economic growth in the region. However, inflation, which is (a proxy for the macroeconomic environment), hurt economic growth in the sub-region. Ozekhome (2016) investigated the impact of trade openness and investment on economic growth in the Economic Community of West African States (ECOWAS). He used the dynamic panel data and employing the Generalized Method of Moment (GMM) that control for country specific and joint endogeneity, empirically revealed that trade openness, foreign direct investment, real gross domestic capital formation, human capital and lagged real gross domestic product (RGDP) (a measure of previous market size) are important factors that drives economic growth in the sub – region. He also found that industrial output is positively related to growth in the sub-region but its effects are rather weak, possibly because of the low level of industrialization in the sub-region.

Adu-Gyamfi, Nketiah, Obuobi, and Adjei (2019) employed some macroeconomic variables like inflation, real exchange rate, trade openness and investment to investigate their impacts on economic growth in nine West African countries. Using a panel random effects and fixed effects model, the results revealed a negative and significant relationship between inflation and GDP. However, real exchange rate, trade openness and investment demonstrated a positive and significant impact on GDP. Wirendu, Nketiah and Adjer (2020) examined empirically the relationship between Trade openness and foreign direct

investment on the economic growth for a panel of four (4) West African countries during the period of 1998 to 2017. The static panel regression techniques were employed to assess the causal link of the regressors, namely, FDI, trade openness, investment and Inflation to economic growth measured by Gross Domestic Product (GDP). The evidence from the statistical analysis suggests that trade openness has a positive and statistically significant relationship at 5 percent of significance with GDP growth. That from the random effects regression; it is reported to have a coefficient estimate of 17.203 percent which indicates a slightly positive impact on economic growth.

Wani (2021) specifically investigated the link between trade openness, capital formation, and economic growth in the case of India by applying an autoregressive distributed lag (ARDL) bound testing approach. The empirical results indicate a negative relation between trade openness and economic growth in the case of India, both in the short-run and long-run. They suggested that those policies need to be adopted, which can boost human and physical capital formation so that the economy can grow to the threshold level required to reap the benefits of trade openness. Also, Kong, Peng, Ni, Jiang and Wang (2021) examined the relationship between economic growth and trade openness under exchange rate fluctuation in China from 1994 to 2018 using ARDL and the threshold model. The study concludes that trade openness has improved the quality of economic growth in the country both in the short-run and long-run. Though the short-run fluctuation deviates from long-run equilibrium, it is through automatic adjustment that the quality of economic growth can remain stable.

Also, Seyfullayev (2022) examines trade openness and economic growth: Evidence from Azerbaijan using the VAR model, ADF tests and Johansen's co-integration to analyze and

evaluate the causal nature of the relationship between openness and growth. The study uses the annual data from 1995 to 2020 and found that there are no co-integration relationships between variables in the long run. However, there is a unidirectional causal relationship from openness to growth in the short run, and the effect of growth to openness is not statistically significant. The results show that Azerbaijan receives economic benefits from openness by selling oil to the world market. Yet, the short-run nature of such benefits and the lack of feedback from growth to openness suggest specific problems in the diversification and quality of the country's exports.

3.6.1.1 Empirical Evidence on Intra-Regional Trade and Economic Growth

Trade and economic growth remain a major concern for countries; as a result, different methodology is used by few extant literatures to capture the implication of intra regional trade on economic growth in developing and developed countries. It has been demonstrated that intra-regional trade and inherent economies of scale provide the basis for investment in regional infrastructural development, which in turn facilitate integration, promote industrialization, and create employment opportunities for the regional growing population (IMF, 2019; Fofack & Mold, 2021). At the same time, deepening intra regional trade offers tremendous potential as a mitigant against adverse external shocks and global volatility (Fofack, 2020).

Previous studies by Wooster, Banda and Dube (2008) look at the contribution of intra-regional and extra-regional trade in the European Union using a panel data analysis and found that intra-regional and extra-regional trade has different impacts on growth, with extra-regional trade having higher marginal effect. Also, in a study to investigate the contribution of trade to growth of Arab Countries Younes (2016) using the gravity model

found the significance of trade openness for growth and importantly added that, intra-regional trade has had a smaller impact on growth in output per capita than extra-regional trade. He further noted the need for Pakistan to revisit her regional trade.

Lee (2013) examines the impact of intra-regional trade on economic growth in East Asia and using the panel data analysis from 1990 to 2010 found that intra-regional trade has a positive impact on economic growth in East Asia and shows that economic growth varies across countries in the region. The author suggests that intra-regional trade can promote economic growth by increasing trade volume, improving trade efficiency, and promoting economic integration. Lee (2018) investigated the relationship between trade openness, intra-regional trade, and economic growth in East Asia using panel data analysis and data from 1990 to 2015 found that intra-regional trade plays a significant role in mediating the relationship between trade openness and economic growth. He also found that trade openness has a positive impact on economic growth in East Asia.

Afesorgbor and Van-Berijrirak (2015) investigated the impact of regional trade agreements on trade flows in Africa with a panel dataset covering 53 African countries over the period 1995-2010 and employing the panel data analysis finds a positive impact on trade flow and that RTAs have led to an increase in intra regional trade among African countries. Also, Musila and Yiheyis (2015) study examined the impact of regional integration on economic growth in Africa with a panel dataset covering 33 African countries over the period 1990-2010 and using the panel data analysis found that regional integration has led to an increase in trade flows among African countries and having a positive and significant impact on economic growth in Africa. Turkson (2012) look at the relationship between trade and economic growth in Africa using the system GMM found that export

diversification and trade liberalization enhance growth. Wiseman and Nokulunga (2024) examine different stages of regional integration and economic growth: Going beyond intra-trade and using the fixed effects regression found that when the trade integration increases by 1% the economic growth of Africa will increase by 1.82% which implies that the higher is the level of trade integration the higher is the economic growth.

Also, Musila and Yihayis (2025) using the panel data of 42 African countries to investigate the impact of intra African merchandise trade, extra African merchandise trade and multiregional total trade openness on economic growth, find a positive and significant long run impact of intra African merchandise trade, extra African merchandise trade, and multiregional total trade openness on the level of real GDP per capita. However, at the regional level, the long run impact of intra African merchandise trade openness on the level of real GDP per capita is only significant in the relatively more integrated regional markets. The study did not find a direct impact of trade openness on growth to be statistically significant in the short run, though mostly positive. Kyereboah-Coleman, Abor and Afori-Sasu (2024) investigated the role of foreign direct investment (FDI) in the relationship between intra-African trade and economic growth. Employing a sample of 54 African countries over the period 2004-2022 and using a two step system of generalized methods of moment, provides intriguing empirical findings. The study finds that FDI inflows have a positive effect on intra- African trade and that intra-African trade has a direct positive impact on economic growth, while FDI has a statistically negative effect on economic growth. The study provides evidence to support the assertion that intra-African trade increases overall economic growth with an increasing flow of FDI into an economy.

It also established increasing complementarity between FDI and intra-African trade and their joint impact on economic growth.

Also, Ogunkola, Idris and Ogundipe (2020) examines the role of intra-regional trade in the relationship between trade openness and economic growth in the Southern African Development Community (SADC) using panel data analysis from 1995 to 2018 and found that intra-regional trade plays a significant role in mediating the relationship between trade openness and economic growth and also, that trade openness has a positive impact on economic growth in SADC. Kabangu, and Mwansa (2022) examine intra-regional trade and economic growth in SADC using the quantile regression analysis that found that intra-regional trade has a positive impact on economic growth in SADC which has implications for ECOWAS. Afesorgbor and Van-Bergeijk (2015) show that ECOWAS and SADC had a positive intra regional trade compared to the arrangement with the EU and concluded that the enhancing trade effect of the regional integration analyzed was more potent than that of EU.

Okoro and Umar (2021) assess the impact of intra and extra regional trade on economic growth: evidence from ECOWAS using the dynamic GMM revealed that trade among ECOWAS member states is statistically positively significant, while trade between ECOWAS member states and the rest of the world is positive but not statistically significant. This evidence implies that trade among ECOWAS member countries is a major predictor of growth for the sub region, while trade with the rest of the world is not a clear determinant of growth in the sub region. They recommend among others the need for member countries to prioritize intra-ECOWAS trade in their development agenda. Also, Kabir (2019) examines the role of intra-regional trade in the relationship between trade

openness and economic growth in the Economic Community of West African States (ECOWAS) using a panel regression model of fixed effects (FE) and Random effects (RE) estimators and found that trade openness has a positive impact on economic growth in ECOWAS and that intra-regional trade plays a significant role in mediating the relationship between trade openness and economic growth.

