

# Capital Inflows, Financial Development and Growth in Ecowas Countries: A New Empirical Insight

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## Research

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# CAPITAL INFLOWS, FINANCIAL DEVELOPMENT AND GROWTH IN ECOWAS COUNTRIES: A NEW EMPIRICAL INSIGHT

## Abstract

This paper empirically investigated the impact of foreign capital inflows and financial development on economic growth in ECOWAS countries. The study made use of quarterly data series from 2000 to 2017 for the analysis. Adopting the panel fixed-effect regression, the empirical results showed that Foreign Direct Investment (FDI), net domestic credit (CRE), Gross Capital Formation (GCF), and Foreign Aid (AID) increase economic growth in ECOWAS region while labour force (LF) and Trade Openness (OPEN) revealed otherwise. The study therefore recommended that concerned policy makers in the ECOWAS region should pursue financial deepening and strengthen policies that will enhance the operations of the financial system. Also member countries should create a conducive socio-political and economic environment for foreign investors to invest in the economies. This can be done by reducing the corruption prevalent in the system, ethnic unrest, introduction of tax holidays, stability of policies introduced by the government, among others. In this era of Covid-19 many have lost their jobs and the economy of ECOWAS needs to be revitalized by following these economic prescriptions, among others.

**Keywords:** *Foreign Capital Inflows; Financial Development, Investment; Economic Growth; ECOWAS*

**JEL Classification:** F21; F36; F38; F43; G15; O16

## 1. INTRODUCTION

The Lagos treaty established the Economic Community of West African States (ECOWAS) on May 28, 1975 with the aim of promoting economic integration in all fields of activity of the member countries. It also had the aim to achieve “collective self-sufficiency” as a trading union through the creation of a single large trading bloc through the economic cooperation of member countries. Its member countries are Nigeria, Ghana, Cape Verde, Liberia, Benin, Guinea, Burkina Faso, Sierra Leone, Cote d’Ivoire, Senegal, The Gambia, Niger, Guinea Bissau, Togo, and Mali. In recent times, in terms of economic performance and relative to other regions of the world, Africa have shown to be the weakest. For example, in 2010, while the lower-middle income group average was US\$ 2530.50, Africa’s per capita GDP averaged US\$ 1669, which is far below the former. Furthermore, ECOWAS countries have also had some negative experiences even as the average GDP per capita of the region in 2010 was US\$669.5 effectively placing the region in the low-income group (World Bank, 2013).

From the literature, capital accumulation has been argued to be a major contributor to growth and the ECOWAS countries need to increase their capital either domestically or through foreign capital in order to support their growth agenda. Given the ever-widening mismatch between their present stock of capital and their capital requirements as well as their meagre capital budget, the only way forward to supplement this shortfall was to attract foreign capital for domestic investment. Thus, leading to the wide acknowledgement or the relative advantage(s) of foreign capital inflow as a productivity-enhancing package. Given the need to fill their savings and foreign exchange gaps, developing economies such as ECOWAS countries need a substantial inflow of capital to enhance capital accumulation and growth, and thus, help in overcoming widespread poverty in these countries (Orji, Uche, and Ilori, 2014). Increasingly, economic development literature shows that a well-designed financial system provides incentives and stimulates investment by mobilizing savings and facilitating capital inflows and fosters trade and business linkages thereby facilitating technological diffusion and improved resource use.

In the light of the above, different national authorities have been making serious efforts to attract foreign capital to their various economies. Examples of these efforts include the successful integration of African countries in large regional blocs such as the Economic Community of West African States (ECOWAS), Southern African Development Community (SADC) among others. In addition, measures such as tax holidays, accelerated depreciation allowances, signing of investment and promotional activities among others were implemented in a bid to attract foreign capital. However, in spite of these efforts, the foreign capital flow into these economies have not been very encouraging (Ajide, and Eregha 2014). Available statistics have shown that while the share of global FDI going to the developed countries maintains astoundingly high levels, the share of global FDI going to developing countries, more specifically, the sub-Saharan African (SSA) region has been meager and fluctuates consistently over time. The developed countries are the highest recipients of global foreign capital inflows in form of global FDI inflows, with almost three-quarters of total inflows going to them. They had a percentage share of 71.6% in 1970, which rose to 86.36% in 1980 and only declined to 83.05 in 1990 and has been declining steadily to reach a 54.62%. The developing countries share excluding Africa, on the other hand, was 17.82% in 1970, which declined to 12.64% in 1980 but rose to a peak of 41.67% in 1982 and with fluctuations in the flow, it was 40.33% in 2015. About the same period, the share of African countries in global FDI was drastically low in comparison to other regions of the world. The percentage share, which stood at 9.55% in 1970 and declined to 0.73% in 1980, rose to 1.39% in 1990 and declined to 0.71% in 2000. From 2001, it has maintained an average of 3.27% up to 2015 (IMF, International Financial Statistics, 2017).

