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ABSTRACT

This study examines how agricultural trade and Foreign Direct Investment (FDI) influence inclusive growth in developing countries, using the case of West Africa. It engages data obtained from various World Bank sources for 15 West African countries that are members of the Economic Community of West African States (ECOWAS) for the period 2000–2019. The study calculates inclusive growth using the Principal Component Analysis (PCA) and applies the Two-stage Least Squares (2SLS) to resolve the possible issue of endogeneity. The findings show, among others, that agricultural trade is significant in explaining the level of inclusive growth. It implies that a 1% increase in agricultural trade may increase inclusive growth by 0.88% (first stage) and 0.99% (second stage), respectively. In contrast, FDI is insignificant in explaining inclusive growth. Therefore, the study recommends that effective policies such as flexible trade policies to enhance the exchange of goods and services should be implemented, which is crucial given the need for more resilience in post-COVID-19 ECOWAS.

1. Introduction

Trade and Foreign Direct Investment (FDI) are said to play significant roles in the economic growth, employment creation and development of developing economies (Adegboye, Osabohien, Olokoyo, Matthew, & Adediran, 2020a; Hasanov, Mikayilov, Yusifov, Aliyev, & Talishinskaya, 2019; Ogundipe, Oye, Ogundipe, & Osabohien, 2020; Osabohien, Awolola, Matthew, Itua, & Elomien, 2020). Economic growth measured in Gross Domestic Product (GDP) has been observed to be on the increase, though slowly in most developing countries, including West Africa, before the occurrence of Coronavirus pandemic (COVID-19). For example, in 2018, GDP growth in East Africa (5.7%), North Africa (4.9%), West Africa (3.3%), Central Africa (2.2%) and Southern Africa (1.2%), for over a decade, making way for a reduction in the level of unemployment and poverty, because of the positive impact of trade and investment prospects on the economy (African Economic Outlook, 2019; Zamfir, 2016).

Between 2017 and 2018, global FDI declined by about 13%, to about $1.3 billion (Banelienė & Melnikas, 2020; Osabohien et al., 2020; World Economic Forum [WEF], 2020). This decline in the global rate of FDI has been worsened by COVID-19 pandemic, and the impact on FDI is greatly felt by developing countries (African Union Commission [AUC], 2020; World Bank, 2020). The COVID-19 pandemic has distorted sectors of the economy and countries, including trade and investment. Given the situation currently caused by COVID-19, foreign investments have been frozen, and a threat appears on the sphere once the health tragedy diminishes- a more significant economic recession to face (WEF, 2020).

Before the COVID-19 pandemic, the United Nations Conference on Trade and Development (UNCTAD) estimated that global FDI flows to increase in 2020 (UNCTAD, 2020; World Bank, 2020). Given the issue, the UNCTAD has been forced to adjust its estimates as a result of the impact of COVID-19 on global FDI flows from a moderate decline from 5% to 15% during 2020 and 2021 (African Union Commission [AUC], 2020; Chidede, 2020;

UNCTAD, 2020; World Bank, 2020). However, UNCTAD estimations have been distorted radically lately. The new UNCTAD projects that the inflow of FDI may decline by about 30% to 40% as a result of COVID-19 (UNCTAD, 2020). This variation is noteworthy from the previous projections, due to earnings adjustments affirming the fast weakening of world outlooks, and global demand shocks impact on sales and global supply chain interruptions (AUC, 2020; Chidede, 2020; World Bank, 2020). The negative impact of FDI will be strenuous in regions harshly hit by COVID-19, but the impact is spread to other regions as a result of demand shocks and supply chains linkages (Chidede, 2020).

The benefits that accrue from FDI and trade can lead to the goal of reduction in the level of poverty (World Bank, 2020) when their reach is distributed among different sectors (Gillson, Poulton, Balcombe, & Page, 2004). Trade openness and inflow of foreign investment (FDI) have been seen as an opportunity that can enhance the economic development of developing countries (Adegboye, Osabohien, Olokoyo, & Matthew, 2020b; Dicaprio, Santos-Paulino, & Sokolova, 2017). It is because trade openness and FDI will help build capacity on the role and importance of the agricultural sector in the new environment. It can also generate knowledge on the requisite policies and measures for fostering the involvement and the development of the agricultural sector under the new continental free trade environment (Togkoz et al., 2020). The use of an appropriate system of taxation and pro-poor fiscal policies to redistribute income, foreign investment and international trade can lead to inclusive growth and development of economies around the world (Gillson et al., 2004).

