Journal of Economic Studies (JES)
Department of Economics,
Nnamdi Azikiwe University, Awka,
Anambra State, Nigeria.
Web: www.nauecojournals.com
ISSN 1119-2259

GLOBAL VALUE CHAIN, ECONOMIC INTEGRATION AND ECONOMIC DEVELOPMENT: IMPLICATION FOR ECOWAS

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Abstract

This study examined the effect of Global Value Chain and economic integration on economic development in selected ECOWAS countries. This paper used a Linear Panel Autoregressive Distributed Lags/Pooled Mean Group (ARDL/PMG) approach to determine the effect of Global Value Chain and economic integration on economic development among ECOWAS countries between 1995 and 2022. From the panel ARDL/PMG estimation, we found that in the long run, Global Value Chain and Foreign Direct Investment have significant long-run relationship with GDP per capita among selected ECOWAS countries. A 1% increase in Global Value Chain and Foreign Direct Investment will increase the GDP per capita by 31% and 16% respectively among the selected ECOWAS countries. The short run result revealed that Global Value Chain and Domestic Credits to Private sector have contradictory relationship with GDP per capita. While Global Value Chain revealed positive relationship, Domestic Credits to Private sector showed negative relationship. The speed of adjustment of the economic development function to equilibrium in the event of disequilibrium in the short run is 43%. Given the findings, this study recommends a more vibrant participation of ECOWAS member countries in Global Value Chain and economic integration considering its resultant positive effect on economic development.

Keywords: Global value chain, Trade agreement, Economic development, Foreign direct Investment, Panel studies

JEL Classification Codes: C23, F13, F15, F36, F63

1.0 Introduction

The pursuit for reduction in the cost of trade, effective participation in the ever-growing competitive global market as well as attainment of sustainable growth among developing and developed economies have recently necessitated class participation of international firms in global value chain (Cusolito, Safadi & Taglioni, 2016, Escaith 2014, Lwesya, 2021).

Global value chains (GVC) have of recent been seen as a vital component for development mainly among the development nations. Hence, there has been a continued

expansion of Global Value Chains (GVCs) (Osabuohien, Karakara & Edafe, 2024). It is believed that regional settings and agreements for trade such as the Economic Communities of West African States tends to create opportunities for production networks sufficient enough to spread among countries as well as propel interconnected governance structures that drives global trade at international and regional levels (Allard, Kriljenko, Chen, Gonzalez-Garcia, Kitsios, Treviño, 2016). World Bank, (2020) has even regarded Global value chains as been a major catalyst necessary to eradicate poverty and attain growth in industrialization especially in developing countries of the world. World Bank, (2020) further noted that a 1% increase in a country's participation in GVC translates to a gain in per capita income of 1% and this is equivalent to about five times the gain of about 0.2% accruing from normal trade.

In the consideration of the benefits that are accruable to participating countries on the global space, several works have consistently revealed that given the attraction of investment worldwide, there is the need for an existence of deliberate will by the host country as well as the existence of regional economic integration (Olayungbo & Iqbal, 2021). Specifically, the county's foreign direct investment actively engages in prominent role necessary in the industrialization process by ensuring access to capital, technology and new managerial skills, and enabling the integration of local economies with international markets through export trade. The interaction of domestic companies with multinational companies and Multinational Enterprises (MNEs) increases the likelihood of their participation in global value chains. According to Qiang Liu and Steenbergen (2021) integration is made possible through four channels: (i) supplier connections in a GVC network, (ii) strategic alliances with multinational companies, (iii) direct export and (iv) foreign direct investment.

World Bank (2019) noted that there are two pathways through which GVC participation drives economic development. First, GVC participation creates employment and incomes for people in countries by helping firms in participating countries to gain access to wider markets. This is through existing firms acquiring new technologies to enhance both productivity and product quality. Thus, subsidiary firms emerge to provide services like sorting, assembling, and distribution; all of which create employment, increase incomes, reduce poverty, and thus promote inclusive growth. Second, participation in GVC has the potency of increasing the value addition of participating countries thereby supporting inclusive growth if the gains are shared equitably (UNCTAD 2013). According to UNCTAD (2013), there are two main ways through which countries participate in GVC: (1) through domestic

value addition, and (2) through foreign value addition. Domestic value addition involves the value added to exports of commodities that are originally produced by the exporting country to be used as intermediate inputs by other firms in other countries. Foreign value addition on the other hand, involves countries importing primary or intermediate inputs from other countries and adding value to them (by converting them into other intermediate or final goods) for export. In whichever form GVC is pursued, evidence shows that, relative to non-GVC participating countries, countries that engage in GVC are more inclusive as they tend to grow faster, provide more durable employment opportunities and reduce poverty (Saito, Ruta, & Turunen 2013; Carlo, Colantone, & Bonacorsi, 2018, World Bank, 2022a).