Onyekwena and Oloko (2016) employed descriptive analysis to examine the prospects of regional trade for inclusive development in West Africa, by considering the nature and composition of trade in the ECOWAS region with the rest of the world. The outcome shows that economic growth within the ECOWAS region is increasing, although this does not translate to inclusive development as poverty level reduction was not achieved. They added that extra- regional trade is increasing rapidly at a disproportionate rate to intra-regional trade compared to the SADC; this suggests that there is great potential for inclusive development in the region if part of extra-regional trade is converted to intra-regional trade. The study concludes with a recommendation that West African countries revive their commitment to regional industrial policy as well as intensify investment in human capital development to ultimately achieve inclusive development in the region. However, the authors could not use any econometric analysis to investigate the topic but rather descriptive analysis.

Orji, Okafor, Obi, and Ukeje (2022) study the effects of regional integration on economic growth in ECOWAS countries, employed an instrumental variable (IV) regression based on the dynamic panel data method within the framework of the generalized method of moments (GMM-SYS). The results show that aggregate regional integration in five dimensions (composite regional integration index) , though has a positive relationship with

economic growth, does not exert a significant impact on economic growth in ECOWAS members.

On the other hand, Hounsou (2019) investigated the challenges of implementing trade liberalization schemes in ECOWAS and found that trade liberalization schemes in the region has a positive impact on economic growth in West Africa. He highlighted several challenges that includes; issues related to non-tariff barriers and poor infrastructure obstacles that could hinder the full realization of the potential benefits of the ETLS and limit its impact on ECOWAS GDP.

3.7 Gaps in the Literature Reviewed

Based on the preceding literature review, it is evident that there is scanty literature which has considered the influence of intra - regional trade and economic growth particularly in the ECOWAS sub region. Many of the literature focus majorly on trade openness and economic growth and posit that it has positive relationship with economic growth (Adamu, Ighodaro & Iyoha, 2012; Wirendu, Nketiah & Adjer, 2020; Jirbo, Jonathan & Atayi, 2022) while other studies hold that trade openness are deleterious on economic growth (Adu-Gyumfi, Nketiah, Obuobi, & Adjei, 2019; Ben, El Weriemmi & Bakari, 2023). These studies neglect intra- regional trade and economic growth especially as it relates to ECOWAS sub-region. The consideration of these is plausible in establishing the magnitude of the effect of intra regional trade and economic growth in the ECOWAS sub-region.

The literature on intra regional trade focuses on advanced/developed regions to the alter neglect of developing regions (Wooster, Banda & Dube, 2008). Also the focus is on trade

liberalization and economic growth (Turkson, 2012 and Fugaza & Nicata, 2013). However, because of the scanty literature, there are insufficient empirical data on research to support the conclusion. Thus, the scanty literature seems not to have given much attention to intra-regional trade impact on economic growth.

In terms of methodology, this study will make use of the fully modified ordinary least squares (FMOLS) regression that addressed the issues of endogeneity, serial correlation, heterosckedasticity, non stationary variables and co integrated variables which was not used in extant literatures to validate results among the variables of interest and provide valuable empirical evidence for policy makers to evaluate the suitability of ECOWAS existing intra-regional trade and economic growth policies. This therefore forms the basis and motivation of this study especially as it relates to ECOWAS sub-region.

CHAPTER FOUR

THEORETICAL FRAMEWORK AND METHODOLOGY

4.1 Introduction

This chapter focuses on the theoretical background and empirical methodology that guide our empirical study. In order words, we give a theoretical background that the model will be based on. Hence, the following order will be sequentially adopted: the theoretical framework, model specification, estimation technique and sources of data.

4.2 Theoretical Framework

This study is based on the endogenous growth model as it has the ability to explain the intrinsic features of economies that make them grow over an extended period of time. In the long run growth is endogenously determined by research and development (R and D) investment, human capital accumulation (e.g education and training) and technology is transmitted through trade in intermediate inputs (Aghion & Howitt, 1992; Grossman & Helpman, 1991; Rivera-Batiz & Romer, 1991 and Romer, 1990). Also, intra-regional trade share, credit to the private sector and population growth rate is important to growth. Following the standard endogenous growth approach, a given output of a country is produced with a given augmented production function;

$$Y = AK \tag{4.1}$$

Where Y = Output, A is a constant representing technological progress which is exogenous and different across countries and K is physical Capital. Rivera-Batiz and Romer, 1991

explores the relationship between intra-regional trade and economic growth. However, the following step is taken.

Assumptions:

1. Two regions (e.g., North and South) with identical preferences and technology.
2. Each region produces two goods; a numeraire good (y) and a high tech good (x).
3. Labour is the only factor of production.
4. Intra-regional trade occurs between the two regions.

Model setup:

L: Labour force

A: Total factor productivity

α: Share of labour in the production of x

β: Share of labour in the production of y

$\bar{\iota}$: Intra-regional trade cost (iceberg cost)

x: High-tech good

y: Numeraire good

E: Human capital (education)

Production functions:

1. High-tech good (x): $x = A(EL_x)^{\alpha}$ 4.2

2. Numeraire good (y): $y = (L_y)^{\beta}$ 4.3

Intra-Regional Trade

The trade cost ($\bar{\iota}$) affects the price of the high-tech good (x) in the other region.

$x_N = x_s (1+ \bar{\iota})$ (North region's price of (x) 4.4

$X_s = X_N (1+ \bar{\iota})$ (South region's price of (x) 4.5

Human Capital Accumulation:

Human capital (E) accumulates over time:

$E_t = E_{(t-1)}(1+\gamma)$ (γ; rate of human capital accumulation) 4.6

Economic Growth Equation:

To derive the economic growth equation, the following steps are followed;

1. Derive the growth rate of human capital:

   $dE/E = \gamma$ 4.7

2. Derive the growth rate of the high-tech good:

   $dx/x = dA/A + \alpha dE/E + \alpha dL_x/L_x$ 4.8

3. Substitute the growth rate of the human capital into eqn 4.8

$dx/x = dA/A + \alpha\gamma + \alpha dL_x/L_x$ 4.9

4. Use the trade cost equation to substitute for dL_x/L_x

$dx/x = dA/A + \alpha\gamma - \alpha(1-\beta)\bar{\iota}$ 4.10

5. Simplify and rearrange:

$$dx/x = (dA/A + \alpha Y) - \alpha(1-\beta)\bar{\iota} \quad 4.11$$

The economic growth equation is:

$$g_x = (dA/A + \alpha Y) - \alpha(1-\beta)\bar{\iota} \quad 4.12$$

Where;

g_x is the growth rate of high-tech goods (x). The equation 4.12 shows that economic growth (g_x) is influenced by:

a. Technological progress (dA//A)

b. Human capital accumulation (αY)

c. Intra-regional trade costs [$\alpha(1-\beta)\bar{\iota}$]

4.3 Model Specification

From eqn. 4.12, technological progress captures inputs factors outside human capital, physical capital accumulation, and intra-regional trade. This includes, trade openness, investment, credit to the private sector as a share of GDP, and population growth. Assuming the evolution of technological progress is given by

$$A = A_o e^{\delta t} \quad (4.13)$$

Where A_o is the initial stock of capital and δ represents the effect of growth of omitted trended variables. Hence, the variables of interest can enter into the model as shift variables through technological progress. This result in the equation below;

$A_t = A_o e^{gt}\ IRTS_t^{\beta}$ (4.14)

Where IRTS is intra-regional trade share, and making the following substitutions

$A_t = GDPC_t$ (GDPC at time t)

$A_o e^{gt} = \beta o$ (constant term)

$IRTS_t = X'_t$ (independent variables, e.g trade openness, investment, human capital development etc)

$\beta = \beta_1$ (coefficient of the independent variable)

will result in a compact form equation specified as;

$GDPC_{it} = \beta_o + \beta_1 X'_{it} + \varepsilon_t$ (4.15)

Where:

$GDPC_t$ is economic growth at time t (GDP per capita growth rate), X'_t is a vector of the explanatory variables at time t, β_o is the overall intercept term, β_1 is coefficient of the explanatory variable, ε is error term at time t and i is index of countries in ECOWAS sub region while t is time trend.