Over the last two decades, the agriculture growth in Africa has seen the most favourable environment, because of increased agriculture prices, growth in the demand and enhanced environment for macroeconomic policies. However, issues like climate change still led to a threat to such opportunities by increasing price volatility (Hollinger & Staatz, 2015). On the other hand, to strengthen the economic development of West African countries, promotion of innovative sustainable agricultural practices (e.g. innovative finance solutions, products value addition, and blending facilities) in food production and trade are required (Torres & Seters, 2016).

The West African economies have enormous prospects for growth; because, due to the abundance of natural resources and growing young population. Though, the growing youth population in this region needs to be translated into human capital for sustainable development through investment and trade. This is because, when the young population is not properly harnessed, it may pose a threat to the economy. For example, in Sierra Leone, it was argued that the civil war was caused by unemployed youth who paid allegiance to rebellious enticement (Bellows & Miguel, 2009). On the other hand, trade (different value chains) has been seen as one of the most potent sectors to achieve sustainable development and inclusive growth in West Africa.

The countries in the sub-region differ in some ways, as per capita income varies among economies; e.g. Niger ($452), Cape Verde ($3639), Nigeria ($2033), Ghana ($2201) in 2018. The higher poverty rate is prevalent in West Africa; about 43% of the population lives below the international poverty line of $1.25 per day (Matthew et al., 2019). However, since 1981 there has been a decline in the poverty gap (Beegle & Christiaensen, 2016), as the share of African-poor declined from 56% in 1990 to 43% in 2012 (World Bank, 2020). Nevertheless, income inequality, low FDI inflow and underdevelopment of the agricultural sector remain some of the critical issues for West African economies in addition to slow economic growth (Zamfir, 2016). Against this background, this study examines how agricultural trade and FDI contribute to the achievement of inclusive growth in West Africa. Though the concepts of agricultural trade, FDI and inclusive growth have been examined in previous studies, this present study differs by (a) using the Principal Component Analysis (PCA) to measure inclusive growth, and (b) integrating social protection mechanism into the inclusive index, which has not been examined, to the best of authors knowledge. Following this introductory section is the review of related studies, section three is the methodology; analysis, result and discussions are presented in section four, while the study concludes with section five.

2. Empirical literature

Inclusive growth implies direct links between the macroeconomic and microeconomic determinants of the economy and economic growth that benefits all (Ranieri & Almeida-Ramos, 2013). In addition, it has been observed that the growth of trade leads to the economic growth of an economy. However, the impact of trade on economic growth and sustainable development varies from one region to the other. This variation depends majorly

on the ability of regions to utilise their comparative advantage. For the developed economies, the impact of trade on growth is highly positive compared to the developing economies (Herzer, 2013).

Guei and Le Roux (2019), using the Pool Mean Group Model (PMGM) and the Autoregressive Distributed Lag (ARDL) bounds testing approach for 15 countries that are members of the Economic Community of West African States (ECOWAS), found that trade liberalisation facilitates the economies for the import of those goods and services that will lead to the transformation of the countries. To validate the above claim, in a more recent study, Oyinlola, Adedeji, Bolarinwa, and Olabisi (2020) applied the Generalised Method of Moments (GMM) in examining government effectiveness with respective resource mobilisation through trade impact on inclusive growth in sub-Saharan African (SSA) economies. The study engaged 27 SSA economies for the period 1995–2015 and found that an increased level of inclusive growth determines to a relatively large extent, the current growth inclusiveness in the SSA region. The results show that the aggregate tax from trade (excise duties) and disaggregated taxes do not have a significant impact on inclusive growth. The results also show a positive direct effect of all dimensions of governance on inclusive growth.

Based on governance, on the contrary, Adegboye et al. (2020a) examined how FDI impact on economic development of sub-Saharan African (SSA) economies. The study applied the Fixed and Random Effects models and found that FDI is significant in determining the level of growth in SSA. As against Oyinlola et al. (2020), Adegboye et al. (2020b) pointed out that for trade and FDI to have an impact on growth, there is the need for government effectiveness to utilise the benefits of trade and its comparative advantages effectively. It was also pointed out that globalisation challenges may hinder trade effectiveness. For ECOWAS region, the economies should liberalise those sectors only, which will improve the level of income in the economy and reduce the poverty level by adding value in terms of goods and services (World Bank, 2001).

According to Hernando, Andres, and Wirjo (2015), trade can lead to inclusive growth on two ways like direct and indirect in Asia Pacific Economic Cooperation (APEC) through the descriptive methodology and bivariate analysis. Indirectly, GDP growth is associated with the growth in trade, and this growth in GDP can lead to the growth in the level of consumption and employment multipliers and therefore leads to more inclusive growth. Directly, when a sparse population becomes part of the exporting industry or when such organisations locate themselves in rural or more deprived areas, it leads to inclusive growth. Onyekwena and Oloko (2016) found that increased growth rate does not always lead to inclusive development, specifically in the case of West Africa. Further, the trade growth in the region is disproportionate; however, the growth rate of trade is significantly high. The study suggested that as there is availability in the manufacturing sector of the skilled technical workforce, therefore, there is an opportunity to exploit trade for the region's inclusive development. Also, regional industry policy should be the focus for the enhancement of regional trade and inclusive growth.

