

Determinants Of Foreign Direct Investment Inflow to Ecowas Member Countries

Godwill Atta Boakye¹, Philip Asiedu Kyeremateng²

¹Ghana Institute of Management and Public Administration of Ghana, School of Governance and Public Service

²Kwame Nkrumah University of Science and Technology, Department of Mathematics

Abstract

The benefits of FDI to host economies can never be overlooked by policymakers in their quest to formulate a policy driven. FDI aids the recipient economies through solving the savings deficiency problems, introduction of new technology, bridging revenue gap and addressing issues relating to management and many others. The study sought to investigate the determinants of FDI inflow into ECOWAS member countries using panel data from the time period of 1990-2017. The study specifically aimed to investigate the differential effect of external debt, political stability, trade openness and inflation on FDI flow to ECOWAS member countries in the long run and also to investigate whether the variables of concern jointly influence FDI into ECOWAS member countries in the long run. The countries of interest were Ghana, Togo, Nigeria, Niger, Cape Verde, Cote d'Ivoire, Senegal, Benin, Burkina Faso and Mali. The results based on panel Dynamic Ordinary Least Squares (PDOLS) show that trade openness and political stability have a positive and significant effect on FDI. Inflation and external debt do not have a significant effect on FDI inflows. Also, trade openness, political stability, inflation and external debt do not jointly influence FDI.

Keywords: Foreign direct investment (FDI), policy, economic growth, development, globalization, benefit, policymaker, long-term.

Introduction

Foreign Direct Investment (FDI) inflows have generally been unstable over decades. The enticement of foreign direct investment is well-thought-out as a major element of policy development. Owing to inadequate available resources to fund long-term development agenda and persistent struggle in reducing poverty, policymakers at the national, regional and global level are now placing more emphasis on foreign direct investments. Foreign Direct Investment is a major element in the globalization process. As a result, emerging economies, as well as advanced economies, have over the years embarked on policies to attract FDI because of its benefits in terms of economic growth, development and employment to the host countries (UNCTAD, 2014). The World Bank defines foreign direct investments as: "Foreign direct investments are the net inflows of investment to acquire a lasting interest of management (10% or more of voting stock) in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, reinvestment of earnings, other long term capital and short-term capital as shown in the balance of payment" (UNCTAD, 2014). Therefore, an investment may be classified as another type of investment called portfolio investment if it falls below this threshold. Foreign direct investment according to Habimana (2018) "consists of an investment involving a long term relationship and reflecting a lasting interest and control of a resident entity in one economy in an enterprise resident in an economy other than that of the foreign direct investor". Therefore, Foreign Direct Investment is a venture made by a firm(s) or individual investor in one country into a business interest located in another country. Africa has

experienced a significant drop in Foreign Direct Investment (FDI) from 2016 to 2018, from \$50.82 billion in 2016 to \$42 billion in 2017 representing 21% decline (World Investment Report, 2018). The major factors contributing to the decline are as a result of weak oil revenues and the ongoing harmful macroeconomic effects resulting from the commodity bust. The North Africa FDI flows fell by 4% to \$13 billion and Egypt also experienced a decline but still continue to be the largest beneficiary in Africa. Morocco experienced a rise of 23% to \$2.7 billion due to the sizeable investment in the automotive sector. The Central Africa FDI flows diminished by 22% to \$5.7 billion. Also, West Africa FDI flow reduced by 11% to \$11.3 billion (World Investment Report, 2018). East Africa which is considered as the fastest growing region in Africa attracted \$7.6 billion FDI in 2017, a 3% reduction on the amount of FDI flow in 2016. Ethiopia in 2017 attracted FDI flow of \$3.6 billion which was almost half of the region’s total FDI inflow but that figure saw a reduction of 10% compared to 2016 and the second largest beneficiary of FDI inflow in Africa (World Investment Report, 2018). FDI flows to Southern Africa depreciated by 66% to \$3.8 billion with South Africa FDI reducing by 41% to 1.3 billion. The reasons stem from the underperformance of the commodity sector and political instability. Angola fell short of FDI flow from \$4.1 billion from 2016 to \$2.3 billion in 2018 due to the reallocation of funds to abroad by means of Intra Company loan by foreign partners in the country. Whiles Zambia experienced a rise in FDI due to copper. In the last two to three decades, Foreign Direct Investment (FDI) inflow to Africa has seen growth because of many incentives put in place by many governments in the region. Also, mergers and acquisitions by means of private-to-private dealings and privatization through acquisition have increased flow to Africa. Foreign Direct Investment flows to Africa increased from US\$2billion in 1990 to US\$10billion in 1997. FDI flow to Africa fluctuated between 1997 and 2004 from fig. 1.1. From 2004 to 2008 there was an increase in FDI flow from US\$16billion to US\$60billion. The highest FDI flow to Africa was in the year 2008 with an amount of over US\$60billion. This rise was partly due to interest in natural resources by foreign investors, positive business environment and macroeconomic stability during that period. According to the (UNCTAD, 2018) World Investment Report, global Foreign Direct Investment (FDI) flows diminished by 23% from US\$1.87 trillion to US\$1.43 trillion from 2016 to 2017 even though there was an increase in world GDP and trade. Africa share of FDI flow represents 2.9% of global FDI inflow in 2017. Developing Asia and Latin America and the Caribbean received a share of global FDI flow of 33.3% and 10.6% respectively. As global FDI fell by 23%, Africa equally experienced a drop in FDI inflow by 21.5% from \$53 billion in 2016 to \$42 billion in 2017. According to (UNCTAD, 2018) investment report, the fall was partly as a result of the macroeconomic effects of the 2014-2016 oil prices. The five countries Egypt, Ethiopia, Nigeria, Ghana and Morocco are the top FDI inflow recipients in Africa in 2017 recording FDI inflow of \$7.4 billion, \$3.6 billion, \$3.5 billion and \$2.7 billion respectively according to UNCTAD, (2018) Investment Report. Meanwhile, it was only Morocco that saw a rise in FDI from 2016 to 2017 of 22.9% as shown in figure 1 to 3 below.