From the above equation 4.15, a linear equation is specified to test objective I, II and III;

$\Delta InGDPC_{it} = \beta_o + \beta_1 \Delta InIRTS_{it} + \beta_2 \Delta InHCD_{it} + \beta_3 \Delta InINV_{it} + \beta_4 \Delta InCRPS_t t + \beta_5 \Delta InPOP_{it} + {}_6 \Delta InTO_{it} + \varepsilon_{it}$ (4.16)

While equation 4.17 below is to test objective IV

$GDPC_t = Y_o + \Sigma Y_j\ GDPC_{(t-1)} + \Sigma \delta_1 IRTS_{(t-1)} + \eta_t$ (4.17)

The variables of interest in the study are $\Delta InGDPC_{it}$ which represents log difference of economic growth (GDP per capita growth rate) at time t which is the dependent variable, $\Delta InTO_{it}$ is log difference of trade openness at time t, $\Delta InIRTS_{it}$ is log difference of intra regional trade share at time t, $\Delta InHCD_{it}$ is log difference of human capital development at time t, $\Delta InINV_{it}$ is log difference of investment (gross capital formation) at time t, $\Delta InCRPS_{it}$ is log difference of credit to the private sector at time t, and $\Delta InPOP_{it}$ is log difference of population growth rate at time t are the independent variables, and $\varepsilon_{it,}$ error terms at time t.

In order words, the endogenous growth model however takes into consideration the critical role of trade (intra-trade), investment in human and physical capital, and trade openness as impetus for growth (Ayenew, 2022; Henri & Larisa, 2018; Adjer, 2020 and Keho, 2017). Intuitively, intra-trade affects economic growth through the efficiency with which inputs are transmitted and used, and also increasing the stock of capital, facilitating the transfer of technology and technical knowhow from one country to the host countries thereby increasing productivity.

4.4 Variables and *A priori* Expectation

The key variables used to pursue the research questions of the study include GDP per capita growth rate (GDPC) (a proxy for economic growth), trade openness of the economy (TO), intra-regional trade share (IRTS), human capital development (HCD), investment (gross capital formation) (INV), credit to the private sector as a share of GDP (CRPS), and population growth rate (POP).

Trade openness measures as the ratio of the sum of exports and imports to GDP is included to capture the degree of openness of the economy. Intra-regional trade share is measured by dividing the value of intra-regional trade by the region's total trade (WTO, ITC). Trade openness and intra regional trade according to economic growth theory serve as a vehicle to transfer improved technology, managerial and expertise, and better skill that lead to efficient production with positive economic growth. The *a priori* positive sign on the coefficient of trade openness and intra- trade is based on the assumption that they are supposed to spur economic growth (Frankel & Romer 1999; Ogunkola, Idris & Ogundipe, 2020).

Credit to the private sector as a share of GDP, is included to measure financial intermediary development as this will lead to high investment that will stimulate demand and income that result in an increase in economic growth (Levine, Loayza & Beck 2000).

The impact of population on economic growth has been view to positively and negatively affect economic growth. Those who posit negative impact agreed that it put pressure on the existing natural resources which hampers economic growth and development (Cooper and Grifith, 1994; Yeboah *et al*., 2001). On the other hand those that argued positively holds that population growth aids economic growth as it gives rise to improved human capital which facilitates technological advancement that effectively leads to economic growth (Kuznets, 1973; Barro, 2001).

Human capital development measured, by index of school enrolment (% of gross enrollment in secondary school) results in increase in the quantity and quality of labour force, empirical evidence shows that it is a feature of the growth theories and an

indispensable input in production process and its effects on growth are *a priorily* positive (Barro & Lee, 1993; Kularatne, 2002).

In order words no attempt is made to suggest that these are the most important determinants of economic growth. They are used only to assess whether economic growth is strongly linked to these indicators after controlling for endogeneity and other biases in existing empirical work.

4.5 Data and Estimation Methodology

4.5.1 Estimation Method

When handling panel data parameters of dynamic features, it is not unusual to have similarities among the heterogeneous cross sections in terms of specification and parameters (Aladejare, 2018). This is because the distinctive environment, political and economic space, in which cross sections and their similarities operate, could prove very difficult to identify. Hence, having a panel data analysis with such cross sectional features as identified above, could render the application of the fixed and random effect models inconsistent.

To correct the analytical issues associated with cross sectional studies; the study employ the fully modified ordinary least squares (FMOLS) regression method. This will control for endogeneity issues, serial correlation, heteroscedasticity, individual-specific effects and time-specific effects, non stationary variables and cointegrated variables. This estimation technique was developed by Pedroni (2000), and the method is suitable for panel data with non stationary variables. The granger causality test using the Pair Wise Dumitrescu-Hurlin panel causality will be used to test the causal relationship between intra-regional trade

share and economic growth. It presents a message about cause and effect relationship between variables. It suggests that changes in one variable (the cause) lead to changes in another variable (the effect). It can be unidirectional if the test indicates causality from variable X to Y but not from Y to X. Hence, there is causality from X to Y. It is bidirectional if the test indicates causality from X to Y and from Y to X and no causality if the test indicates no causality in either direction. If the p-value associated with the Z-statistics is less than the chosen significance level (e.g 0.05) you reject the null hypothesis and conclude that there is homogenous causality from variable X to variable Y. If the p-value is greater than the significance level, you fail to reject the null hypothesis, indicating no homogenous causality. To use the fully modified OLS estimation technique, it is important as a preliminary technique to use statistical examinations of the variables by using descriptive statistics and correlation analysis in order to understand the preliminary interactions, characterization among the variables of the empirical analysis.

The assumptions of the fully modified ordinary least squares regression methods are;

Linearity: The relationship between the dependent and independent variables is linear.

No Multicollinearity: This means that the independent variables are not highly correlated with each other.

Homoscedasticity: The variance of the error term is constant across all levels of the independent variables.

No Serial Correlation: The error terms are not serially correlated, this means that the error term at one time period is not correlated with the error term at another time period.

No Endogeneity: This means that the independent variables are not correlated with the error term.

Cointegration: The dependent and independent variables are cointegrated, meaning that they have a long-run equilibrium relationship.

Stationarity: The variables are stationary, meaning that their mean and variances are constant over time.

No Structural Breaks: This means that there are no structural breaks in the data, meaning that the relationships between the variables do not change over time.

The consequences of violating these assumptions can lead to biased, inconsistent, or inefficient estimates. Specifically,

Violating linearity can lead to biased estimates.

Violating homoscedasticity can lead to inefficient estimates.

Violating no serial correlation can lead to biased and inconsistent estimates.

Violating no endogeneity can lead to biased and inconsistent estimates.

Violating cointegration can lead to spurious regression results.

If the assumptions are violated, there are several remedies that can be used, this includes;

Transforming variables to achieve linearity.

Using robust standard errors to address heteroscedasticity.

Using a different estimation method, such as generalized least squares (GLS), to address serial correlation.

Using instrumental variables to address endogeneity.

Testing for cointegration and using a cointegration analysis if necessary.

4.5.2 Procedure for the implementation of Fully Modified Ordinary Least Squares (FMOLS)

The Fully Modified Ordinary Least Squares (FMOLS) regression method is used to estimate cointegrating relationships between time series variables in panel data setting.

Step 1: Prepare the Panel Data

Organize the Data: Organize the data in a format with individuals (e.g countries, firms) in rows and time period in column.

Check for Missing Values: Check for missing values and decide on a strategy for handling them (e.g listwise deletion, mean imputation).

Step 2: Check for Unit Roots and Cointegration

Test for Unit Roots: Perform unit roots tests (e.g Levine-Lin –Chu (LLC) test, Im-Perseram-Shin (IPS) test, Augmented-Dickey-Fuller (ADF) test, Philip-Peron (PP) test), and Panel rho-statistic test based on the correlation between the estimated residuals and the lagged levels of the variables (Pedroni, 2004) to determine if the individual time series are integrated of order 1, $I_{(1)}$. Otherwise, not testing for unit roots can cause biased estimates of regression coefficients, leading to incorrect conclusions. The study employ Levin-Lin-Chu (LLC) and Im-Perseran-Shin (IPS) tests.

Cointegration Test: Perform a cointegration test (e.g Pedroni test, Kao test and Johansen Firsher test) to determine if there is a long-run relationship between the variables.

Step 3: Estimate the FMOLS

Estimate the Long-Run Relationship: Estimate the long-run relationship between the variables using the FMOLS estimator.

Step 4: Diagnostic Checks

Residual Analysis: Perform residual analysis to check for serial correlation, heteroscedasticity, and normality.

Step 5: Interpret the Results:

Interpret the Coefficients: Interpret the estimated coefficients in terms of the long-run relationship between the variables.

Check for Causality: Perform causality test, such as the Granger Causality test, to determine the direction of causality between the variables. The study will employ the Pair Wise Dumitrescu-Hurlin panel causality for objective IV which examine whether there is causal relationship between intra-regional trade and economic growth in ECOWAS sub-region.

By following these steps, you can implement the FMOLS regression method to estimate cointegrating relationships between time series variables in a panel data setting.

Consistency of the Fully Modified Ordinary Least Squares (FMOLS) regression estimator is conducted by comparing the estimated parameters of the pool OLS, fixed effect and the random effects with that of the FMOLS method.