African intra-regional trade has been found to have experience increases in value chain, by encouraging exchange in the manufactured and processed goods and higher transfer of knowledge when compared with trade with other continents (Songwe, 2019). Songwe (2019) further noted that African intra-regional trade favoured exchange in manufacturing goods more than when they trade with countries outside the region. For instance, between 2014 and 2017, the continent experienced an increase in the volume of regional export in manufacturing goods from 14.8% to 41.9%. and by 2022, the volume of export grew by 28.8% which was a total trade worth of $724.1 billion (African Trade Report, 2023).

This notwithstanding, West African countries' GVCs integration has been more about global than regional as compare to East Asia where linkages are more regional than global. For instance, the Sub-Saharan African share of GVC trade in total GVC trade rose from 17.5% in 1990 to 23% in 2015. Again, in 2018, 42% and 23% of the imported intermediates embodied in its exports originated from Europe and Central Asia, and East Asia and Pacific, respectively, while only 6% originated from other African countries. In the same period West African countries' GVCs trade accounted for only 14% of the total continent's total trade chain while regions like North and South Africain contributed about 78% of the continent's total trade chain (Osabuohien, Karakara & Edafe, 2024). This implies that the region is mainly integrated in European supply chains (World Bank, 2020), while regional integration in the production network is still very low (UNECA, 2015). As a region, African participation in GVCs is still at the stage of limited manufacturing as most of its exports tend to enter the global market at an early stage of GVCs making the continent's participation in GVCs to be insignificant, accounting for just three percent of global trade in intermediate goods (World Trade Organization, (WTO) 2021). One of the tools of GVC Industrialization Data showed that

industrialization is very low in Africa with a total merchandise export (manufactured good) was 51.2% in 2019 and it fell by 19.03% 2020 (WTO, 2022).

This disappointing pattern of GVCs integration in Africa, specifically in the West African sub-region could be explained by various constraints being faced by the region in any of the GVCs drivers; market size, geography, endowments and institutions. Institutions remain a great constraint for GVCs entry in most African countries. This is underscored by the fact that a day delay in goods traded in GVCs, is equivalent to the imposition of 1.2 % tariff on the cost of the goods (Biswajit, 2021). Unfortunately, most countries in the West African region ranked poorly in institutional quality which may have translated in the unimpressive benefits from global value chain in the ECOWAS sub-region.

It is observed that quite a few studies have focused on the assessment of regional integration and its attendant effects on economic development and prospects in different regions and counties of the world with contradictory results. For instance, Kowalski et al (2015) from East Asia, North America and Eastern Europe revealed that investment and trade agreements consistently result in the rise of production networks as well as increased participation in global value chain (GVC). However, in a sharp contrast, Akhigbe (2022) examining the effects of Global value chain on economic growth in Sub-Saharan Africa found an obvious downward trend in the basic indicators of global value chain. In the light of the above, for ECOWAS, it is pertinent to ask: Of what influence does global value chain have on economic development among ECOWAS countries? Is the about of foreign direct investment flow an expected channel of benefit from GVC significantly impactful on economic development of ECOWAS nations? Does human capital development an expected benefit of GVC through the transfer of technology have a significant impact on economic development in ECOWAS?

This study therefore departs from the previous studies by examining the extent of penetration of ECOWAS member states into global value chains and whether their participation helps the composing economies to achieve economic development. According to Mc-Gregor, Kaulich and Stehrer (2016) this is important to increase competitiveness in higher value-added jobs, which increases domestic labour productivity and skills, and thus creates more employment opportunities. Therefore, objectives of this study are to (i) analyse the effects of GVC on economic development in ECOWAS, (ii) examine the impact of foreign direct investment on economic upgrading in ECOWAS (iii) investigate on the impact of human capital development on economic development in ECOWAS.