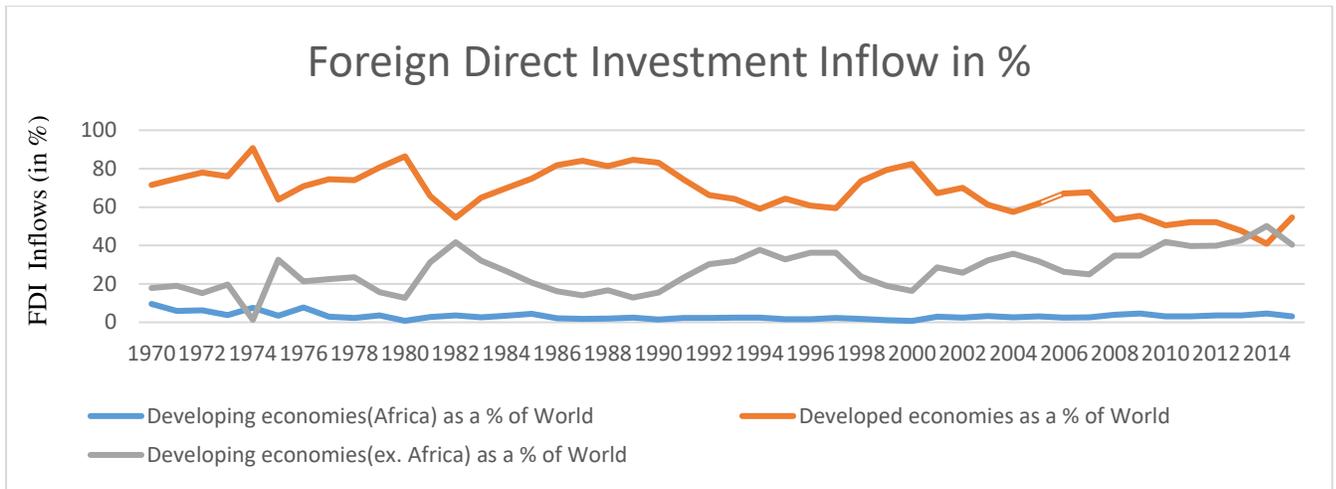
Researchers argue that financial development can be a driving force in economic growth through increased access to the global economy. Following the McKinnon-Shaw (1973), which argued that financial liberalization, which leads to financial development is supposed to foster economic growth through increasing savings and encouraging investments especially in developing economies. The McKinnon-Shaw thesis gained a lot of attention following the directive of the Washington Consensus and the Bretton Woods Institutions that led to many developing economies liberalizing their financial sectors. In addition, the International Monetary Fund (IMF), and the World Bank included it in their economic policy prescription package by developing a programme called “Structural Adjustment Programme” which was aimed at liberalizing distressed economies. Following this, most ECOWAS member countries liberalized their economies in the 1980s. The financial liberalization of the ECOWAS member countries enabled them to be able to compete

globally with others both as distinct economies and as a regional economic group. The various ECOWAS member countries adopted and implemented this package in varying approaches with respect to their initial conditions in both the financial sector and the real sector, speed of its sequencing, and their credit markets. For instance, the reform in Ghana involved establishment of agencies tasked with the replacement of nonperforming loans with central bank bonds in its banks. Nigeria's reform involved the establishment of deposit insurance schemes explicitly charged with the role of insuring deposits in case of a bank failure (Soyibo, Aryeetey, Inanga & Ajakaiye, 1996). However, there were points of convergence such as the objective of strengthening the existing supervisory and regulatory framework of the financial sector in each member country and even in sub-regions of ECOWAS, which led to the establishment of BCEAO (Banque Centrale des Etats de l'Afrique de l'Quest) and WAMZ (West African Monetary Zone).

ECOWAS francophone countries in a bid to consolidate its monetary policies and facilitate monetary integration established L'Union Economique ET Monetaire Ouest Africaine (UEMOA) in 1994 with the creation of a regional central bank, BCEAO (Banque Centrale des Etats de l'Afrique de l'Quest). The second monetary zone within ECOWAS was the West African Monetary Zone (WAMZ) established in 2000 by The Gambia, Nigeria, Ghana, Sierra Leone, Guinea, and Liberia with the objectives of facilitating the monetary integration of the sub-region through sound management of the economies and the establishment of a single currency for these countries. With the introduction of WAMZ saw the dismantling of the capital inflows restrictions and controls within the sub-region all in a bid to attract foreign capital inflow. However, these efforts seem not to yield much result, as there has been an established pattern of inflows into the sub-Saharan African economies. The South African economy takes the bulk of the capital inflows with the rest of the economies sharing the rest of the capital inflows. Even so, the ECOWAS region receives just on the average 3.20% of the capital inflow with Nigeria taking the bulk of it.

It is discomfoting that Africa has not attracted adequate amount of foreign capital that will boost her to the path of economic development despite the attendant benefits of the foreign capital that accrues to the host economy.

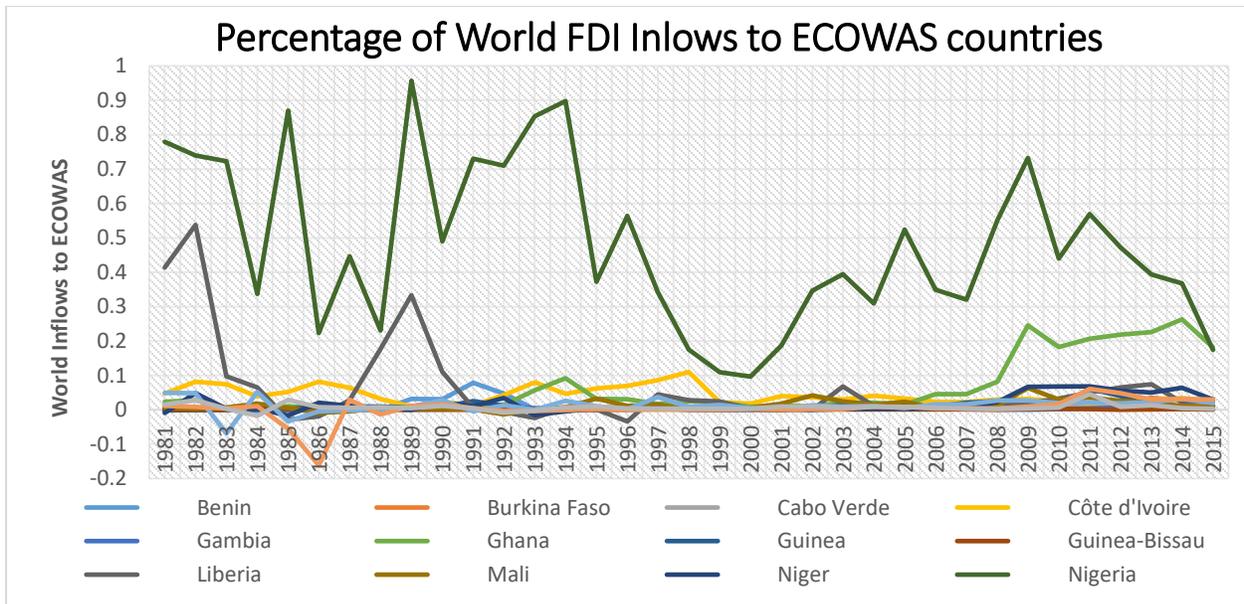
Figure 1: Foreign Direct Investment Inflow into Developed and Developing Economies