The growth of the population, income growth, urbanisation, increased valuation of the output, diversification in the dietary practices and increase in global demand are some of the reasons for the increase in opportunities for the food producers, production and marketing of these commodities are mostly labour intensive, leading to the creation of job opportunities (Hollinger & Staatz, 2015). However, for most of the African economies, weak infrastructure, increasing technological gap, decreasing technical dependence, slow growth of regional integration, credit accessibility issues, governance issues and climate change are some of the issues posing challenges in achieving growth and development through agricultural sector (Kanu, Salami, & Numasawa, 2014).

Marandu, Mburu, and Amanze (2018) found that because of capital scarcity, FDI in African economies is hugely needed. In comparison to other developing and developed economies around the world, African economies are attracting very less FDI. The FDI inflow mostly belongs to the Southern part of Africa followed by North Africa, West Africa, East Africa and Central Africa. In the West Africa region, the primary recipients are Ghana and Nigeria. In line with this, Seyoum, Wu, and Lin (2015) suggested that growth and FDI have causal linkages for an economy. The same follows for African economies as well.

The resources of the economies in Africa should be utilised in order to attract FDI, to boost the growth of the region. In addendum, country or region-specific policies should be framed to handle the issues related to the macroeconomic environment, investment climate and institutional development, keeping in mind the imperfections in the market. Various studies (Bermejo-Carbonell & Werner, 2018; Tang, 2015) have also claimed that the outcome of FDI inflows is not always growth. The result mostly depends upon the policy environment of the particular nation (Tang, 2015). Eregha (2015) studied the effect of FDI inflows and the level of its volatility on the investment at the domestic front in the Economic Community of West African States (ECOWAS) region. The study

found that in the West African region, domestic investment is substituted for FDI inflows, and volatility also has an impact over the investment at the domestic level. Further, efforts should be made to strengthen the FDI inflows in the West African economies as most of the nations are facing issues in attracting investment and also having little technical knowledge and technological spill-over effect of the investment.

3. Methodology

3.1. Analytical model

Following studies by Khan, Khan, Safdar, Munir, and Andleeb (2016), Munir and Ullah (2018), Oyinlola et al. (2020), and Whajah, Bokpin, and Kuttu (2019), this present study calculates a suitable measure of inclusive growth by incorporating social protection indicators and carried out an empirical analysis using the Pooled Ordinary Least Squares (POLS), the Fixed and Random Effects regression. To resolve the possible issue of endogeneity, the study applied the Two-stage Least Squares (2SLS) and the Instrumental Variable (IV) regression. The baseline (double-log) model is given in Equation (1):

$$lnIG_{it} = \alpha_0 + \alpha_1 lnATRADE_{it} + \alpha_2 lnAE + \alpha_3 lnTOP_{it} + \alpha_4 lnFDI_{it} + \alpha_5 GFCF_{it} + \partial_t + e_{it} \qquad (1)$$

where IG_{it} represents inclusive growth (the dependent variable); α_0 is the constant term; α_1, α_2, α_3, α_4 and α_5 are the parameters to be estimated; i represent countries,[1] 1, 2 ..., N; t represents time, 1, 2 ..., T; ln denotes natural logarithm. ATRADE captures agricultural trade variables (agricultural export, agricultural import, agricultural trade ratio and agricultural trade balance), AE captures employment in agriculture, TOP represents trade openness (trade GDP ratio). FDI is Foreign Direct Investment inflows (% of GDP), and GFCF means gross fixed capital formation (investment); ∂_t denotes a time dummy to control for temporal variation, and e denotes the random term. The 'a priori' expectation is that the estimated coefficient of the explanatory variables should be positively related to inclusive growth.

3.2. Data Source and summary statistics

There are four pillars or areas of inclusive growth, which are (1) Economic Growth, Employment, and Infrastructure, (2) Inequality, Poverty and General Equity, (3) Accessibility, and (4) social protection, as shown in Table 1, alongside the summary statistics of other variables used for the analysis. The data for the study is sourced from the Country Policy and Institutional Assessment (CPIA), International Risk Guide (ICRG), Human Development Index (HDI), World Development Indicators (WDI).