2.0 Literature Review

2.1 Theoretical Literature Review

There have been some theories on trade and the economies of the trading partners. Theoretically, literature assumes trade agreements are optimally concerned with bringing a solution to the problem of internalizing the externality arising from the terms of trade through unilateral tariffs (Ruta, 2017). This can be attributed to many factors.

Institutional Theory

The theory states that in institutional economics, institutions can remedy market imperfections and thus provide a means of increasing the efficiency of market structures. Institution represents legal, political, economic and administrative systems and institutional costs determine the level of attractiveness of a location. As such, places that allow for easier adaptation are considered more attractive and less costly. The differences in legal, political, economic and administrative systems will have different implications on organizations and players. Therefore, problems related to institutional void can have different impacts on MNEs activities and business practices in general.

Hecksher – Ohlin Theory of Trade (or the Theory of Factor Proportion)

This theory put forward by two Swedish economists, Eli Hecksher and Bertil Ohlin in 1933, provides an explication for discrepancies in advantage demonstrated by trading nations. As explained by the theory, nations have the tendency to produce and exchange international goods and services that exploit large amounts of abundant production factors that they have, while they import those that require large amounts of production factors which are comparatively and scarcely unavailable Heckcher and Ohlin, 1933 cited in (Babatunde, Jonathan & Muhyideen, 2017). The theory fleshes out the concept of economic advantage in the context, including: labour and capital flow freely between sectors, the amount of labour and capital in two countries differ (difference in endowments), technology is the same among countries (a long-term assumption), Tastes are the same. Despite the wide acceptability of this theory, it still holds some drawbacks which can be traced to some of the highlighted unrealistic assumptions. For instance, technology is assumed to be same among countries which does not hold sway in reality as trading nations of the world are classified according to their level of technological advancements into developed and developing countries. nevertheless, the theory is still relevant to the study as it emphasizes on difference in factor endowments which have accounted for why regions like Sub-Saharan Africa (a labour endowed nation) engage in international trade.

International New Venture (INV) Theory

The International New Venture (INV) theory analyses the reasons and how businesses, from their starting point are active in their pursue to enter the international markets to be internationally active rather than follow the gradual stage-by-stage towards internationalization process. The theory put forward by Oviatt and McDougall (1993) and popularized by Qiang, Liu and Steenbergen (2021) challenges the traditional models of international business that assume a gradual growth into foreign markets and believes in rapid internationalization of firms. The theory (INVs) contends with the dynamism of environment in global markets and this compels firms to increase their innovation and market capabilities to gain force in the international world.

The major focus of this theory is on the firm's age, and not the size in examining its ability to internationalize. Major concern of the businesses is on the entrepreneurial behaviour and always changing international environment, which include technological advances, increasing mobility of human capital, higher availability of financing options, as well as a growing number of people with international business experience. The global start up is often called born global and it is seen as the most radical form of international new ventures. They operate in an unlimited geographical. According to Oviatt and McDougall, (1997) born global firm internationalize within three years after its formation, it is less than 20 years old, and generates at least 25% of its total output from its activities abroad.

2.2 Empirical Literature Review

Various studies have been carried out on GVCs ranging from the measurement to the impact on the participating economies. In a study on the trade diversion and trade creation effects of RTAs.

In a panel of both developing and developed economies, Kowalski et al. (2015) examined various determinants of the value chain and its economic benefits through the estimation of the gravity model, while controlling for time-invariant country-specific characteristics. Adopting variation in per capita domestic value-added as a proxy for GVCs performance, their empirical evidence showed that improved productivity, diversified export-based, and enhance product sophistication are some of the opportunities an economy stands to gain in GVCs participation. Geographical location, population, level of development given a strong and qualitative institutions were found germane for improving GVCs participation.

Cheong, Kwak, and Tang (2018) used bilateral tariff rates for 90 importing and 149 exporting economies to investigate trade effects of Free Trade Agreements (FTAs) over a period of 1996-2010. The result of the gravity model indicates that the custom

unions (CUs) and FTAs increases the volume of trade, though the effects of the customs union are stronger, especially for FTAs', the effect of customs union stems mainly from changes in non-tariff measures, while that of FTAs comes from changes in both tariff and non-tariff measures and changes in non-tariff measures connected with CUs have a stronger trade impact on those connected with FTAs.