4.6 Sources of Data

In this study, panel data on relevant variables in 13 ECOWAS countries for the period 1990 to 2023 is used for the Fully Modified Ordinary Least Squares (FMOLS) regression estimation method. The 13 countries are Benin, Burkina Faso, Cape Verde, Cote d' Voire, The Gambia, Ghana, Guinea, Niger, Nigeria, Mali, Sierra- Leone, Senegal, Togo. The relevant data will be obtained from the World Bank's World Development Indicators

(WDI), and World Integrated Trade Solution (WITS). These sources were so chosen because data from them are widely used by the World Bank (2006-2020), respected for accuracy, comprehensiveness, and innovative visualization tools, making them valuable resources for researchers, policymakers, and its credibility in the field of economic development and data analysis (IMF, 2020).

CHAPTER FIVE

EMPIRICAL ANALYSIS

5.1 Introduction

This chapter presents the empirical results and the analysis. The analysis of results starts with the presentation of descriptive statistics. This is followed by the presentation of the correlation analysis. Also, the panel unit root and the co-integration tests are presented. The results of the estimated model are reported as well as the post diagnostic results as well as the causality analysis. Finally, the findings are discussed and policy implications suggested.

5.2 Descriptive Statistics

Descriptive statistics show the summary of data and other basic characteristics within the series. The descriptive statistics for variables of the study are reported in Table 5.1.

Table 5.1: Descriptive Statistics

	Mean	Max.	Min.	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Prob.
GDPC	1.600	19.43	-22.31	4.293	-0.488	9.147	713.4	0.000
INV	20.33	52.67	-2.424	8.174	0.637	4.221	57.37	0.000
CRPS	14.86	68.46	0.001	11.94	1.804	7.104	550.0	0.000
HCD	38.72	101.4	5.550	19.95	0.440	2.758	15.36	0.000
IRTS	8.902	68.92	0.210	15.62	2.799	9.755	1417	0.000
POP	2.590	5.906	-1.900	0.823	-1.117	7.715	501.3	0.000
TO	56.65	131.5	22.97	18.67	0.896	4.022	78.35	0.000

Source: Author's computation from E-views 8.0

As depicted in Table 5.1, GDP per capita growth (GDPC) has a mean of 1.6% over the period of review which confirms that ECOWAS countries have been unable to maintain a sustained growth trajectory of 5% and above over the period with a standard deviation of

4.29 indicating instability in growth pattern across countries during the period has not been severe. The GDP per capita growth ranged from a minimum negative value of 22.3% to a maximum value of 19.43% within the period of review. The wide disparity further buttresses the differential (heterogenous) rates of growth in the sampled countries over the period. The value of skewness for GDP per capita growth rate is -0.49. This means that the distribution of GDP per capita growth is skewed slightly to the left and that growth series were centered on the mean value. Its kurtosis value of 9.15 indicates that the distribution of GDP per capita growth is leptoturkic. The Jarque-Bera value is 713.38 with probability value less than 0.01 indicates that GDP per capita growth is not normally distributed at the 5% significance level.

The mean value of intra-regional trade share (IRTS) of total trade volume in the ECOWAS region is 8.90% this indicates that trade among ECOWAS countries is not contributing much to economic growth in the region within the period of review. The maximum and minimum values are 68.92% and 0.21% respectively showed a wide disparity in trade among countries in the sub-region. The skewness value (2.80) shows that intra-regional trade share is positively skewed and that the series is closely centered on the mean. Its Kurtosis (9.75) indicates that the distribution is peaked. The Jarque-Bera value of 1417 with probability value less than 0.01 suggests that the variable is not normally distributed.

For population growth rate (POP), the mean value for the period under review is 2.59% with a standard deviation of 0.82. Its maximum and minimum values for the period are 5.9% and

-1.90% respectively. Its skewness (-1.12) shows that the distribution of population growth rate is skewed slightly to the left. Its Kurtosis (7.71) indicates that the distribution is relatively peaked. The Jarque-Bera statistic (501.2) with a p-value less than 0.01 indicates that the variable is not normally distributed.

The average value of trade openness (TO) for the period under review is 56.65%. The maximum and minimum values are 131.5% and 22.97% respectively. The skewness value (0.90) shows that trade openness is slightly positively skewed. Its Kurtosis (4.02) indicates that the distribution is peaked. The Jarque-Bera value of 78.35 with probability value less than 0.01 suggests that the variable is not normally distributed.

Investment (INV) in circulation has a mean of 20.33. The investment ranged between -2.42 and 52.67 within the period. The value of skewness for investment is 0.63. This means that the distribution of investment is skewed slightly to the right. Its kurtosis value of 4.22 indicates that the distribution of Investment is peaked. The Jarque-Bera value is 57.37 with probability value less than 0.01. It indicates that investment is not normally distributed at the 5% significance level.

The average value of credit to the private sector (CRPS) for the period under review is 14.86. The maximum and minimum values are 68.46 and 0.001 respectively. The skewness value (1.80) shows that CRPS is positively skewed. Its Kurtosis (4.23) indicates that the distribution is peaked. The Jarque-Bera value of 550.02 with probability value less than 1% suggests that the variable is not normally distributed.

The mean value of the human capital development index (HCD) is 38.72. The maximum and minimum values are 101.39 and 5.55 respectively. The skewness value (0.44) shows

that the human capital development index is positively skewed. Its Kurtosis (2.76) indicates that the distribution is platykurtic. The Jarque-Bera value of 15.36 with probability value less than 0.01 suggests that the variable is not normally distributed.

5.3 Pair-wise Correlation

To further analyze the behavioural patterns of the data series in terms of the nature and degree of relationship between the variables used in the study, the ordinary correlation analysis is conducted on the data. The correlation matrix for all the variables in the study is reported in Table 5.2.

The results reveal that the correlation between intra-regional trade share (IRTS) and economic growth (GDP per capita growth) is negative ($r = -0.02$, $p= 0.74$) though not significant at the 5% level. This implies that intra-trade in ECOWAS sub-region does not contribute meaningfully to economic growth within the region. On the other hand, the results reveal that GDP per capita growth (GDPC) and trade openness (TO) are positively correlated ($r = 0.23$, $p < 0.01$). The results show that countries with high economic growth (GDP per capita growth rates) are likely to be more open to intra-trade. Also, the correlation between GDP per capita growth and human capital development (HCD) is positive ($r = 0.15$, $p= 0.002$). It reveals that the development of human capital is associated with improved economic growth (GDP per capita growth rate).

Table 5.2: Pair-wise Correlation Matrix

Correlation Probability	GDPC	INV	CRPS	HCD	IRTS	POP	TO
GDPC	1.000						
INV	0.256 0.0000	1.000					
CRPS	0.124 0.009	0.502 0.000	1.000				
HCD	0.150 0.002	0.276 0.000	0.521 0.000	1.000			
IRTS	-0.016 0.740	0.016 0.745	-0.097 0.041	0.021 0.657	1.000		
POP	-0.018 0.703	-0.192 0.001	-0.425 0.000	-0.487 0.000	0.027 0.565	1.000	
TO	0.226 0.000	0.413 0.000	0.535 0.000	0.440 0.000	-0.062 0.190	-0.358 0.000	1.000

Source: Author's computation from E-views 8.0

Furthermore, GDP per capita growth is positively correlated with credit to the private sector (CRPS), ($r = 0.12$, $p < 0.01$) suggesting that high GDP per capita growth rate is linked with increased credit to the private sector. Similarly, the correlation between GDP per capita growth (GDPC) and investment (INV) are positively correlated ($r = 0.26$, $p < 0.01$). Countries with high investment levels are associated with high GDP per capita growth rates. Again, the correlation between population growth (POP) and GDP per capita growth is negative ($r = -0.02$, $p= 0.70$) though not significant at the 5% level. As shown in the table, the correlation coefficients among the explanatory variables are weak. The implication of the correlation results indicates that there is no multicollinearity problem among the explanatory variables used in the study.

5.4 Panel Unit Root Tests

In this section, the results of the panel unit root tests using the Levin, Lin & Chu and Im, Pesaran & Shin tests at levels and first differences are presented and analyzed.