Variables engaged include Inclusive Growth (the depended variables calculated using the Principal Component Analysis [see Panel B in Table 1], agricultural trade (four agricultural trade indicators are included, which are; agricultural export, import, total trade in agriculture, and agricultural trade ratio), agricultural employment, foreign direct investment, trade openness and gross fixed capital formation. The summary statistics of variables presented in Table 1 shows that inclusive growth has a mean value of −2.13, which means that on average, West Africa inclusive growth in negative. The implication of this is that, while most of the developing countries have experienced a slightly steady increase in the growth process, a large proportion of individuals, especially the very poor in West Africa remains excluded from the aftermaths of growth progress (Reinders, Dekker, van Kesteren, & Oudenhuijsen, 2019).

The mean value of agricultural employment is 51.05. This means that on the average agriculture contributes about 51% to total labour force in West Africa. The mean of agricultural import and export are approximate 14.9% and 1.3% respectively. It is observed that the mean value of export is lower than the mean value of import, which validates the fact that West African sub-region, or in general, African countries are net importers. This is because, Africa spends about $35 billion on food importation only, estimated to rise to $110 billion by 2025 (UNCTAD, 2019). The high cost of importation weakens African economies, decimates its agriculture and exports jobs from the continent. For Africa to mitigate this roadblock, the external trade preferential mechanisms should be monitor and controlled. This is owing to the fact that, with regard to the use of external preferential structures by countries in Africa, some countries are largely unable to make use of preferential treatment for their exports to external partners (UNCTAD, 2019).

Table 1. Description and summary statistics of variables (with inclusive growth indicators).

Area	Dimension Index indication	Area index indicator	Indicators	Measurement	Source	Mean (SD)
Panel A: Inclusive growth indicators						
Economic Growth, Employment, and Infrastructure	Economic Growth	GDP per capital	GDP per capita (to estimate living standard)	HDI	0.28 (0.65)
	Employment	Employment in service	Employment in services (% of total employment) (modelled ILO estimate)	WDI	14.98 (64.62)
		Employment in industry	Employment in industry (% of total employment) (modelled ILO estimate)	WDI	34.05 (54.20)
	Infrastructure	Energy use	Kilogram (kg) of oil equivalent per capita	WDI	24.86 (798.63)
Inequality, Poverty and General Equality	Income inequality	Gini Index	The scale of 0 to 1 (the closer to 0, the better)	ICRG	0.49 (0.61)
	Gender Inequality	Gender equality rating	Scale: 1 = low to 6 = high	CPIA	2.00 (4.40)
	Poverty	Headcount at $1.25 PPP 2005	% of the total population	ICRG	0.00 (122.18)
	Education	adolescent literateness	Adolescent literateness (the ratio of the populace with ages above 15 years that are literate);	HDI	0.28 (0.65)
		Educational Access	Education registration estimate (the ratio of the populace in the appropriate age ally registered in primary, high school, and university education	HDI	0.28 (0.65)
	Accessibility	Health	The expectancy of life at birth	An estimate of an elongated and healthful life	HDI	0.28
		Access to water and Sanitation	People using at least basic drinking water services	% of population	WDI	5.88 (87.08)
	Social Protection	Human Resource	Building human resources rating	Scale: 1 = low to 6 = high	CPIA	2.00 (4.50)
		Equity of Public resource	Equity of public resource use	Scale: 1 = low to 6 = high	CPIA	1.50 (4.50)
		Inclusive policy	policies for social inclusion and equity	Scale: 1 = low to 6 = high	CPIA	2.20 (4.30)
	Overall Social Protection	social protection rating	Scale: 1 = low to 6 = high	CPIA	2.00 (4.50)
Panel B: Variables used for the estimation						
Inclusive Growth	IG	Inclusive growth	Principal component analysis	X	−2.13 (1.00)
Agricultural employment	AGRICEM		Employment in agriculture (% of total employment) (modelled ILO estimate)	WDI	51.05 (14.82)
Agriculture import	AGRICX	Export	Agricultural raw materials exports (% of merchandise exports)	WDI	14.89 (19.23)
Agriculture export	AGRIC M	Import	Agricultural raw materials imports (% of merchandise imports)	WDI	1.30 (1.20)
Agriculture total	TRRADE	Total trade	export plus import	X	11.41 (17.75)
Agricultural trade ratio	TRATIO	Trade ratio	Export minus import	X	9.57 (17.31)
Foreign direct investment	FDI	Foreign investment	Foreign direct investment, net inflows (% of GDP)	WDI	6.68 (12.54)
Gross fixed capital formation.	GFCF	investment	Gross fixed capital formation (% of GDP)	WDI	19.85 (7.04)
Trade openness	TOP	Trade openness	Trade (% of GDP)	WDI	62.53 (36.00)

Note: CPIA means Country Policy and Institutional Assessment, HDI means Human Development Index (indicators), ICRG means International Country Risk Guide, WDI means World Development Indicators. PPP means purchasing power parity. SD (in parenthesis) means standard deviation. X: denote variables computed by the Authors.
Source: The Authors'.