In another study by Álvarez et al., (2018), the nature of the influence of national institutional as measured by Kaufmann institutional indicators from WGI on the trade of tangible goods quality on bilateral sectoral trade flows and the trend of the influence was examined. Using a cross-country data set covering 186 countries for the period of 17years (1996-2012) in a PPML technique, it was confirmed that the quality of an institution of the importing countries and the institutional distance are significant determinants of bilateral trade. The results further revealed that trade policy proxy by a regional trade agreement, exchange rate, contiguity, and common language positively influence bilateral trade.

Further studies on GVC were carried out by Ying, David and Xinding (2020) analysing the impact of institutions on GVC participation in OBOR and non-OBOR countries using a panel of 56 sectors across 43 countries in WIOD from 2000 to 2014. Their results confirmed a positive significant impact of all indicators of institutional quality on GVCs. This suggests that an economy with qualitative institutions will achieve a higher degree of GVCs participation in industries that depend on better institutions.

For studies in Africa, Mathias, Axel, Silke and Steffen (2007)'s investigated on the nexus between institutions, governance, and trade in ECOWAS countries. it was revealed that population, a proxy for factor endowment has an insignificant positive impact on intra-regional trade throughout the estimations. They concluded that qualitative institution is fundamental to a successive intra-regional trade. This result is further confirmed by Barnabas et al. (2019) in a study on ECOWAS when they concluded that on average the effect of relative factor endowment on GVCs is negative and significant. Nicholas and Maxwell (2018) on the other hand examined the relationship between African RTA and intra-regional trade using the gravity trade model. The results using the estimated PPML techniques suggested that RTA is trade creation by enhancing intra-regional trade, while the impact of natural endowment on intra-regional trade is on the average, insignificant.

Further study in Africa was carried out by Ogbeide-Osaretin and Aliu (2022) by examining if the Sub-Saharan Africa's (SSA) preferential trade agreement can increase their participation in GVC. Employing a panel of some countries in SSA in both static and dynamic models over the 2000 to 2020, it was

found that deep PTAs can increase significantly level of GVC in SSA. The participation of SSA in GVC can be enhanced amount of attraction of FDI, increase in the volume of export, increase in tertiary education and the level of development of the country.

In a more recent study, Osabuohien, Karakara and Edafe, (2024) examined the factors that are major drivers of the participation of firm in the global value chains in West Africa and how the challenging factors can be overcome. Using the logit model on data from the World Bank's Enterprise Survey (ES) for Ghana and Nigeria, it was revealed that the firms in West Africa are constrained with factors such as the sizes of the firm, the legal status of the firm and the location of the firms. This was also found to differ relatively between the two countries. For instance, medium and large-scale firms have higher likelihood to participate in GVC and firms in the cities are more likely to be engaged in GVC.

Gaps in Literature

While there are studies on the various aspect of GVC, (Cheong,et al, 2018; and Ogbeide-Osaretin & Aliu, 2022), these studies were restricted in their scope to the Free Trade agreement and how it affects the level of exports and value addition particularly for Africa. They failed to consider the entire indicators of Global Value Chain as captured by this study. This study expanded the scope of these effects from exports or value addition to the aggregate economy by examining the economic developmental impact. More so, some (Mathias et al, 2007 & Álvarez et al., 2018; among others) restricted their studies to institutional impacts of international trade and effects of factor endowment. They failed to incorporate factor growth, using human capital index especially as these factors are imperative at measuring effects of GVC. This study overcame this challenge by including the social factor such as Human Capital Index necessary to measure the capacity of labour factor and the welfare of the countries in their drive to integrate into the global value chain.

3.0 Methodology

3.1 Theoretical Framework

This theoretical framework relied upon by this study is the international new ventures theory developed by Oviatt and McDougall (1993) and popularized by Qiang, Liu and Steenbergen (2021) which clearly explains the internationalization process of firms. According to the theory, the age of firms and rapid changes in the international business environment are critical aspects in the early stages of the internationalization process of firms. The theory posits that changes in technology, mobility of human capital, increased access to finance and exposure to international business encourage cooperation between countries, leading to trade ties and development. The assumptions of this theory are important to explain the integration of

traders into regional and global value chains in regional blocs like ECOWAS.