Table 5.3 Levin, Lin & Chu and Im, Pesaran & Shin Panel Unit Root Tests at Levels

	Levin, Lin & Chu			**Im, Pesaran & Shin**		
	Null Hypothesis: Unit root (assumes common unit root process)					
Variable	t-Statistic	Probability	Remarks	W-Statistic	Probability	Remarks
GDPC	-7.0286	0.0000	Stationary	-7.4690	0.0000	Stationary
INV	1.9365	0.9736	Non-Stationary	0.1035	0.5412	Non-stationary
CRPS	-0.2097	0.4169	Non-Stationary	0.6997	0.7579	Non-stationary
HCD	-1.4548	0.0729	Non-Stationary	1.7119	0.9565	Non-Stationary
IRTS	-0.6337	0.2631	Non-Stationary	-0.4703	0.3191	Non-Stationary
POP	-4.8038	0.0000	Stationary	-5.5796	0.0000	Stationary
TO	0.2031	0.5805	Non-stationary	-0.8434	0.1995	Non-Stationary

Source: Author's computation from EViews 8.0

From Table 5.3, the results based on Levin, Lin & Chu test showed that investment (INV), credit to private sector (CRPS), human capital development (HCD), intra-regional trade share (IRTS), and trade openness (TO) are non-stationary at levels whereas, GDP per capita growth (GDPC) and population growth (POP) are stationary at levels. Similarly, using the Im, Pesaran & Shin test, it was found that investment (INV), credit to private sector (CRPS), human capital development (HCD), intra-regional trade share (IRTS), and trade openness (TO) are non-stationary at levels whereas, GDP per capita growth (GDPC) and population growth (POP) are stationary at levels.

Table 5.4: Levin, Lin & Chu and Im, Pesaran & Shin Panel Unit Root Tests at First Differences

	Levin, Lin & Chu			Im, Pesaran & Shin		
	Null Hypothesis: Unit root (assumes common unit root process)					
Variable	t-Statistic	Probability	Remarks	W-Statistic	Probability	Remarks
D(INV)	-10.810	0.0000	Stationary	-12.618	0.0000	Stationary
D(CRPS)	-7.9363	0.0000	Stationary	-10.245	0.0000	Stationary
D(HCD)	8.24750	0.0000	Stationary	-11.833	0.0000	Stationary
D(IRTS)	-12.857	0.0000	Stationary	-8.0154	0.0000	Stationary
D(TO)	-10.827	0.0000	Stationary	-12.999	0.0000	Stationary

Source: Author's computation from EViews 8.0

As depicted in Table 5.4, the results based on Levin, Lin & Chu test showed that investment (INV), credit to the private sector (CRPS), human capital development (HCD), intra regional trade shares (IRTS), and trade openness (TO) are difference stationary. In the same vein, the IM, Pesaran & Shin test revealed that investment (INV), credit to the private sector (CRPS), human capital development (HCD), intra-regional trade shares (IRTS), and trade openness (TO) are difference stationary.

5.5 Panel Co-integration Tests

This section presents the analysis of the panel cointegration tests using the Pedroni, Kao residual and Johansen Fisher cointegration techniques.

Table 5.5: Pedroni Residual Co-integration Test

Series: GDPC, INV, CRPS, HCD, IRTS, POP, TO				
Alternative hypothesis: Common AR coefficients (within-dimension)				
	Statistic	Probability	Weighted Statistic	Probability
Panel v-Statistic	-0.1817	0.5721	-2.9136	0.9982
Panel rho-Statistic	-0.3892	0.3486	0.0042	0.5017
Panel PP-Statistic	-15.963	0.0000	-21.626	0.0000
Panel ADF-Statistic	-5.9951	0.0000	-6.6019	0.0000
Alternative hypothesis: Individual AR coefficients (between-dimension)				
	Statistic	Probability		
Group rho-Statistic	0.5753	0.7175		
Group PP-Statistic	-33.406	0.0000		
Group ADF-Statistic	-6.7883	0.0000		

Source: Author's computation from EViews 8.0

Table 5.6: Kao Residual Co-integration Test

Series: GDPC, INV, CRPS, HCD, INF, IRTS, POP,TO		
	t-Statistic	Probability
ADF	-5.8383	< 0.01
Residual variance	28.899	
HAC variance	8.3706	

Note. HAC is *heteroskedasticity and autocorrelation consistent*
Source: Author's computation from EViews 8.0

Table 5.7: Johansen Fisher Panel Co-integration Test

Series: GDPC, INV, CRPS, HCD, INF, IRTS, POP, TO				
Unrestricted Co-integration Rank Test (Trace and Maximum Eigen value)				
Hypothesized No. of CE(s)	Fisher Statistic (from trace test)	Probability	Fisher Statistic (from max-eigen test)	Probability
None	698.5	0.0000	316.7	0.0000
At most 1	344.1	0.0000	162.1	0.0000
At most 2	211.3	0.0000	99.68	0.0000
At most 3	126.1	0.0000	60.41	0.0001
At most 4	79.48	0.0000	38.36	0.0560
At most 5	55.23	0.0007	38.10	0.0593
At most 6	36.46	0.0835	29.62	0.2837
At most 7	41.50	0.0276	41.50	0.0276

Note. CE(s) is cointegrating equation(s)
Source: Author's computation from EViews 8.0

As Table 5.5 shows, the Pedroni residual cointegration test for the study's variables: GDPC, INV, CRPS, HCD, IRTS, POP, and TO, indicates that the null hypothesis of no cointegration cannot be accepted at the 5 percent level of significance. This is because six out of the eleven test statistics as revealed in the table are significant at the 5 percent level. Similarly, the Kao residual cointegration test, as shown in Table 5.6, indicates that a long run relationship exists among the study's variables. Furthermore, from Table 5.7, the Johansen Fisher panel co-integration test shows that there are at most four co-integrating equations among the study's variables. Thus, the three co-integration tests revealed that there is a long run relationship among the study's variables. It follows that the Fully

Modified Ordinary Least Squares (FMOLS) method can be used to estimate the long run relationship between the economic growth and the explanatory variables.

5.6 Results of the Estimated Fully Modified Ordinary Least Squares Model

This section sets out the results of the estimated FMOLS model for this study. The results are reported in Table 5.8.

Table 5.8: Estimated GDP Per Capita Growth Model

Dependent Variable: GDP Per Capita Growth Rate				
Independent Variable	Coefficient	Std. Error	t-Statistic	Prob.
Intra-regional trade share	-0.0023	0.04698	-0.04860	0.9613
Human capital development	0.05237	0.01386	3.77804	0.0002
Gross capital formation as % of GDP	0.07874	0.02282	3.44976	0.0006
Credit to private sector as a share of GDP	-0.11816	0.02868	-4.12010	0.0000
Population growth	1.38424	0.28527	4.85243	0.0000
Trade openness	0.01914	0.01063	1.80063	0.0725
Summary Statistics				
R-squared	0.17650			
Adjusted R-squared	0.14034			
Durbin-Watson stat	1.95276			

Source: Author's computation from EViews 8.0

The overall goodness of fit, the R-squared (R^2) and the adjusted R-squared (R^2) are approximately 0.18.and 0.14 respectively. The R^2 indicates that about 18 percent of the systematic variations in economic growth (GDP per capita growth) are accounted for by the independent variables in the model while, the adjusted R^2 shows about 14 percent of the systematic variations in economic growth (GDP per capita growth) are attributable to the explanatory variables. The Durbin Watson statistic of approximately 1.95 indicates absence of serial correlation in the model.

The signs of all the estimated coefficients of the explanatory variables in the model conformed to their *a priori* expectations except intra-regional trade share and credit to the private sector as a share of GDP. The coefficient of intra-regional trade share is negative

but not significant. The t-statistic failed the significance test at the 5 percent level (t=-0.05, p=0.96). Thus, intra-regional trade does not have any significant effect on economic growth (GDP per capita growth) in the ECOWAS sub region. The coefficient of human capital development index is positive and significant at 1 percent level of significance. Its coefficient is 0.05 (t=3.78, p<0.01). The t-statistic passed the significance test at the 1 percent level. Therefore, human capital development in terms of school enrollment has a positive significant impact on economic growth (GDP per capita growth) in the ECOWAS sub region. Similarly, the coefficient of gross capital formation as % of GDP is positive and significant at 1 percent level of significance (t=3.45, p<0.01). Hence, the implication is that investment expenditure has a positive significant effect on economic growth (GDP per capita growth) in the ECOWAS sub region. However, the estimated coefficient of credit to the private sector as a share of GDP is negative but significant at 1 percent level of significance (t=-4.12, p<0.01). Therefore, credit to the private sector as a share of GDP has an adverse effect on economic growth (GDP per capita growth) in the sub region.

The coefficient of population growth is positively signed. Its coefficient is 1.38 with a t-value of 4.85. It passed the test of statistical significance at the 1 percent level. Thus, population growth has a positive significant effect on GDP per capita growth in the region. The coefficient of trade openness is positive. Its coefficient is 0.02 and it has a t-value of 1.8 with a p-value of 0.07. This magnitude of t-statistic failed the significance test at the 5 percent level of significance. Hence, trade openness has a positive and not significant impact on economic growth (GDP per capita growth) in the ECOWAS sub region.