Similarly, it has been noticed that the region importation, especially agricultural commodities, has increased five times, which has made the continent to witness about 34.1 billion Euros deficit in trade between 2000 and 2016 (Adesina, 2017). In addition, food commodities, which are mainly imported from Europe, Asia and America, is at the detriment of local products (Miller, 2018). At the same time, despite global exports of African agricultural commodities increasing between 1998 and 2013, the share of agricultural commodities in Africa's total exports has significantly reduced. The reason is that the export of agricultural commodities has long been focussed in a narrow range of commodities, like cocoa, coffee and cotton, which has prevented the continent from keeping up with the growing global demands for a various range of products (Miller, 2018). The mean value of agriculture total trade is about 11.4%, the mean value of agricultural trade ratio is 9.6%, the mean value of foreign direct investment is 6.7%, the mean value of gross fixed capital formation is 18.9% and the mean value of trade openness 62.5% (see panel B of Table 1).

4. Results and discussion

4.1. Estimates from POLS, fixed and random effects

This subsection presents the results obtained from the Pooled Ordinary Least Squares (POLS); the analysis of the Random and Fixed Effects is presented in Table 2. The POLS approach captures not only the difference of what results through time or space but also captures the difference of these two dimensions simultaneously rather than testing a cross-sectional model for all countries at one point in time or testing a time-series model for one country using time series data. A pooled model is tested for all countries through time (Adegboye et al., 2020a). The Random Effects (RE) assume that the country-specific effects are not correlated with the exogenous variable. In contrast, the Fixed Effect (FE) assumes that the country-specific effects are correlated with the exogenous variables.

The results from the analysis using the POLS, FE and RE regression are presented in Table 2 for the variables; agricultural export, agricultural import, employment in agriculture, total agricultural trade, agricultural trade ratio, foreign direct investment, gross fixed capital formation, trade openness. From the POLS result, agricultural export, total trade, employment and import, trade ration, and foreign direct investment are not significant in explaining the level of inclusive growth in West Africa. However, gross fixed capital formation and trade openness are

Table 2. Estimates from POLS, fixed and random effects technique.

	Poled OLS		Fixed effect		Random effect	
	Regression	Robustness	Regression	Robustness	Regression	Robustness
Variable	[1]	[2]	[3]	[4]	[5]	[6]
Constant	12.8912*	12.8912*	−40.9614	0.6621	12.8912*	12.8912
	(3.180) [0.000]	(4.790) [0.010]	(112.217) [0.718]	(0.867) [0.467]	(3.180) [0.000]	(8.1942) [1.570]
Agricultural Export	−0.5351	−0.5351	1.1263**	0.9067	−0.5351	−0.5351
	(3.136) [0.865]	(2.716) [0.845]	(0.422) [0.013]	(0.847) [0.316]	(3.136) [0.865]	(2.068) [0.796]
Agricultural Import	0.10469	0.1046	0.251904**	0.14189	0.1046	0.1047
	(0.567) [0.854]	(0.471) [0.825]	(0.099) [0.017]	(0.146) [0.362]	(0.567) [0.854]	(0.539) [0.846]
Employment in agriculture	−0.40631	−0.4063	0.0995	−0.2876	−0.4063	−0.4063
	(0.496) [0.413]	(0.581) [0.489]	(0.437) [0.822]	(0.211) [0.211]	(0.496) [0.413]	(0.776) [0.601]
Agricultural Total trade	0.34614	0.34614	−1.1845**	−0.8295****	0.3461	0.3461
	(3.295) [0.916]	[2.860] [0.904]	(0.463) [0.017]	(0.870) [0.036]	(3.295) (0.916)	(2.317) [0.881]
Agricultural Trade ratio	0.0659	0.0659	−0.0516	−0.0655	0.0659	0.0659
	(0.364) [0.856]	(0.289) [0.821]	(0.047) [0.285]	(0.049) [0.219]	(0.364) [0.856]	(0.160) [0.681]
Foreign direct investment	−0.0601	−0.0601	0.0096	0.0034	−0.0601	−0.0601
	(0.083) [0.473]	(0.086) [0.493]	(0.011) [0.403]	[0.009] (0.726)	(0.083) [0.473]	(0.094) [0.525]
Gross fixed capital formation	−1.16707*	−1.16707*	−0.0502	−1.1789**	−1.16707*	−1.16707
	(0.357) [0.001]	(0.424) [0.009]	(0.080) [0.536]	(0.018) [0.025]	(0.357) [0.001]	(0.7408) [0.115]
Trade openness	−1.9128*	−1.9128*	−0.0534**	−0.12324	−1.9128*	−1.9128***
	[0.373] (0.000)	(0.546) [0.001]	(0.103) [0.011]	(0.071) [0.122]	(0.373) [0.000]	(1.065) [0.073]
Time Dummies	No	Yes	Yes	No	No	No
R-sq.	0.6166	0.4944	0.5996	0.4397	0.6166	0.6166
p-Value of F-statistics	0.000*	0.000*	0.000*	0.000*	0.000*	0.000*