3.2 Model Specification

This study conducted descriptive analysis to conduct a comparative analysis of GVC participation among ECOWAS member states using data from the UNCTAD-Eora Global Value Chain (GVC) database, The key GVC participation indicators are: Foreign Value Added (FVA), Domestic Value Added (DVA) and Indirect Value Added (DVX). The indicators are captured in the GVC index from UNCTAD-Eora Global Value Chain (GVC) database.

The study adapted the model by Lwesya (2022) utilizing Per Capital Gross Domestic Product (LGDPC) as a proxy for economic development among the ECOWAS states, Log of Global Value Chain sourced from the UNCTAD-Eora Global Value Chain Database (addition to individual exports of member nation emanating from inputs produced from abroad), LFDI (Natural logarithm of FDI inflows measured as a percentage of GDP from World Development Indicators-WDI), LHCD (Natural logarithm of human capital as measured by government spending on education as a percentage of GDP (World Development Indicators-WDI) and LDOC (Natural logarithm of domestic credit to the private sector as a percentage of GDP). The data come from WDI. Domestic credit provided to the private sector is one of the indicators of the development of financial institutions in a country in terms of facilitating access to capital for investments.

The model is thus formed

$$LGDPC = \alpha_0 + \alpha_1 LGVC + \alpha_2 LFDI + \alpha_3 LHCD + \alpha_1 LDOC \quad (3.1)$$

3.3. Estimation Technique:

To estimate the empirical models, the panel of autoregressive distributed lags is used, specifically the group of grouped means (ARDL / PMG). The ARDL / PMG panel technique is necessary because of the attractive econometric advantages it has over other estimation techniques. It can be used when the variables have a mixed order of integration, such as I (0), I (1), or both, but not I (2). It is effective even in the presence of small sample size, such as this study. Produces short-term and long-term coefficients simultaneously. The ARDL / PMG panel approach produces unbiased estimates even in the presence of endogenous covariates. And it is also effective even if the variables have different optimal delay lengths. The basic ARDL model can be specified as:

$$Y_{it} = \sum_{j=1}^{p} \lambda_{ij} Y_{i,t-j} + \sum_{j=0}^{q} \delta'_{ij} X_{i,t-j} + \mu_i + \epsilon_{it} \quad (3.2)$$

where Yit represents the dependent variable; Xi, t - j represents the vector of independent variables; λij is the coefficient of the lags of the dependent variable; δij ′ represents the

coefficients of the current and the lags of the independent variables; μi is the fixed effect; and ϵit is the error term.

3.4 Data Sources

The study made use of an unbalanced panel data of ten (10) ECOWAS countries and a time series data from 1995 to 2022. The ten ECOWAS countries used include Cote d'Ivoire, Gabon, Ghana, Liberia, Mali, Niger, Nigeria, Senegal, Togo and Sierra Leone. The selection of the countries was based on the availability of data. The data were collected from the World Bank's World Development Indicators (2022) database. The E-views 10.0 version of the econometric software package was used for the quantitative estimation.

4.0 Data Presentation and Analysis

4.1 Descriptive Statistics

The data set was summarized and the result is presented in Table 4.1. The mean values obtained are good measures of central tendency since they are all halfway between the maximum and minimum values. In the ECOWAS region, the GDP per capita averages around $1496, while the highest which was for Gabon in 2011 and lowest values which was for Sieria Leone are $10273.8 and the $138.71 respectively. For Global Value Chain (proxy by the addition to export resulting from inputs manufactured abroad), the average value obtained for the region is $3.2 million, with the maximum and minimum values being $3,197million and $56,197 respectively. For Foreign Direct Investment as a percentage of GDP, the average rate for ECOWAS countries in term of the US Dollar is 4.5% with a maximum and minimum being 103% which was for Liberia in 2020 and -5% which was for Gabon in 1996 respectively.

Table 4.1: Summary Statistics

	LGDPC	LGVC	LDOC	LFDI	LHCD
Mean	1496.106	3231084.	12.45516	4.555281	3.243847
Maximum	10273.80	31973000	32.29718	103.3374	9.442240
Minimum	138.7139	56517.94	0.001614	-5.00721	0.499357
Std. Dev.	1970.816	6664731.	7.508769	10.76306	1.345278
Observations	280	280	280	280	280

Source: Authors' Computation using E-views 10.0

4.2 Panel Unit Root Test

The unit root test was carried out to establish the order of integration of the variables used and the Im-Pesaran-Shin (IPS) panel unit root test was adopted. The null hypothesis for the IPS panel unit root test is that the variable has

a unit root (that is, with a single unit root process). Table 4.2 presents the results of the panel unit root test. It can be seen that all variables became stationary after the first difference. This order of integration allows us to use the technique of estimating autoregressive distributed lags (Phillips and Perron, 1988; Pesaran & Pesaran, 1997; Pesaran et al., 1999, 2001). With variables integrated into order one, I(1), suggests that there is a high possibility of a long-term relationship.