Source: UNCTADSTAT (2017)

Fig 1 above shows the foreign direct investment inflows into various regions for various periods. It shows from the figure below that foreign direct investment flows majorly into the developed countries with 68.02% going to them. Developing countries share the rest of the inflows, however, Africa attracted merely 3.2% of the total capital inflow (about between 1970 and 2015 while the rest 27.08% was directed to other developing countries.

Figure 2: Percentage of the FDI inflows into the ECOWAS region



Source: UNCTADSTAT (2017)

From the figure above, we can see that after the mid-1990, the percentage of the FDI inflows into the ECOWAS region had been approximately on the decrease relative to the 1980's. From the graph above, Nigeria is the biggest attractor of FDI in the ECOWAS followed by Liberia in the 1980's however, the second position shifted to Ghana in the late 2000's.

This decrease can be attributed to a number of factors, which include high cost of production due to poor infrastructure in the ECOWAS economies. Most ECOWAS countries face epileptic power supply leading to the usage of alternative power supply especially generators, poor road network among others. Nigeria, the largest economy in ECOWAS has the highest cost of production in the world, which has led to the relocation or outright closure of numerous multinationals out of the country (Musibau, Mahmood & Agboola, 2017). In fact, looking at the depressing state of the economies, Musibau, Mahmood & Agboola (2017) suggested that the behavioural pattern of residents in ECOWAS countries towards spending is still very strong and high, thus creating a major internal advantage for the continual attraction of FDI into the economies. Second, political instability has also negatively affected the inflow of FDI into some ECOWAS countries. For instance, Liberia was once the second biggest attractor of FDI into the region following Nigeria, but due to the prolonged civil war in the country, its FDI inflow has decreased greatly. She even experienced a negative FDI inflow in 1996. Nigeria, due to the socio-political crisis ranging from Boko-Haram in the Northern region to Militants in the Southern region which became more prominent from the late 2000's, the FDI inflow experienced a sharp drop, though not entirely attributed to the crisis, but some companies relocated from the country due to destruction and vandalization of their infrastructure. Third, most ECOWAS economies experience high level of corruption. According to CPI 2016, apart from Ghana, which is the least corrupt nation in ECOWAS followed by Mali and Togo, all the other ECOWAS countries are very corrupt. The high level of corruption in the institutions have discouraged the inflow of FDI into the ECOWAS economies. In addition to this, is investors' poor perception of ECOWAS and its member countries (Ceesay, 2011). The perception of the international community, and invariably, the foreign investors' perception on the economic and political environment is a major influence on whether they invest in the economies or not. Most ECOWAS countries have a history of discontinuing policies at the end of a political regime and the beginning of a new one, while some ECOWAS countries still struggle with political instability. This erodes investors' confidence and create doubt as to the consistency and dependability of formulated policies and the government's ability to deliver.

From financial development theory, it has shown that there is a positive nexus between financial development, foreign capital flows, and economic growth. However, empirically, the relationship between financial development and growth has not still reached a consensus. For instance, Cho and Khatkhate (1989) while studying the financial liberalization experience of five Asian countries Sri Lanka, Indonesia, Republic of Korea, Malaysia, and Philippines suggested that financial reforms from evidence did not make any significant impact to the saving and investment activities in the liberalized economies. In another study by Sinha and Macri (2001) which studied financial development and economic growth in eight Asian countries and found the results to be inconsistent hence leading to the conclusion that there is no clear and positive impact of financial development and economic growth, thus, supporting Cho and Khatkhate (1989). However, Odhimabo (2011), while studying the relationship between financial deepening, capital flows and economic growth in Tanzania using a trivariate model, reached a conclusion that financial development in Tanzania follows growth. This was supported by Orji, Uche, and Ilori (2014), which when discussing foreign capital inflows and economic growth in the WAMZ region, found out that foreign inflows had positive impact on most of the WAMZ member- countries excluding Guinea. Furthermore, Agbélénko and Kibet (2015), also found supporting evidence for financial development positive contribution to economic growth in ECOWAS region. Given the above, studies on ECOWAS countries reveal that financial development leads to economic growth but there are not enough

literature on foreign capital inflows, financial development, and economic growth nexus in the ECOWAS region.

Hence, this study focuses on estimating the impact of foreign capital inflows and financial development on economic growth in ECOWAS countries. The data sources are CBN Statistical Bulletin (Various Issues), World Bank Development Indicators (2017), International Financial Statistics (IFS) and United Nations Conference on Trade and Development (UNCTAD) data (2017). The rest of the paper is structured as follows; section 2 dwells on the literature review, while the methodology is presented in section 3. Section 4 contains the results and discussion, while section 5 concludes the paper and make some relevant policy recommendations.