Note: The standard errors and the p-values are in parenthesis () and squared brackets [], respectively. *, **, *** denote significant at 1%, 5% and 10%, respectively.
Source: The Authors'.

significant, though negative (at 1% level) in explaining the inclusive growth. This implies that gross fixed capital formation and trade openness reduces inclusive growth in West Africa by approximately 1.17% and 1.91%, respectively, which is against the findings by Osabohien et al. (2020) using the Fully Modified OLS (FMOLS) and the Johansen Cointegration. Osabohien et al. (2020) findings showed that trade openness and gross fixed capital formation are positive and significant in explaining the level of employment and growth in Nigeria. Comparing results from this study with the findings by Osabohien et al. (2020), though trade openness may impact positively on growth, but may as well negatively affect inclusive growth because West African countries are import-dependant.

Results obtained using the FE show agricultural trade (import and export), gross fixed capital formation and trade openness are significant in explaining the level of inclusive growth in West Africa. On the other hand, the result shows that trade openness, total trade and gross fixed capital formation are negatively related to inclusive growth, while import and export are positive. The result implies that, on average, a 1% increase in trade openness and gross fixed capital formation may decrease the process of inclusive growth by 0.05%. In comparison, a 1% increase in import and export can increase inclusive growth by 0.25% and 1.23%, respectively. Though import and export are significant in explaining the level of inclusive growth, export shows more impact by 0.98%. The RE shows that gross fixed capital formation and trade openness are significant in explaining the level of inclusive growth. Across model, it is observed that gross fixed capital formation and trade openness tend to consistent, as they are significant.

The result from the FE regression for import and exports is significant in explaining the level of inclusive growth. The result shows that export has a more significant impact (1.23%) more than import (0.25%) on inclusive growth. Given the enormous amount spent on imported food, increasing population, the enormous opportunities presented by city markets, it is evident that there are both substantial opportunities and a pressing need for more significant intra-African and intra-regional agricultural trade to expand the benefits of regional integration and look for new opportunities for agricultural competitiveness (Miller, 2018; Reinders et al., 2019).

4.2. Instrumental variable results

The other aspect of the econometric analysis is the primary analysis, deals with the Two-stage Least Squares (2SLS) and Instrumental Variable (IV) regression. The choice of the technique was informed by the need to solve the problems of endogeneity. The results are reported in Table 3.

Table 3. Estimates from instrumental variable regression.

Variable	Baseline [1]	1st Stage [2]	2nd Stage [3]	IVLS [4]	RE-IV [5]	FGLS [6]
Constant	−167.2039*	−0.78629*	1.17025	13.3643	13.2993	12.5609*
	(44.631) [0.005]	(0.241) [0.002]	(1.312) [0.378]	(9.387) [0.155]	(10.450) [0.203]	(2.395) [0.000]
Agricultural Export	−1.3353	0.0024	0.0114**	−1.6665	−1.6536	−1.0327
	(3.669) [0.724]	(0.001) [0.160]	(0.009) [0.022]	(13.459) [0.901]	(14.992) [0.912]	1(0.455) [0.478]
Agricultural Import	0.1460	−0.0132	0.1488*	0.14386	0.1454	
	(0.584) [0.808]	(0.013) [0.319]	(0.071) [0.045]	(1.789) [0.936]	(1.996) [0.942]	
Employment in agriculture	−0.0632	0.19393*	−0.8582*	−0.0057	−0.0111	−0.3954
	(0.191) [0.749]	(0.046) [0.000]	(0.250) [0.002]	(1.381) [0.997]	(1.536) [0.994]	(0.449) [0.379]
Agricultural Total trade	0.91450	0.8780*	0.9944*	1.31878	1.30319	0.8944
	(3.821) [0.816]	(0.033) [0.000]	(0.183) [0.000]	(13.69) [0.923]	(15.263) [0.932]	(1.292) [0.489]
Agricultural Trade ratio	0.2519	0.1562*	−0.3762*	0.2263	0.2260	0.10350
	(0.370) [0.513]	(0.013) [0.000]	(0.072) [0.000]	(1.530) [0.882]	(1.702) [0.894]	(0.274) [0.707]
Foreign direct investment	−0.0236	−0.0023	0.0692	−0.1981	−0.1968	−0.0573
	(0.121) [0.849]	(0.013) [0.864]	(0.073) [0.354]	(0.156) [0.206]	(0.1732) [0.256]	(0.075) (0.445)
Gross fixed capital formation	−1.3826**	−0.0733***	0.2745	−1.45469*	−1.4389**	−1.1561*
	(0.600) [0.047]	(0.041) [0.084]	(0.224) [0.229]	(0.547) [0.008]	(0.609) [0.018]	(0.3216) [0.000]
Trade openness	−1.9499**	−0.0143***	−0.0667**	−2.19544*	−2.1842*	−1.9143*
	(0.848) [0.047]	(0.036) [0.099]	(0.199) [0.040]	(0.366) [0.000]	(0.410) [0.000]	(0.340) [0.000]
Time dummies	Yes	No	No	No	No	No
R-sq.	0.4944	0.9968	0.7841	0.4397	0.6166	
p-Value	0.000	0.000	0.000	0.000	0.0000	0.000