Table 4.2

Im, Pesaran and Shin W-stat (IPS) Panel Unit Root Test

Variables	At Levels		At first Difference	
	t. statistics	Probability Value	t-statistics	Probability values
LGDPC	2.81823	0.9976	-8.05452	0.0000
LGVC	0.60105	0.7261	-7.7643	0.0000
LDOC	1.68122	0.9536	-6.99714	0.0000
LFDI	-1.10014	0.1356	-8.36517	0.0000
LHCD	-1.05702	0.1453	-11.4679	0.0000

Source: Authors' Computation using E-views 10.0

4.3 Panel Cointegration Test

Since the panel unit root test result suggests that there is a likelihood of a long-run relationship. Hence, the cointegration test was carried out using the Pedroni's test. The test has two main dimensions (internal and interconnected). Both dimensions present eleven test statistics, all below the null hypothesis of non-union. To make an inference, the null hypothesis is rejected if the p-value is equal to or less than the 5 percent significance level. These cointegration test result is presented in Table 4.3.

Table 4.3

Results of Pedroni Panel test Cointegrating (LGDPC LGVC LDOC LFDI LHCD)

Alternative hypothesis: common AR coefs. (within-dimension)				
	Statistic	Prob.	Weighted Statistic	Prob.
Panel v-Statistic	0.271318	0.3931	0.543049	0.2935
Panel rho-Statistic	-3.521789	0.0009	0.077225	0.5308
Panel PP-Statistic	-2.948665	0.0016	-1.856246	0.0317
Panel ADF-Statistic	-1.966911	0.0246	-2.237418	0.0080
Alternative hypothesis: individual AR coefs. (between-dimension)				
	Statistic	Prob.		
Group rho-Statistic	0.987301	0.8383		
Group PP-Statistic	-1.763351	0.0389		
Group ADF-Statistic	-1.247664	0.1061		

Source: Authors' Computation using E-views 10.0

With most of the test statistics rejecting the null hypothesis of no co-integration in Table 4.3. It is concluded that there is a co-integration relationship between the variables used. The results of the co-integration and unit root tests led us to estimate the long-term panel ARDL (Combined Mean Group) in this study. The ARDL / PMG panel has been shown to have some appeal over other estimation techniques such as the Engle-Granger (1987), Johansen and Juselius (1990) and Johansen (1991) techniques.

4.4 Panel Estimation Results and Discussion

After confirming a long-term relationship based on the co-integration tests of Pedroni (2000, 2004), we estimated the data set using the ARDL / PMG linear panel technique. The results are presented in Table 4.4 with GDP per capita (representative of economic development) as the dependent variable for the model used.

Table 4.4: Panel ARDL/PGM Estimation Results (Dependent Variable = GDP per capita)

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
SHORT RUN EQUATION				
COINTEQ01	-0.429943	0.118211	-3.63708	0.0052
D(LGVC)	0.124421	0.038521	3.23050	0.0112
D(LDOC)	-0.252211	0.088542	-2.84849	0.0301
D(LFDI)	-24.51684	28.58495	-0.85768	0.3920
D(LHCD)	-56.00704	61.06296	-0.91720	0.3601
C	92.00369	58.82016	1.56415	0.1192
LONG RUN EQUATION				
LGVC	0.315520	0.104110	3.03064	0.0252
LDOC	0.025550	0.125551	0.20351	0.3425
LFDI	0.262251	0.102551	2.55729	0.0312
LHCD	523.5143	308.7974	1.69533	0.0915

Source: Authors' Computation using E-views 10.0

4.5 Short Run Estimation

Among ECOWAS Countries, the results revealed that in the short run, Global Value Chain as represented by the addition to export resulting from the usage of inputs manufactured abroad has a positive and significant relationship with economic development. A 1% increase in Global Value Chain will increase GDP per capita by 12%. A plausible explanation for this finding is that in West Africa, as unimpressive as the export level appear, the quantum of input being used to facilitate this export is sourced from abroad, hence GVC reflects significant and

positive relationship with economic development in West Africa. On the contrary, Domestic Credit to private sector in West Africa reflects a negative and significant relationship with economic development. This is reflective of the unstructured and non-versatile money and capital market in these countries. This result is consistent with the outcome reached by Kasim (2022). Also, the FDI and Government expenditure on education which was used to capture human capital development has insignificant relationship with economic development in the short run.