## **2. REVIEW OF EMPIRICAL LITERATURE**

We can see from the background of the study, that Africa receives one of the lowest share of foreign capital investment. The reason for this could be due to an under-developed financial sector. Many studies have attempted to uncover the effect foreign capital has on economic growth in individual ECOWAS member-countries. Some studies have attempted to look at foreign capital inflows and economic growth, while few studies looked at how financial development has affected the growth in the ECOWAS region as a whole. A few of the studies however, try to look at the impact of foreign capital development and financial development on economic growth.

Adofu (2010), while examining the impact Foreign Direct Investment has on economic growth in Nigeria using OLS estimation technique, concluded that FDI though insignificant performed a crucial role in improving economic growth in Nigeria. He posited that the government should create an enabling socio-economic environment for it to thrive. While Nkoro & Furo (2012) in studying the impact and the nature of causality of foreign capital inflows on economic growth in Nigeria found a causal relationship running from foreign capital inflows to growth. In addition, among all foreign capital variables, economic growth reacts fast only to FDI. Orji, Uche & Ilori (2014) by using the SURE technique, examined the impact of foreign capital inflows in WAMZ economies for the period 1981-2010. They discovered that while in some economies, more than one channel of inflow impact them; others just experienced a positive impact from one channel of inflow. They recommended that the WAMZ region should create an attractive and competitive economic environment for foreign investment to thrive in the region by formulating sound economic policies and strengthened institutions.

Ozekhome (2017) while investigating if there are diminishing returns in the aid-growth nexus (Foreign Aid, Foreign Investment and Economic growth) in ECOWAS countries for the period 2000 to 2015 and using the GMM estimator. They found that apart from foreign aid which had a negative impact on growth, other variables such as FDI, trade openness, and the present past values of GDP all have positive impact on growth. They recommended that ECOWAS countries should improve, stabilize, and harmonize their macroeconomic policies, institutional structures, and open trade and investment-enhancing policies in order to fast-track their growth.

Looking at literature on financial development and economic growth, Nzotta and Okereke (2009) examined the impact of financial deepening on economic development in Nigeria from the period 1986 to 2007. They maintained that a necessary condition for stimulating growth in an economy

is to increase to a relatively high level, its financial deepening. They made use of secondary annual data, two stages least squares method, trend analysis and nine explanatory variables including a financial deepening index. The results showed that the Nigerian financial deepening index has been low over the years. Summarily, they maintain that an effective financial intermediation had not sustained in the financial system, especially in the area of credit allocation and the high level of monetization of the economy. They thus recommended that a restructuring of the regulatory framework should be undertaken to guarantee the presence of an excellent risk management, corporate governance, and a process that will put a stop to the systemic crisis in the system. Sulaiman, Oke, & Azeez (2012) looked at the effect financial liberalization has on the economic growth in Nigeria and discovered that financial liberalization has a growth-effect on the economy. They however recommended that the priority, before the implementation of any financial liberalization policies, should be economic stability and the strengthening of the framework guiding the financial sector. Olayiwola, Okodua & Osabuohien (2014), discussed the concept of “finance for growth” in context of emerging economies in particular, Nigeria. While comparing with other emerging economies, they discovered that while they have the similar objectives of improving the financial sector to provide key financial services, large differences still exist in the levels of efficiency. In addition, they also argued that access to financial services is the key factor to growth and not which sector supplies the funds. Adams & Agbemade (2012) examined how financial liberalization has affected the banking industry in Ghana reviewing both pre- and post-liberalization periods. They discovered that the liberalization had marked positive impact on the banking sector such as emergence of new banks, increase in the intensity of competition, decreased profit margins, and loans are more accessible to the public. They however, also discovered that non-indigenous banks outperformed indigenous banks.

Karimo & Ogbonna (2017) investigated the causality between financial deepening and economic growth in Nigeria from 1970 to 2013 and discovered that it follows a supply-leading hypothesis (i.e. financial deepening leads to growth). They recommended that policy makers should focus on eliminating the barriers that hinder the growth of credit to the private sector, and formulate stabilizing policies that will raise investors’ confidence in the stock market operations.

Summarily, quite a number of studies have dealt with some aspects of this study, mostly in the area of foreign capital inflows and growth (Adofu 2010, Nkoro & Furo 2012, Orji, Uche & Ilori 2014, etc.) and some in the area of causality between Financial development and growth (Olayiwola, Okodua & Osabuohien 2014, Jallohi 2011, Ndebbio 2004, Agbélénko and Kibet 2015, Esso 2010 etc.). This study is distinct on a few counts. This study will look at the Foreign Capital Inflow-Financial Development-Economic Growth linkage. Such literature as far as we know is fewer than two studies done for the ECOWAS community. Thus, it will add to the body of knowledge.

### **3. METHODOLOGY**

To estimate the relationship between foreign capital inflows, financial development and growth in selected ECOWAS economies using quarterly data series spanning from 2000 to 2017 we proceed as follows;

Expressing the functional relationship of the variables of interest, we have



## 4. RESULTS AND DISCUSSION

### 4.1. Data

In this study, the data on the variables of interest were sourced from World Bank Development Indicators (2017), International Financial Statistics (IFS) and United Nations Conference on Trade and Development (UNCTAD) data (2017). The data runs from 2000q1 to 2017q4 and 14 ECOWAS countries were selected due to availability of data. The variables of interest have both within variations and between variations across time and space.