Note: Note: The standard errors and the p-values are in parenthesis () and squared brackets [], respectively. *, **, *** denote significant at 1%, 5% and 10%, respectively. IVLS means Instrumental Variable Least Squares, RE-IV means Random Effect Instrumental Variable regression, FGLS means Feasible Generalised Least Squares.
Source: The Authors'.

The results obtained from the analysis using the baseline regression, first stage, second stage, Instrumental Variable Least Squares, Random Effect Instrumental Variable and the Feasible Generalised Least Squares regression. Using the baseline regression, gross fixed capital formation and trade openness are statistically significant, but negative in explaining the level of the inclusive growth process in West Africa. This implies that a 1% increase in gross fixed capital formation and trade openness may reduce inclusive growth process by about 1.38%% and 1.95% respectively. The result from the First Stage Regression (FSR) shows that employment in agriculture, agricultural total trade (the total sum of import and export), trade ratio (export minus import), gross fixed capital formation (negative) and trade openness (negative) are statistically significant in explaining the level of the inclusive growth. The result implies that a 1% increase in agricultural employment, total trade, and trade ratio increase inclusive growth process by 0.19%, 0.87%, and 0.16% respectively. On the contrary, a 1% increase in gross fixed capital formation and trade openness may reduce inclusive growth by 0.07% and 0.01%, respectively.

The result from the Second Stage Regression (SSR) is somewhat consistent with the FSR. In the SSR, agricultural export, employment in agriculture, total agricultural trade, and trade openness are statically significant in explaining the level of the inclusive growth process in West Africa. This implies that a 1% increase in agricultural export and total agricultural trade may enhance inclusive growth process by 0.1% and 0.99% respectively. On the contrary, employment in agriculture, trade ratio, and trade openness, though significant, but inversely related to inclusive growth. This implies that a 1% increase in employment in agriculture, trade ration, and trade openness may reduce inclusive growth process by 0.86%, 0.38% and 0.07%, respectively.

The result from the Instrumental Variable (IV) shows that only gross fixed capital formation and trade openness are statistically significant, but negative in explaining the level of the inclusive growth. This shows that an increase in gross fixed capital formation and trade openness may lower inclusive growth by 1.45% and 2.20% respectively. A similar result is obtained from the RE-IV regression and the Feasible Generalised Least Squares (FGLS) regression. It shows that gross fixed capital formation and trade openness may lower inclusive growth by 1.44% and 2.18% respectively, by 1.16% and 1.91% respective (RE-IV). Across model, it was observed that trade openness and gross fixed capital formation are significant (but negative) across the model. Though gross fixed capital formation can be seen as an investment, depending on the channel of investment, it may be positive or negatively related to the inclusive growth process. In West Africa, in most cases, investment is not channelled into right sources such as human capital development, health, among others, and as a result, the growth process tends to be slow and excludes some proportion of the population. The result is supported by the findings of Munir and Ullah (2018) using the ARDL examined how macroeconomic stability impact on inclusive growth in Pakistan. The study finds that macroeconomic stability and structural improvement are steering force for inclusive growth.

The findings of this study akin to the finding by Guei and Le Roux (2019) concerning the impact of trade openness on inclusive growth. Guie and Le Roux (2019) using the ARDL and the Panel Mean Group (PMG) regression for ECOWAS member countries, affirms that trade openness has a negative impact on the growth process. Also, the findings of this present study align with that of Onyekwena and Oloko (2016) which examined the effect of regional trade inclusive in West Africa and finds that; though economic growth is on the rise, the increased level of economic growth is not translated to improvement in citizens welfare. This is basically because there is a significant increase in the poverty rate in West African sub-region. Also, because, extra-regional trade of West African countries is increasing at a very high rate and also at a disproportionate rate with intra-regional trade, compared with other sub-regions such Southern African Development Community (SADC), among others.