The speed of adjustment (indicating the error term of the panel estimation) is 43%, indicating the rate at which GDP per capita model will return to equilibrium given any changes among the regressors.

4.6 Long Run Estimation

The Long-run section of panel ARDL is depicted at the lower part of Table 4.5. The estimation reveals that among ECOWAS countries, Global Value Chain and Foreign Direct Investment have significant long-run relationship with GDP per capita among ECOWAS countries. A 1% increase in Global Value Chain and Foreign Direct Investment will increase the GDP per capita by 31% and 16% respectively among ECOWAS countries. It further buttresses the assertion as concluded by Kasim (2022) and Lwesya (2022). Human capital development was found to increase economic development although only significant a 10% level of significance.

4.7 Disaggregated Panel ARDL Estimation/ Cross Sectional Analysis by Country

The need to examine a disaggregated analysis of individual country in term of the significance or otherwise of Global Value Chain and economic integration as it impacts economic development in the ECOWAS sub-region cannot be over-emphasized. The Panel ARDL cross sectional analysis option provides a ready analysis of how the countries faired:

COTE D'IVORE

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	0.044784	0.002983	15.01449	0.0006
D(LGVC)	0.000151	3.63E-09	41600.11	0.0000
D(LFDI)	9.167628	909.1863	0.010083	0.9926
D(LDOC)	-23.41954	464.1678	-0.050455	0.9629
D(LHCD)	-117.4656	6795.280	-0.017286	0.9873
C	19.14212	1648.799	0.011610	0.9915

GABON

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.085030	0.008046	-10.56808	0.0018
D(LGVC)	0.000139	7.46E-08	1860.943	0.0000
D(LFDI)	27.50618	3667.417	0.007500	0.9945
D(LDOC)	-153.4598	13742.32	-0.011167	0.9918
D(LHCD)	-572.3878	134429.4	-0.004258	0.9969
C	609.6261	290043.1	0.002102	0.9985

GHANA

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.060271	0.001114	-54.11359	0.0000
D(LGVC)	0.000159	8.37E-09	18968.81	0.0000
D(LFDI)	-13.26417	410.0184	-0.032350	0.9762
D(LDOC)	-41.34516	240.2735	-0.172075	0.8743
D(LHCD)	-43.73030	441.1066	-0.099138	0.9273
C	10.43846	2376.757	0.004392	0.9968

LIBERIA

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.111455	0.005458	-20.41962	0.0003
D(LGVC)	1.79E-05	3.45E-09	5193.555	0.0000
D(LFDI)	-0.741222	0.144237	-5.138910	0.0143
D(LDOC)	4.706276	34.10348	0.138000	0.8990
D(LHCD)	2.996958	1658.581	0.001807	0.9987
C	-4.102952	339.9798	-0.012068	0.9911

MALI

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.045996	0.001516	-30.33764	0.0001
D(LGVC)	-6.08E-05	3.47E-08	-1751.974	0.0000
D(LFDI)	-1.306472	17.14290	-0.076211	0.9440
D(LDOC)	-10.45567	24.68867	-0.423501	0.7005
D(LHCD)	-3.029762	541.7513	-0.005593	0.9959
C	10.82665	332.2266	0.032588	0.9760

NIGER

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	0.088324	0.003636	24.28913	0.0002
D(LGVC)	0.000115	1.00E-08	11457.84	0.0000
D(LFDI)	-2.439647	10.23331	-0.238403	0.8269
D(LDOC)	8.982204	30.90472	0.290642	0.7903
D(LHCD)	33.91756	138.3198	0.245211	0.8221
C	83.00098	457.8922	0.181268	0.8677

NIGERIA

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	-0.194803	0.012882	-15.12259	0.0006
D(LGVC)	4.42E-05	4.03E-10	109704.2	0.0000
D(LFDI)	-279.5316	8512.199	-0.032839	0.9759
D(LDOC)	18.53033	616.3529	0.030064	0.9779
D(LHCD)	149.1126	12279.32	0.012143	0.9911
C	123.5316	22096.69	0.005591	0.9959