#### 4.1.1 Unit Root Tests

**Table 1: Im-Pesaran-Shin Unit Root Test Results**

Variables	P-Values (5%)	Integration Order	Variables	P-Values (5%)	Integration Order
<b>ECG</b>	0.0000	I(0)	<b>ECGGR</b>	0.0000	I(0)
<b>LCRE</b>	0.0000	I(1)	<b>LCREGR</b>	0.0000	I(0)
<b>LFDI</b>	0.0000	I(1)	<b>LFDIGR</b>	0.0000	I(0)
<b>LGCF</b>	0.0021	I(0)	<b>LGCFGR</b>	0.0000	I(0)
<b>LLF</b>	0.0204	I(1)	<b>LLFGR</b>	0.0186	I(0)
<b>LAI</b>	0.0003	I(0)	<b>LAI</b>	0.0000	I(0)
<b>LOPEN</b>	0.0000	I(2)	<b>LOPENGR</b>	0.0000	I(1)

The unit root tests show that the variables are integrated of both order zero and order one.

#### 4.1.2 Panel Data Fixed Effects Model Results

**Table 2. Panel Data Regression**

**Dependent Variable: Log of GDPCI**

VARIABLES	COEFFICIENTS (FE)	COEFFICIENTS(RE)
<b>LCRE</b>	0.0545608*** (0.0136567)	0.0904047*** (0.0130728)
<b>LFDI</b>	0.0656745*** (0.0066919)	0.0721787*** (0.0069259)
<b>LGCF</b>	0.2901163*** (0.016209)	0.3037987*** (0.0165748)
<b>LLF</b>	0.2196533*** (0.0683291)	-0.1435474** (0.0544564)
<b>LAI</b>	0.1305592*** (0.0114701)	0.142374*** (0.0118116)
<b>LOPEN</b>	-0.1816667*** (0.0197009)	-0.1822902*** (0.0204984)

<b>CONSTANT</b>	-8.156041*** (0.7624905)	-4.027403 (0.6159025)
<b>R<sup>2</sup> = 0.8288</b>	<b>F(6,909)=733.60</b>	<b><math>\chi^2(6)=4006.85</math></b>
<b>R<sup>2</sup>_adj = 0.8397</b>	<b>Prob &gt; F = 0.0000</b>	<b>Prob &gt; <math>\chi^2(6)=0.0000</math></b>
<b>Standard errors in parentheses ()</b>	<b>Legend: * p&lt;0.01; **p&lt;0.05; ***p&lt;0.001</b>	

Table 2 shows the results for fixed effects panel regression and random effects panel regression. In both regressions, all estimates excluding LLF in the fixed effects model and the constant in the random effects estimates are all significant at least 5% significance. However, given that the results do not have robust standard errors, we will only look at the relationship of the variables with respect to a priori expectations. Domestic Credit (LCRE) showed a positive relationship with economic growth in both estimates. This is consistent with a priori expectation that higher credit will lead to higher investment, which will boost the economy. This supports Jalloh (2011), who argues that increase in domestic credit will increase economic activities through increased investment. Foreign Direct Investment (LFDI) also showed a positive relationship with economic growth. This is also in line with theory as it shows that FDI does not crowd out domestic investment, it however complements the already available capital and thus leads to more accumulation of capital that will engender growth. This is consistent with studies such as Orji, Uche and Ilori (2014) and Eze, Abrokwa and Okolo (2016) in their study of the WAMZ region. Although studies such as Iheonu, Ihedimma and Omenihu (2016) and Agbelenko and Kibet (2015) while studying WAEMU region argued that foreign direct inflows are detrimental to growth as they come into the economy and create unhealthy competition for domestic investment, which tends to crowd domestic investment out. Gross Capital Formation (LGCF), which is a proxy for gross domestic investment, exhibits a positive relationship with economic growth. This, in line with a priori expectation shows that increase in the present stock of capital will lead to economic growth. Labour force (LLF) participation however, shows opposing signs in the two models. It exhibits a positive relationship in the fixed effects model and a negative effect in the random effects model. A priori reasoning states that increase in the skilled labour force should engender growth. However, should it be negative, this suggests that the labour force is not adapted to meet the present needs of the society. Foreign Aid (LAID) shows positive relationship with economic growth in the both models. In line with the theoretical expectations, increase in foreign aid, which is a low-interest/no-interest lending should lead to growth as it implies that capital invested in the country and the cost of the capital is reduced greatly, hence increasing the returns gotten from the efficient use of the capital gotten. Trade Openness (LOPEN) according to a priori expectation should exhibit a positive relationship with economic growth. In the both models, it however exhibits negative relationships. ECOWAS countries tend to import more of consumer goods more than they export, and primary goods happen to take up the bulk of their exports. Thus, a larger trade balance means that the country is either importing more or exporting more of primary goods. Moreover, neither of the above scenarios have a positive effect on economic growth. Thus, an increase in trade-openness will inadvertently diminish economic growth.

#### 4.1.3 Test Results for Individual and Time Effects

The study utilized the Hausman test, which is a test for checking the independence of the regressors and the effects, to determine if we are to use the random effects estimator or the fixed effects

estimator. The null hypothesis is that the random effects estimator should be used over the fixed effects estimator (i.e. It tests the hypothesis that there should be no correlation between the variance of the two errors i.e.  $corr(\sigma_{\psi}^2, \sigma_{\lambda}^2) = 0$ ). We reject the null hypothesis if the p-value is  $< 0.05$ .

**Table 3: Random effects test**

$\chi^2(2)$ value	Prob $> \chi^2(2)$	Decision
75.14	0.0000	Reject Ho if $P < 0.005$

Thus, we reject the null hypothesis, as the p-value is significant and conclude that the fixed effects model is to be employed.

#### 4.1.4 Testing For Time-Fixed Effects

Since, we are to use the fixed effects model; we need to test to see if the dummies for all quarters are significantly equal to zero, in which the time fixed effects are not required. Its null hypothesis is that the coefficients for all years are jointly equal to zero. We reject the null hypothesis if the p-value is less than 5%.