5.7 Robustness Analysis

To check for the robustness of the FMOLS results, the pooled OLS, Fixed Effects, and Random Effects estimates of the parameters were conducted. This was done solely for the purpose of comparison of the FMOLS estimates with those of the pooled OLS, Fixed Effects, and Random Effects to evaluate the consistency of the parameter estimates. The results of the pooled OLS, Fixed Effects, and Random Effects alongside the FMOLS are reported in Table 5.9.

Table 5.9: Estimated GDP Per Capita Growth Model using the Pooled OLS, Fixed Effects, and Random Effects Methods

Dependent Variable: GDP Per Capita Growth Rate				
Independent Variable	Pooled OLS	Fixed Effects	Random Effects	FMOLS
Intra-regional trade share	-0.00639	-0.04990	-0.00770	-0.00228
	(-0.50480)	(-0.76231)	(-0.54401)	(-0.04860)
Human capital development	0.02444**	0.05330**	0.02779**	0.05237*
	(1.95905)	(2.27004)	(2.18599)	(3.77804)
Gross capital formation as % of GDP	0.11716*	0.09043**	0.11665*	0.07874*
	(4.13309)	(2.96341)	(4.16811)	(3.44976)
Credit to private sector as a share of GDP	-0.03490	-0.12290*	-0.04110***	-0.11818*
	(-1.52655)	(-2.66273)	(-1.73613)	(-4.12010)
Population growth	0.52188***	1.30658***	0.64570**	1.38424*
	(1.85572)	(1.74554)	(2.29879)	(4.85243)
Trade openness	0.03901**	0.03114**	0.03853*	0.01914***
	(2.98606)	(2.04440)	(2.94541)	(1.80063)
Constant	-4.71459*	-5.17984**	-5.02401*	
	(-3.81540)	(-2.19753)	(-4.07337)	-
Summary Statistics				
R-squared	0.09893	0.17604	0.09328	0.17650
Adjusted R-squared	0.08650	0.14097	0.08077	0.14034
Durbin-Watson stat	1.77436	1.93539	1.79864	1.95276
F-Stat.	7.95957	5.02066	7.45821	-
	[0.0000]	[0.0000]	[0.0000]	
Correlated Random Effects - Hausman Test				
Chi-Square Statistic			26.9433	
			[0.0001]	

Note. t-statistics are in braces; probabilities in square brackets; *. **, & *** indicate significance at the 1%, 5%, & 10% levels.
Source: Author's computation from EViews 8.0

A cursory look at the overall goodness of fits, the R-squared (R^2) and the adjusted R-squared (R^2) of the various estimation techniques, the FMOLS technique performed best followed by the Fixed Effects method. The Fixed Effects method performed much relatively better than the two other estimation techniques because the results of the correlated random effects test revealed that the appropriate estimating technique between pooled OLS, fixed effects and random effects is the fixed effects model. As shown at the bottom panel of Table 5.9, Hausman test for correlated random effects reveals that we cannot accept the null hypotheses of cross-section random effects in the data set (2=26.94, $p<0.01$) at the 1% significance level. Also, the Durbin Watson statistics across the various methods indicate absence of serial correlation in the model. Furthermore, the F-statistics reported by the other methods (Pooled OLS, Fixed Effects and Random Effects) show that the overall model is significant at the 5% level depicting consistency of the estimated parameters.

By comparing the estimated signs of the parameters across the various methods, it can be observed that are consistent in all the models. In all the models, the signs of all the estimated coefficients of human capital development, gross capital formation as % of GDP, population growth, and trade openness in the model conformed to their *a priori* expectations except intra-regional trade share and credit to private sector as a share of GDP. Furthermore, in terms of the magnitudes and significance of the estimated parameters, it can be observed that there are no significant fluctuations in the parameters and their levels of significance. This reveals that the estimated parameters are consistent across the various panel techniques adopted in this study. It, therefore, follows that the FMOLS method which accounts for co-integrating relationships among the variables, endogeneity and cross

sectional effects is robust to estimating the long run relationship among the parameters of economic growth (GDP per capita growth) in relation to the selected variables in this study.

5.8 Post Diagnostic Analysis

In this section, post diagnostic tests of the FMOLS estimation are provided. This is to further evaluate the robustness of the parameter estimates of the FMOLS technique. The post-diagnostic tests include: multicollinearity test using the Variance Inflation Factors method, heteroskedasticity test using the Likelihood Ratio, and serial correlation test using the correlogram method.

5.8.1 Multicollinearity Test

Table 5.10 presents the results of the multi-collinearity test based on the Variance Inflation Factors (VIFs) of the explanatory variables used in the study. The VIFs are a method of measuring the level of collinearity between the regressors in an equation. VIFs show how much of the variance of a coefficient estimate of a regressor has been inflated due to collinearity with the other regressors. They can be calculated by simply dividing the variance of a coefficient estimate by the variance of that coefficient had other regressors not been included in the equation.

Table 5.10 Multi-Collinearity Test

Variable	Coefficient Variance	Uncentered VIF
Intra-regional trade share	0.00083	1.06413
Human capital development	0.00042	1.72580
Gross capital formation as % of GDP	0.00198	1.09581
Credit to private sector as a share of GDP	0.00051	1.54312
Population growth	0.00022	1.20121
Trade openness	0.00061	1.12798

Source: Author's computation from E-views 8.0

As shown in Table 5.10, all the explanatory variables exhibit very low variance inflation factors. The VIFs are all much less than 5 suggesting a very minimal or weak multi-collinearity among the variables. The VIFs test supports the earlier finding of absence of multicollinearity based on the pair-wise correlation analysis among the variables in the preliminary section.

5.8.2 Heteroskedasticity Test

The results of the heteroskedasticity test using the Likelihood ratio are presented in Table 5.11.

Table 5.11 Heteroskedasticity Test

	Value	Df	Probability
Likelihood ratio	179.947	13	0.0000
LR test summary:			
	Value	**Df**	
Restricted LogL	-1256.19	436	
Unrestricted LogL	-1166.21	436	

Source: Author's computation from E-views 8.0

As shown in Table 5.11, the likelihood ratio (179.95) for the test of heteroskedasticy is significant at the 1% level. Thus, the null hypothesis that the residuals are homoscedastic cannot be rejected at the 1% level. This indicates that there is cross-section

heteroskedasticity in the residuals in the model. To correct this problem, the FMOLS model was estimated using a variance-covariance method robust to heteroskedasticity.

5.8.3 Serial Correlation Test

The results of the serial correlation test using the correlogram based on the Q-statistics are presented in Table 5.12.

Table 5.12 Correlogram Test

Autocorrelation	Partial Correlation		AC	PAC	Q-Stat	Prob*
.|. |	.|. |	1	0.024	0.024	0.2570	0.612
.|. |	.|. |	2	0.010	0.009	0.2974	0.862
.|. |	.|. |	3	0.007	0.006	0.3167	0.957
.|. |	.|. |	4	0.009	0.009	0.3543	0.986
.|. |	.|. |	5	-0.003	-0.003	0.3579	0.996
.|. |	.|. |	6	0.008	0.008	0.3879	0.999

Source: Author's computation from E-views 8.0

As depicted in Table 5.12, the Q-statistics of the autocorrelation and partial autocorrelation are not statistically significant up to a lag order of 6 at the 5% level. Thus, the null hypothesis that the residuals are serially not correlated cannot be rejected at the 5% level. This indicates that there is no serial correlation in the residuals in the model.

5.9 Granger Causality Tests

The reverse role of economic growth on intra-trade and trade openness can also be considered. This indicates that the level of output growth in the real sector of a country could either contribute to intra-trade and trade openness and intra-trade and trade openness could in turn contribute to economic growth or mitigate it depending on the net effect intra-trade participation has on the domestic economy. In conducting this analysis, the reverse relationship is estimated using the pair-wise Dumitrescu-Hurlin panel causality tests. The results are reported in Table 5.13.