SENEGAL

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	0.052191	0.009681	5.391281	0.0125
D(LGVC)	0.000272	9.95E-09	27301.55	0.0000
D(LFDI)	19.45294	227.0115	0.085691	0.9371
D(LDOC)	12.23762	140.0770	0.087363	0.9359
D(LHCD)	0.318548	1900.409	0.000168	0.9999
C	14.81224	786.9274	0.018823	0.9862

SIERRA LEONE

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	0.010552	0.000142	74.47740	0.0000
D(LGVC)	-0.000157	7.72E-08	-2038.371	0.0000
D(LFDI)	-2.524461	2.262145	-1.115959	0.3458
D(LDOC)	-21.51707	444.2518	-0.048434	0.9644
D(LHCD)	4.045010	52.88281	0.076490	0.9438
C	29.19912	466.2800	0.062621	0.9540

TOGO

Variable	Coefficient	Std. Error	t-Statistic	Prob. *
COINTEQ01	0.002277	0.002639	0.862941	0.4516
D(LGVC)	6.98E-05	2.89E-08	2417.977	0.0000
D(LFDI)	-1.487576	9.119960	-0.163112	0.8808
D(LDOC)	-1.403245	45.12566	-0.031096	0.9771
D(LHCD)	-13.84768	2639.727	-0.005246	0.9961
C	23.56251	291.4946	0.080833	0.9407

Among the countries reviewed in the study, Global value chain has benefited most countries within the ECOWAS sub-region contributing significantly to economic development of member nations. Out of the ten selected ECOWAS nations, only Mali and Siera Leone recorded negative benefits resulting from Global Value chain. However, the similarity between the ten countries used for the study was that all the ten countries revealed a significant relationship between Global Value Chain and economic development.

5.0 Summary, Conclusion and Recommendations

5.1 Summary

The study explained the effects of Global Value chain and economic integration on economic development in West Africa using selected ECOWAS states as case study. It heralds the various participants of Global Value Chains including the Foreign Value Added and Domestic Value added resulting in addition to exports from member nations as a result of application of inputs from abroad. The theoretical framework was based on international new ventures theory while the model adopted related Global Value Chain, Government expenditure on education, foreign direct investment and domestic credits to private sector with GDP per capita. The

result from the study showed that in the long run and short run, Global Value Chain has positive and significant relationship with GDP per capita. It further revealed that Domestic credit to private sector and foreign direct investment had significant relationship with GDP per capita in the short and long run respectively. Out of the ten countries considered in this study, Mali and Sierra Leone have negative and significant relationship with GDP per capita while other nations such as Nigeria, Gabon, Liberia, Senegal, Ghana, Cote D'ivoire, Togo and Niger have positive and significant relationship with GDP per capita.

5.2 Policy Recommendations

In the light of the above, for ECOWAS, it is pertinent to ask: Of what influence does global value chain have on economic development among ECOWAS countries? Is the foreign direct investment flow an expected channel of benefit from GVC significantly impactful on economic development of ECOWAS nations? Does human capital development an expected benefit of GVC through the transfer of technology have a significant impact on economic development in ECOWAS?

Following the outcome of the study the study recommends the following:

1. ECOWAS nations should intensify efforts aimed at increasing the participation in the global value chain drive as it has the capacity to attract growth and influence economic development.
2. ECOWAS nations should continually boast the export of goods resulting from the use of inputs sourced abroad to further improve the gains from global value chain.
3. These countries should provide good economic atmosphere capable of attracting foreign direct investment in order to improve GDP per capita within the sub-region.
4. The result also showed that human capital development which is an expected benefit of GVC showed possibility of impacting economic development given the positive relationship with economic development but was only significant at 10% level of significance in the long run. Hence, it is recommended that there is also the need to promote the human capital development through actively engaging in businesses that will bring about a transfer of technology.

5.3 Conclusion

The conclusions from the long run non-linear Panel ARDL reveals that the economic development among ECOWAS nations is further pursued with the direct participation in the Global Value Chain especially resulting from Export Value Added (both Foreign and Domestic). The result also revealed that the resulting FDIs from GVC has positive and

long run relationship with economic development among ECOWAS nations.

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