The findings of this study are also in line with the results obtained by Awunyo-Vitor and Sackey (2018) using the Error Correction Model (ECM), posited that there is a positive and significant relationship between foreign direct investment to the agriculture and growth in Ghana. However, government expenditure exhibits a negative coefficient, but significant in explaining economic growth. Thus, a policy should focus on flexible trade policies to spur foreign direct investment to West African agriculture to enhance inclusive growth process.[2] Also, similar to the findings by Bermejo-Carbonell and Werner (2018) in Spain, the favourable Spanish circumstances yield no evidence for FDI to stimulate economic growth. The Spanish European Union (EU) and Euro Entry (EE) are also found to have had no positive effect on growth.

5. Summary, conclusion and recommendations

5.1. Summary

Developing countries have increased their agricultural trade at the global and regional levels in recent years. However, Africa's agricultural trade remains low and performing below its potentials. Despite the importance of agriculture for African economies, the continent accounts for only a minor share of global agricultural exports. This study was motivated to examine how agricultural trade and foreign direct Investment impact on inclusive growth in West Africa. The study engaged a panel data consisting of 15 West African countries that are members of ECOWAS. Data for the study was obtained from the World Bank sources, which include; the World Development Indicators (WDI), Human Development Index or Indicators (HDI), International Country Risk Guide (ICRG), and Country Policy and Institutional Assessment (CPIA) for the period between 2005 and 2018. The Principal Component Analysis (PCA) was used to calculate inclusive growth index.

   The study applies different econometric techniques to achieve its objectives. The result from the POLS shows that gross fixed capital formation and trade openness reduce inclusive growth process by 1.17% and 1.91%. The result from the FE and RE regression shows that agricultural export increases inclusive growth by 25%. On the contrary, total trade, gross fixed capital formation, and trade openness to reduce the inclusive growth process by 1.18%, 0.05% and 0.12% respectively. For the IV regression, the result that, on the average, total trade, import and export improve inclusive growth by 0.94%, 0.01%, and 0.15% respectively. On the other hand, trade openness, trade ratio, and employment in agriculture reduce inclusive growth by 0.04%, 0.22%, and 0.66% respectively. Across models, it was observed that trade openness and gross fixed capital formation were found to be more consistent and significant and negative.

5.2. Conclusion and direction for further studies

The study concludes that improving the volumes of trade in agricultural commodities and demolition obstacles associated with non-tariffs in is required to build capacity to enhance industrialisation and competitiveness through foreign direct investment to stimulate inclusive growth process. Also, some countries in Africa have recently implemented emergency programmes and strategies to safeguard citizens health and prevent the increase of COVID-19 pandemic. Some of these policies aim to help investors and investments during COVID-19 (e.g. finance support plans). Some policy actions (for instance, industrial resolutions, export control measures, lockdown directives, among others) have adverse effects on FDI and trade.

   Some of the limitations of the study among others are (1) at the moment, time-series data is not available to examine the impact of COVID-19 on FDI and Trade. Hence, future studies need to investigate the impact of COVID-19 on FDI and agricultural trade, not only in West Africa but in other developing countries. (2) the study engaged a panel data of 15 West African countries pooled together, as a result, could not account for the impact of agricultural trade and FDI at country level. Therefore, future studies should also focus on the impact of agricultural trade and FDI at the country level.

5.3. Recommendations

Improving trade between African countries and enhancing regional economic integration presents the avenue to spike-off Africa's inclusive growth and economic transformation. For West African countries to achieve inclusive growth, it is recommended that there should be policies towards the improvement of the volumes of trade in agricultural commodities and demolition of obstacles associated with non-tariffs to build capacity to enhance industrialisation and competitiveness through foreign direct investment. Similarly, strategies that boost trade between African countries like the African Continental Free Trade Agreement (AfCFTA) and the Tripartite Free Trade Agreement (FTA), among others will be highly important in building a sole continental market for goods and services, along with spontaneous factor mobility and larger co-ordination in standards and measures. Thus, a policy should focus on flexible trade policies to spur foreign direct investment in West African agriculture to enhance the inclusive growth process.

Notes

1. Countries used for the analysis include; Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.
2. The effect of COVID-19 pandemic might have some influence on the interactions among agricultural trade and inclusive growth; however, the time-series data to assess it is not yet available. Hence, it is worth investigating in future studies.

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