Table 5.13 Pair-wise Dumitrescu-Hurlin Panel Causality Tests

Null Hypothesis	W-Statistic	Zbar-Statistic	Probability
IRTS does not homogeneously cause GDPC	2.8165	1.0114	0.3118
GDPC does not homogeneously cause IRTS	1.8277	-0.5120	0.6087
TO does not homogeneously cause GDPC	3.5417	2.1287	0.0333
GDPC does not homogeneously cause TO	2.5849	0.6546	0.5127
HCD does not homogeneously cause GDPC	4.8724	4.1787	3.E-05
GDPC does not homogeneously cause HCD	2.2104	0.0776	0.9381
INV does not homogeneously cause GDPC	4.7276	3.9557	8.E-05
GDPC does not homogeneously cause INV	1.6139	-0.8413	0.4002
CRPS does not homogeneously cause GDPC	3.9970	2.8302	0.0047
GDPC does not homogeneously cause CRPS	2.2696	0.1688	0.8659
POP does not homogeneously cause GDPC	5.0806	4.4996	7.E-06
GDPC does not homogeneously cause POP	1.8344	-0.5016	0.6160

Source: Author's computation from EViews 8.0

As depicted in Table 5.13, the pair-wise panel causality tests revealed that intra-regional trade share (IRTS) does not homogenously cause GDP per capita growth rate (GDPC). On the other hand, GDP per capita growth rate does not homogenously cause intra-regional trade share in the ECOWAS sub region. This, therefore, implies that there is no causality between GDP per capita growth rate and intra-regional trade share with causality running from either GDP per capita growth rate or intra-regional trade share to each other. However, the tests showed that trade openness (TO) causes GDP per capita growth rate but not *vice versa*. Thus, the tests revealed that there is a unidirectional relationship between trade openness and GDP per capita growth rate. That is, causality runs unilaterally from trade openness to GDP per capita growth rate in the ECOWAS sub region within the period of review. Similarly, it was found that human capital development (HCD) causes GDP per capita growth rate but not *vice versa*. This implies that causality runs from human capital development to GDP per capita growth rate in the ECOWAS sub region within the period of review. In the same vein, gross capital formation (INV) causes GDP per capita rate but not vice versa. Also, the tests revealed that there is a unidirectional relationship

between credit to the private sector and GDP per capita growth rate. In other words, credit to the private sector causes economic growth but not the reverse. Lastly, it was found that population growth (POP) causes GDP per capita growth rate but not the reverse. Thus, causality runs unilaterally from population growth to GDP per capita growth rate in the ECOWAS sub region.

5.10 Hypotheses Testing

In this section, a further confirmation of the empirical results to test the relevant hypotheses that were stated in the study is conducted. This is to enable us determine whether the given null hypotheses are accepted or rejected. The hypotheses testing are conducted as follows:

Results of the Estimated Fully Modified Ordinary Least Squares Model

Hypothesis 1

Intra- trade does not have an impact on economic growth in the ECOWAS region. From the empirical results, the coefficient of intra-regional trade shares is negative but insignificant as its t-statistics of 0.0486 (in absolute value) fail the significant test at the 5% level. We therefore accept the null hypothesis that intra-trade does not have an impact on economic growth in ECOWAS region.

Hypothesis 2

Human capital development does not have an impact on economic growth in the ECOWAS sub-region. From the empirical results, it showed that the coefficient of human capital development is positive and statistically significant. The t-statistics of 3.7780 (in absolute value) pass the significant test at the 1% significant level. We therefore reject the

null hypothesis and conclude that human capital development in terms of school enrollment have an impact on economic growth in ECOWAS sub-region.

Hypothesis 3

Investment does not influence economic growth in ECOWAS sub-region. From the empirical results investment coefficient is positive and significant at 1 percent level of significance ($t=3.45$, $p<0.01$). We therefore reject the null hypothesis and conclude that investment expenditure has a positive significant effect on economic growth (GDP per capita growth rate) in the ECOWAS sub region.

Pair-wise Dumitrescu-Hurlin Panel Causality Tests

Hypothesis 4

Intra- trade does not have a causal relationship with economic growth in the ECOWAS sub region. The pair-wise panel causality tests result showed that the Zbar-statistic value is 1.01135 while the Probability value is 0.3118 which is insignificant and revealed that intra-regional trade share (IRTS) does not homogenously cause GDP per capita growth rate (GDPC). On the other hand, GDP per capita growth rate does not homogenously cause intra-regional trade share in the ECOWAS sub region. This, therefore, implies that there is no causality between GDP per capita growth rate and intra-regional trade share with causality running from either GDP per capita growth or intra-regional trade share to each other.

5.11 Discussion of Findings

This study investigated the impact of intra-trade and other macroeconomic variables on economic growth, proxied by GDP per capita growth rate, in the ECOWAS sub-region. The results yield several insights regarding the nature and strength of these relationships,

particularly within the broader framework of regional integration, investment, and development economics. The model's overall explanatory power, as shown by an R-squared (R^2) value of 0.18 and an adjusted R-squared ($\bar{R}^2$) of 0.14, indicates that the included variables explain approximately 14–18% of the variation in GDP per capita growth rate in the ECOWAS region. While relatively low, this is not uncommon in cross-country panel studies of developing economies, where growth is often influenced by unobserved heterogeneity which can make it challenging to capture the relationship between intra-trade and economic growth using a single model, differences in structural factors, policies, external shocks resulting from limited economic diversification and other factors across member states might not be adequately captured. Importantly, the Durbin-Watson statistic of approximately 1.95 falls within the acceptable range, indicating no evidence of serial correlation in the residuals and reinforcing the robustness of the model.

Contrary to theoretical expectations and economic integration advantages, the coefficient of intra-regional trade share is negative and statistically not significant ($t = -0.05$, $p = 0.96$). This suggests that, over the study period, trade among ECOWAS countries has not played a meaningful role in driving economic growth (GDP per capita growth). The negative coefficient of intra-regional trade shares and the not significance may reflect structural constraints, including limited product complementarity, poor infrastructure that support intra-trade, persistent trade barriers within ECOWAS sub region, some member states consistently import more than they export within the region, and inconsistent customs procedure that increase time spent. Also intra-trade driven by export of primary products such as oil, minerals, and agricultural product without value addition and such are affected by international price shocks impacting on the revenue inflow needed for growth, and no

diversified economy make the region vulnerable to external shock and reducing the potential benefits of intra-trade. This finding is supported by the works of Orji, et al (2022) who discovered that aggregate regional integration in five dimensions (composite regional integration index) though has a positive relationship with economic growth, does not exert a significant impact on economic growth in ECOWAS members. Similarly, Jirbo, Jonathan and Atayi (2022) observed that trade share has a negative and not significant effect on economic growth in ECOWAS.

Also, the not significance of intra-trade on GDP per capita growth in the region can be attributed to the pastry low average value of intra-regional trade share observed within the study period to be 8.9%. It is far below that of more integrated blocs like the EU or ASEAN thereby limiting its ability to stimulate demand, innovation, or investment within the ECOWAS sub region. The result may point to a gap between trade policy commitments (e.g., ECOWAS Trade Liberalization Scheme) and practical implementation, where non-tariff barriers and regulatory misalignments still hamper trade flows. Therefore, this finding highlights a critical need to deepen regional trade reforms, invest in cross-border infrastructure, and enhance trade facilitation to make intra-ECOWAS trade more growth-inducing.

The positive and highly significant coefficient of the Human Capital Development Index ($t = 3.78$, $p < 0.01$) confirms the pivotal role of education in enhancing productivity and economic performance. This finding conforms to those of Ozekhome (2016) that human capital development is a driver of growth. Human capital improves labor quality and innovation capacity, allowing ECOWAS countries to move up the value chain. Countries with higher school enrollment rates (e.g., Cape Verde, Ghana, Gambia, and Togo) have

witnessed more robust growth trajectories, reinforcing the importance of education-sector investment. This finding underscores the need for regional coordination on education policies, curriculum modernization, and skills development to sustain long-term growth.

The coefficient for gross capital formation (as % of GDP) is also positive and statistically significant ($t = 3.45$, $p < 0.01$), indicating that physical investment plays a crucial role in economic growth in the ECOWAS region. This finding is in line with those of Sare, et al., (2018) and Malefane and Odhiambo (2021) who suggested that enhancing physical infrastructure is instrumental to reaping the long term benefits of trade openness on growth. Capital investment boosts productive capacity and infrastructure, stimulates private sector activity, and generates employment. The significance of this variable aligns with the Solow growth model and classical theories emphasizing the centrality of investment in growth processes. The findings support policies that promote both public and private investment, particularly in infrastructure, manufacturing, and technology-intensive sectors.

Unexpectedly, the coefficient of credit to the private sector as a share of GDP is negative and significant ($t = -4.12$, $p < 0.01$), suggesting that increasing credit to the private sector is associated with slower GDP per capita growth rate. A possible explanation for this finding may be due to misallocation of funds. In many ECOWAS countries, financial institutions may channel credit toward consumption or non-productive sectors rather than growth-enhancing investments. Again, this may be because of weak financial intermediation and regulatory systems in the ECOWAS sub region: Underdeveloped banking systems and high default risks could impair the efficiency of credit allocation. Poor credit governance and limited support for SMEs may exacerbate inefficiencies in the financial sector. This result implies that merely expanding credit volumes is insufficient; institutional reforms

and better targeting of productive sectors are essential to harness credit as a tool for economic growth.