**Table 4: Fixed effects test**

$F$ value	Prob $> F$	Decision
2.17	0.0000	Reject Ho if $P < 0.005$

Since,  $P$  is  $0.0003 < 0.05$ , we reject  $H_0$  and conclude that the coefficients for all quarters are not jointly equally to zero. Hence, we need to introduce time-fixed effects.

#### 4.1.5 Testing For Heteroscedasticity

The study employed the Modified Wald test to test for heteroscedasticity in fixed effect regression model. It has the null hypothesis of homoscedasticity.

**Decision Rule:** Reject  $H_0$  if the p-value is less than 5%.

**Table 5: Testing For Heteroscedasticity**

$\chi^2(2)$ value	Prob $> \chi^2(2)$	Decision
2701.28	0.0000	Reject Ho

Thus, we reject  $H_0$  and conclude that the data is heteroscedastic.

#### 4.1.6 Testing For Contemporaneous Correlation (Cross-Sectional Dependence): Using Breusch-Pagan LM Test of Independence

Using the Breusch-Pagan LM Test of Independence, which tests for contemporaneous correlation cross entities when  $T > N$ . Its null hypothesis states that residuals across entities are not correlated.

**Decision Rule:** Reject  $H_0$  if p-value is less than 5%.

**Table 6: Breusch-Pagan LM Test of Independence**

$\chi^2(19)$ value	Prob	Decision
1017.534	0.0000	Reject Ho

Thus, we reject the null hypothesis, and we conclude that the residuals are correlated across countries.

#### 4.2 Robustness Check (Adjusted Results)

Using the Prais-Winsten Regression, we corrected for Heteroscedasticity and Serial Auto Correlation in model one in order to obtain standard errors that are more robust. We also included the time-fixed effects in order to observe differences in time.

**Table 7: Prais-Winsten Regression**

**Dependent variable: ECG**

<b>Variables</b>	<b>Coefficients Time-fixed effects model</b>	<b>Coefficients Without Time-fixed effects model</b>
<b>LCRE</b>	0.139758 (0.0169806)	0.1159121*** (0.0178737)
<b>LFDI</b>	0.0039744 (0.0037709)	0.0137786*** (0.0043517)
<b>LGCF</b>	0.0991942*** (0.0153329)	0.1467324*** (0.0155681)
<b>LLF</b>	-0.129937** (0.0457917)	-0.2600256** (0.523298)
<b>LAID</b>	0.0166334 (0.0088312)	0.0277175** (0.0094721)
<b>LOPEN</b>	-0.038159*** (0.0105256)	-0.0295836*** (0.0118317)
<b>CONSTANT</b>	3.96317*** (0.5562428)	2.849031*** (0.671196)
<b>Cd</b>	<b>F(13,909) = 260.117 (p = 0000)</b>	
<b>R<sup>2</sup> = 0.96.99</b>	<b>Wald <math>\chi^2(23)=2667.37</math> Prob &gt; <math>\chi^2 = 0.0000</math></b>	<b>Wald <math>\chi^2(6)=226.60</math>; R<sup>2</sup> = 0.9470 Prob &gt; <math>\chi^2 = 0.0000</math></b>
<b>Standard errors in parentheses (). Legend: * p&lt;0.01; **p&lt;0.05; ***p&lt;0.001</b>		

Table 7 shows the results for the fixed effects panel regression adjusted for heteroscedasticity and autocorrelation. Hence, it shows robust estimates and standard errors.

Interpreting the Fixed effects model, The R<sup>2</sup>-adjusted is at 0.9470, which means that 94.70% of the variations in the dependent variable are explained by the regressors, while the Wald test of significance shows that the overall fitness of the model is good.

Domestic Credit (LCRE) has a positive and significant relationship on economic performance, as a percentage increase in domestic credit in the economy leads to 0.11% increase in GDP per capita. Looking at ECOWAS economies, access to affordable credit has been a challenge. An additional unit of domestic credit accessed will improve economic performance by increasing activities and investments carried out in the economy. Consistent with studies such as Orji (2012), Orji, Uche

and Ilori (2014), Agbelenko and Kibet (2015), who argued that for WAMZ and WAEMU regions respectively, increases in domestic credit accessed will lead to improved economic growth in the sub-regions. A percentage increase in the foreign direct investment inflows (LFDI) leads to a 0.01% increase in economic performance in the ECOWAS region. This is partially consistent with Eze, Abrokwa & Okolo (2016), who opined that FDI positively influences economic performance in the long run, though looking at the short run, it is detrimental. Looking at this, foreign direct investment, according to theory is meant to complement domestic investment. A percentage increase in the gross capital formation (LGCF) leads to a 0.14% increase in economic growth in the region. This is in line with a priori expectation of gross domestic investment positively influencing growth. This is consistent with Mahawaiya (2011), who argued that gross domestic investment positively influences economic growth in ECOWAS and SADC regions. This means that as the country/region invests more domestically, through infrastructural development or otherwise, the economy improves by a margin of 0.14%. A percentage increase in the labour force (LLF) leads to a decrease in the economic performance by 0.26%. This sharply contrasts with a priori expectation of increases in labour force improving economic activities. This can be because the population in ECOWAS region has not been properly harnessed to maximize economic performance. This is however consistent with Eze, Abrokwa, and Okolo (2016). A percentage increase in foreign aid attracted to ECOWAS economies will increase economic growth by approximately 0.03%. This shows that a percentage increase in aid attracted into ECOWAS economies will positively influence economic performance. However, the effect less than expected, which can be due to the stringent requirements required by the donor agencies before the aid can be given. Trade openness according to a priori expectation should booster economic performance and this is supported by Mahawaiya (2011) and Eze, Abrokwa, and Okolo (2016). However, the results show that a percentage increase in trade openness will lead to a 0.03% decrease in economic performance. However, this can be because of the negative net exports that is characteristic of ECOWAS countries. Thus, a larger trade balance means that the country is either importing more or exporting more of primary goods. Moreover, neither of the above scenarios have a positive effect on economic growth. Looking at Agbelenko and Kibet (2015) who argued in favour of a detrimental relationship between trade openness and growth. They are of the opinion that increase in trade openness would attract foreign multinationals creating competition for domestic investors and eventually crowding them out. Thus, an increase in trade-openness will inadvertently diminish economic growth. It has a significant constant intercept of 2.849 units.

Interpreting the Time-Fixed Effects Model, The  $R^2$ -adjusted is at 0.9988, which means that 96.88% of the variations in the dependent variable can be explained by the regressors, while the Wald test of significance shows that the overall fitness of the model is good.

Domestic Credit (LCRE) has a positive and significant relationship on economic performance, as a percentage increase in domestic credit in the economy leads to approximately 0.14% increase in GDP per capita. A percentage increase in the foreign direct investment inflows (LFDI) leads to 0.004% increase in economic performance in the ECOWAS region; however, this is not significant. A percentage increase in the gross capital formation (LGCF) leads to a 0.09% increase in the economic performance in the region. A percentage increase in the labour force (LLF) leads to a decrease in the economic performance by approximately 0.13%. This can be because the population in ECOWAS region is not being properly harnessed to maximize economic performance. A percentage increase in foreign aid attracted to ECOWAS economies will increase economic performance by approximately 0.02%. However, this is not significant. Trade openness

according to a priori expectation should booster economic performance; however, the results show that a percentage increase in trade openness will lead to a 0.038% decrease in economic performance. This can be because of the negative net exports that is characteristic of ECOWAS countries. Thus, a larger trade balance means that the country is either importing more or exporting more of primary goods. Moreover, neither of the above scenarios have a positive effect on economic growth. Thus, an increase in trade-openness will inadvertently diminish economic growth. It has a significant constant intercept of 3.963 units. Looking at the time-fixed effects, virtually all the quarters are significant. This means that looking at ECOWAS region; the quarters do not have random effects, as they are significant.

From the above results we can observe that while using the time-fixed effects model, all variables were significant except Foreign Direct Investment and Foreign Aid, while in the fixed effects model all variables were significant, which means that financial development and foreign capital inflows are important to the economic performance of ECOWAS region as a whole. However, the labour force and trade openness, which according to a priori expectation is to be positively related to economic performance, are not.

## **5. CONCLUSIONS AND POLICY RECOMMENDATIONS**

### **5.1 Conclusions**

This paper has empirically investigated the impact of foreign capital inflows and financial development on economic growth in the ECOWAS region. From the analysis, the study showed that financial development and foreign capital inflows leads to economic growth in the selected ECOWAS countries. This finding is partially consistent with the work of Adeniyi (2012), though he examined just Ghana Cote d'Ivoire and Nigeria. The paper therefore recommends that member countries should create a conducive socio-political and economic environment for foreign investors to invest in the economies such as a reduction in corruption prevalent in the system, ethnic unrest, introduction of tax holidays, stability of policies introduced by the government, among others.

### **5.2 Policy Recommendations**

From the panel fixed effects regression results, we can see that domestic credit and foreign direct investment exhibits a positive and significant relationship with growth though the magnitude of impact is low. In recent times, the growth in ECOWAS member countries has been deeply fluctuating and foreign direct inflows attracted into the region has been meagre. Hence, the study recommends that; First, member countries should create a conducive socio-political and economic environment for foreign investors to invest in the economies such as a reduction in corruption prevalent in the system, ethnic unrest, introduction of tax holidays, stability of policies introduced by the government, etc. Second, there is need for creative image laundering by ECOWAS countries in order to improve the negative perceptions that foreigners have about investing in many countries in West Africa. This is very important because given that investors' perception is a major determinant of foreign capital inflows, a good investors' perception will encourage the inflow of foreign direct investment in the region. Third, caution should be exercised while attracting foreign capital inflows, as it can detrimental to economic performance. Hence, the impact of foreign inflows should be monitored closely to obtain the optimum level of capital inflows given the prevailing domestic economic environment in the region. Finally, credit to the private sector should be encouraged in all the domestic economies investigated in this study. This will enhance domestic

investment which will augment foreign direct investment in the creation of jobs and improving growth of the economy.

## Declarations

All manuscripts must contain the following sections under the heading 'Declarations':

- **Availability of data and materials**

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request

- **Competing interests**

The authors declare that they have no competing interests

- **Funding**

This study received no external funding

- **Authors' contributions**

AO, OIA and CFO conceptualized the study, estimated the data and interpretation. They also contributed in the literature. JEO and CFO contributed in the methodology, write up and other technical support.