The positive and significant coefficient of population growth challenges some traditional views that rapid population growth undermines per capita income, especially in developing regions. A possible explanation for this finding is that countries with a growing working-age population may experience enhanced labor supply and domestic demand. Larger populations can expand internal markets and attract investment if properly managed. However, the benefit is likely conditional on education, health, and employment policies. Thus, the finding should be interpreted cautiously and seen as potential rather than automatic.

The coefficient of trade openness is positive ($t = 1.8$, $p = 0.07$) but not statistically significant at the 5% level. The reason for this could be that, while trade openness may encourage growth, its effects are not yet strong or consistent across the sub-region. This is because ECOWAS trade openness often reflects exports of primary commodities (e.g., oil, cocoa, gold), which have volatile prices and limited value-added. Again, most ECOWAS countries' exports are not diversified. They export similar goods, limiting the benefits of openness. Furthermore, high trade openness increases vulnerability to global market fluctuations, possibly neutralizing growth benefits. Therefore, this calls for diversification of exports and deeper participation in global value chains to make openness more growth-enhancing.

The findings provide some insights into the drivers of economic growth in the ECOWAS sub-region. While intra-trade currently lacks significant impact, other variables—

particularly human capital development, gross capital formation, and population growth—emerge as critical contributors to GDP per capita growth rate. Conversely, the negative effect of credit to the private sector and the limited effect of trade openness suggest that structural and policy-level inefficiencies undermine the potential benefits of financial and trade liberalization. These results underline the importance of targeted policy interventions, including: enhancing regional trade infrastructure and reducing barriers, reforming financial systems for more productive credit allocation, investing in human capital and physical infrastructure, diversifying exports and improving value addition, and aligning regional trade policies with national development plans.

5.12 Policy Implications

The policy implications of the study are:

Improve Trade Infrastructure: Invest in infrastructure and logistics to facilitate trade and reduce costs.

Promote Value-Added Trade: Encourage trade in value-added products to increase benefits from intra-trade.

Address Non-Tariff Barriers: Identify and address non-tariff barriers to facilitate trade and promote economic integration.

Diversify Economies: Encourage economic diversification to reduce dependence on primary commodities and increase resilience to trade shocks.

Enhance Regional Cooperation: Strengthen regional cooperation to promote economic integration and cooperation among ECOWAS member states.

CHAPTER SIX

SUMMARY OF FINDINGS, RECOMMENDATIONS AND CONCLUSION

6.1 Introduction

In this chapter, the main findings of the study are summarized. Next, the recommendations of the study and conclusion are provided. Lastly, the contribution to knowledge and recommendations for further studies are stated.

6.2 Summary of Findings

The major findings of this study are stated as follows:

Intra-regional trade share is negative and statistically insignificant. This suggests that, over the study period, trade among ECOWAS countries has not played a meaningful role in driving economic growth (GDP per capita growth).

Human capital development has a significant positive impact on GDP per capita growth in the ECOWAS sub region.

Investment (gross capital formation as % of GDP) has a positive significant impact on GDP per capita growth indicating that physical investment plays a crucial role in economic growth in the ECOWAS region.

Intra-regional trade share (IRTS) does not homogenously cause GDP per capita growth (GDPC). This, therefore, implies that there is no causality between intra-regional trade share and GDP per capita growth.

6.3 Policy Recommendations

Based on the empirical findings of this research, the following recommendations have been proffered:

1. **The ECOWAS should implement the ECOWAS common external tariffs:** ECOWAS should fully implement the common external tariffs and eliminate non tariff barriers, such as inconsistent customs procedures, excessive checkpoints, and

unofficial fees that hinder the free movement of goods and services to boost intra-trade within the ECOWAS sub-region.

2. **ECOWAS should fund cross border infrastructure:** ECOWAS member states should prioritize and fund cross-border infrastructure projects, including roads, railways, energy grids, and digital infrastructure, to reduce transaction costs and improve trade connectivity.
3. **Trade agencies should be enhanced:** Enhance the capacity and transparency of customs authorities, trade ministries, and regional economic bodies to improve compliance, reduce corruption, and accelerate border processing times. Establish one stop border posts to facilitate seamless trade flows.
4. **Encourage domestic industries:** Domestic industries should be encouraged to participate in regional value chains, especially in agriculture, agro-processing, textiles, and light manufacturing. Promote specialization and intra-regional sourcing of inputs to deepen economic interdependence and shared growth.
5. **Establishment of financial mechanism:** ECOWAS member states should establish regional financial mechanisms to support trade financing, especially for SMEs, to address liquidity constraints and facilitate cross-border trade.
6. **Use data to guide policy:** Enhance data collection, sharing and analysis to inform decision making and targeted intervention for economic growth.
7. **Implement ECOWAS protocol:** Fully implement the ECOWAS protocol on free movement of persons, goods, and services, ensuring recognition of travel documents and rights of residence and establishment.

8. **Train trade agencies regularly:** Provide regular training for customs officials, border agents, and trade operators on trade rules, digital platforms, and best practices to boost professionalism and efficiency.

6.4 Contribution to Knowledge

1. The study contributes to the literature by providing evidence that intra-regional trade has an adverse and statistically not significant impact on GDP per capita growth in the ECOWAS sub-region. The study reveals that trade within ECOWAS remains shallow and underperforming. This insight challenges the view that intra-regional trade is beneficial within ECOWAS and highlights the need to assess the current trade liberalization policy and implementation practices within the region.
2. By demonstrating that intra-trade has not significantly contributed to GDP per capita growth in ECOWAS, it provides empirical evidence that regional integration alone is not sufficient to drive growth without complementary structural, institutional, and infrastructural reforms.
3. Unlike generalized studies on African trade, it focuses specifically on ECOWAS, providing insights into region-specific trade impediments, including customs inefficiencies, poor connectivity, poor infrastructural trade facilities, and weak implementation of regional trade agreements and regulations.
4. The research provides contextualized insights specific to intra-trade in the ECOWAS sub region, offering policymakers and scholars a clearer understanding of how intra-regional trade flows influence GDP per capita growth.

6.5 Recommendations for Further Studies

1. Future research could expand the study beyond intra-trade and explore the type and value-added content of goods and services exchanged within the ECOWAS sub region. This can help determine whether low economic impact stems from low-productivity or primary commodity trade rather than high-value or industrial trade.
2. Further studies should assess how institutional factors-such as regulatory frameworks, corruption levels, and policy consistency-moderate the relationship between intra-regional trade, credit flows, and economic growth in ECOWAS countries.
3. Since ECOWAS countries differ significantly in size, economic structure, and institutional strength, future studies should conduct country-specific or cluster-based analyses to better understand variations in how intra-regional trade influences growth patterns.
4. Further line of research should expand the cross-session, in order to broaden investigative scope and employ other econometric techniques such as the Pool Mean Group (PMG) estimator, Mean Group (MG) estimator, Panel Vector Autoregressive (PVAR), Panel Vector Error Correction Model (PVECM) and the Structural Vector Autoregressive (SVAR) to validate previous results.

6.6 Conclusion

This study examined the impact of intra-trade on economic growth, proxied by GDP per capita growth, in the ECOWAS sub-region. In contrast to theoretical expectation, the findings of this study showed that intra-trade had an adverse and statistically not significant impact on economic growth (GDP per capita growth) in the ECOWAS sub-region. The implication is that, over the study period, trade among ECOWAS countries had not played a meaningful role in driving GDP per capita growth. This may be attributed

to limited product complementarity, weak trade infrastructure, and persistent trade barriers within ECOWAS sub region, which reduce the growth-enhancing benefits of intra-trade.

The finding points to a gap between trade policy commitments and practical implementation, where non-tariff barriers and regulatory misalignments still hamper trade flows. Therefore, this finding highlights a critical need to deepen regional trade reforms, invest in cross-border infrastructure, and enhance trade facilitation to make intra-trade more growth-enhancing in the region. The findings revealed that while intra-trade currently lacks significant impact, other variables-particularly human capital development, gross capital formation, and population growth-emerge as critical contributors to GDP per capita growth. However, the negative effect of credit to the private sector and the limited effect of trade openness suggest that structural and policy-level inefficiencies undermine the potential benefits of financial and trade liberalization. The findings highlight the importance of targeted policy interventions, including: enhancing regional trade infrastructure and reducing barriers, reforming financial systems for more productive credit allocation, investing in human capital and physical infrastructure, diversifying exports and improving value addition, and aligning regional trade policies with national development plans.

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