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Not applicable

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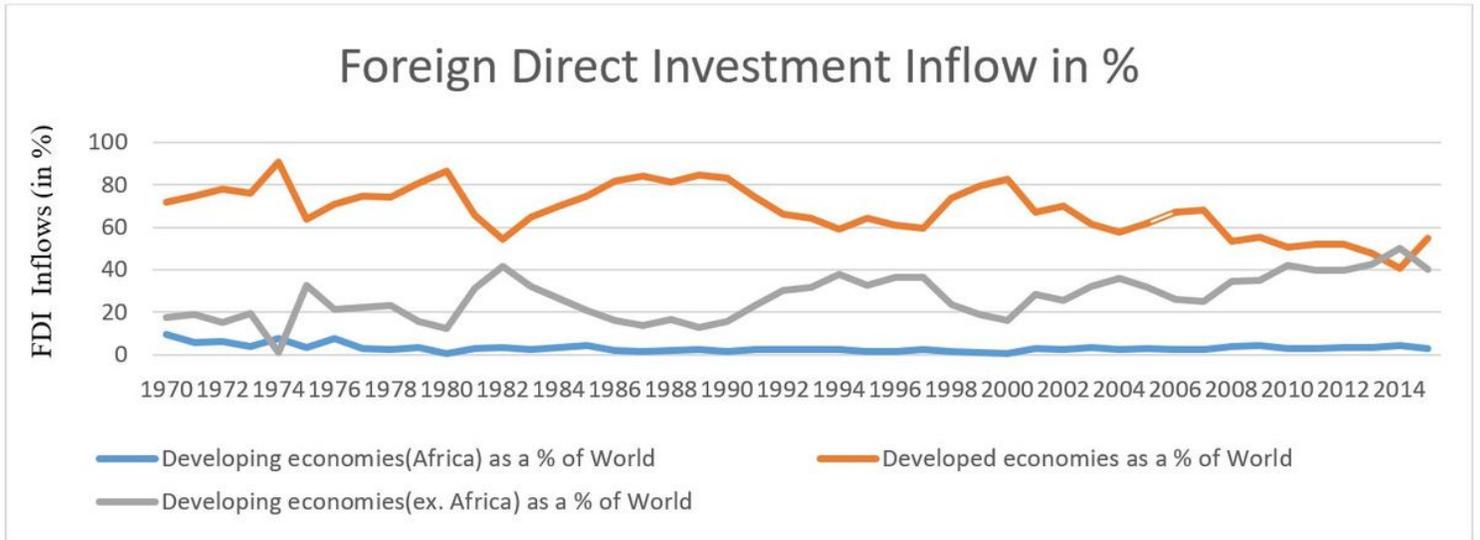
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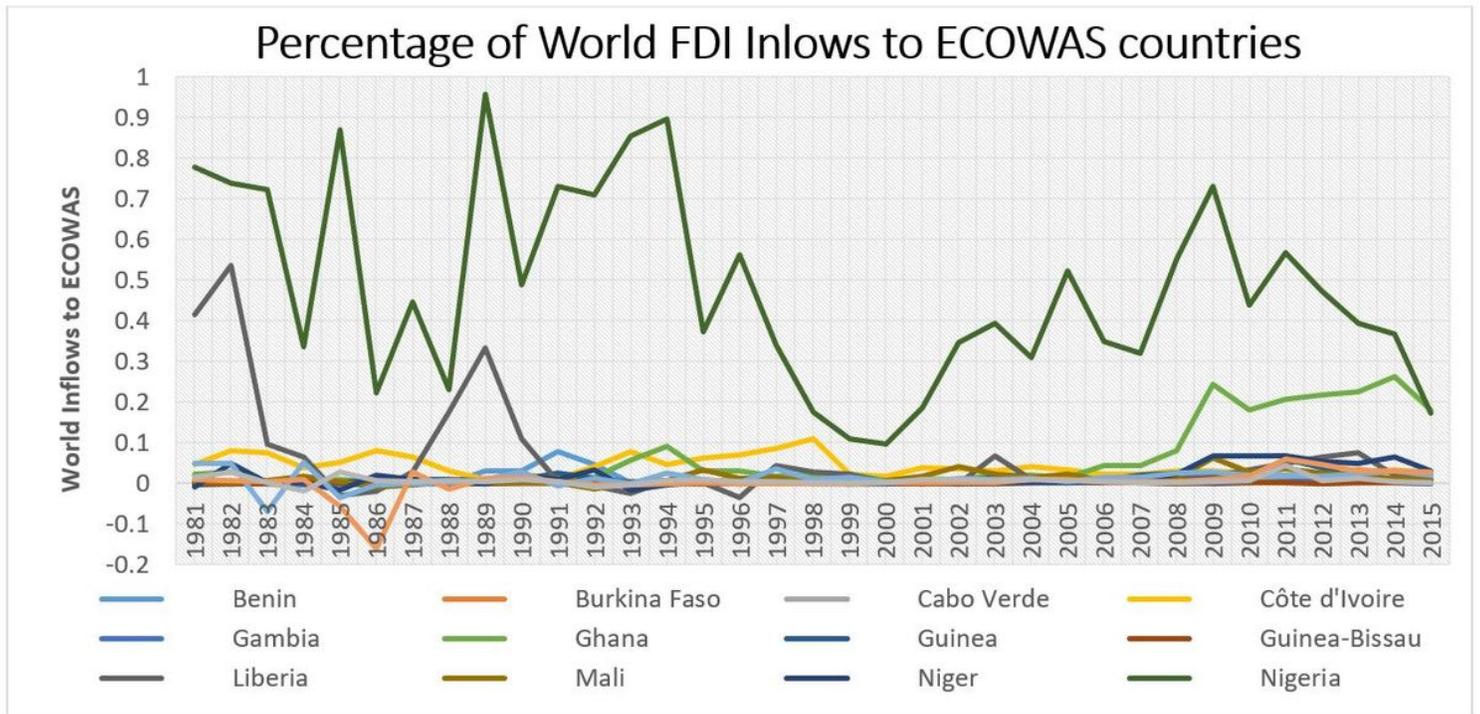
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# Figures



**Figure 1**

Foreign Direct Investment Inflow into Developed and Developing Economies. Source: UNCTADSTAT (2017)



**Figure 2**

Percentage of the FDI inflows into the ECOWAS region. Source: UNCTADSTAT (2017)