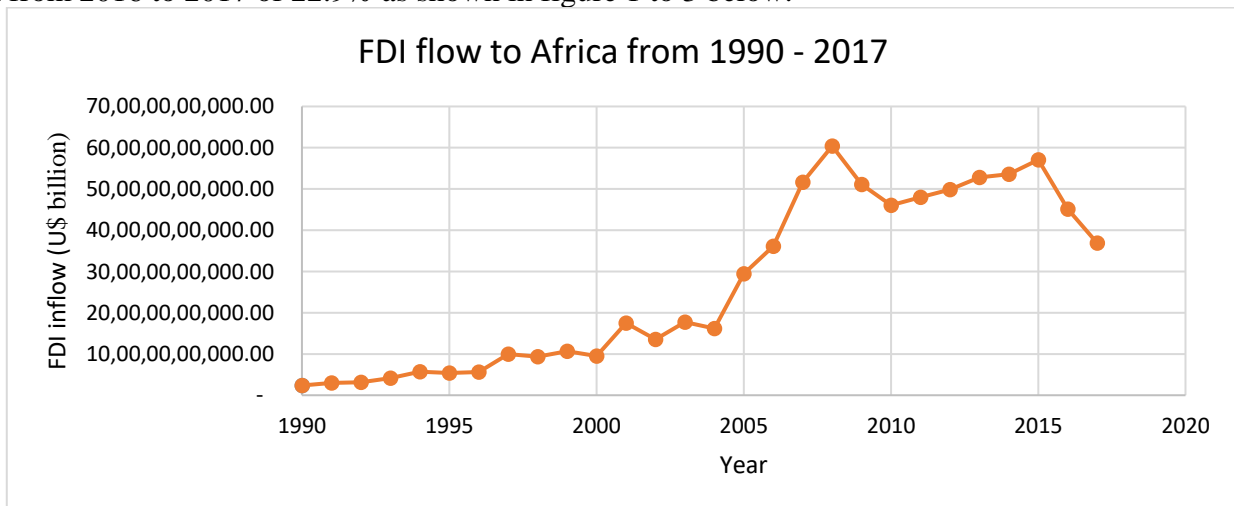


Figure 1: shows the movement of world development indicator data of 2019

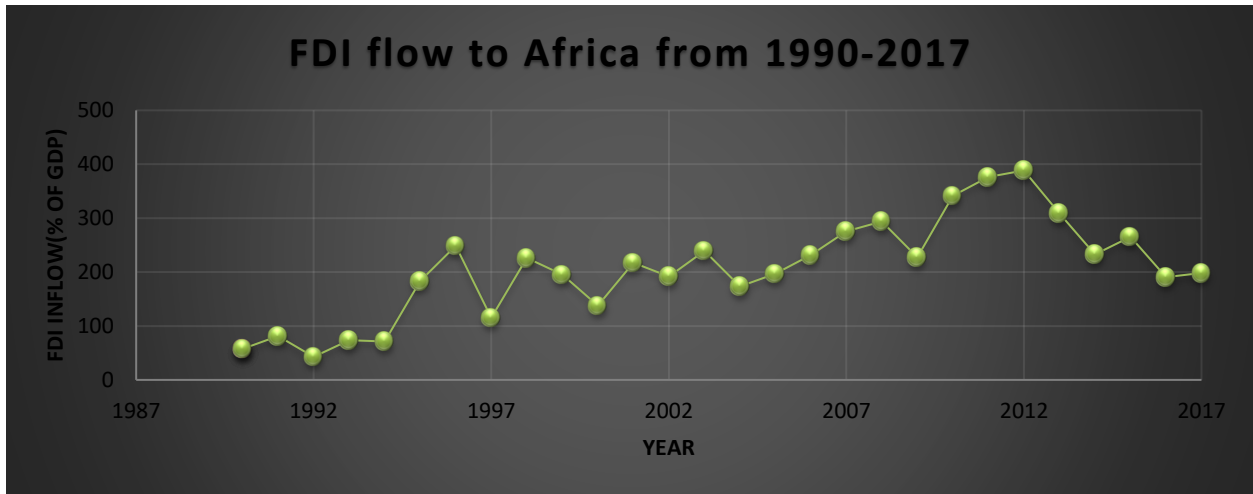


Figure 2: world development indicator data, 2019

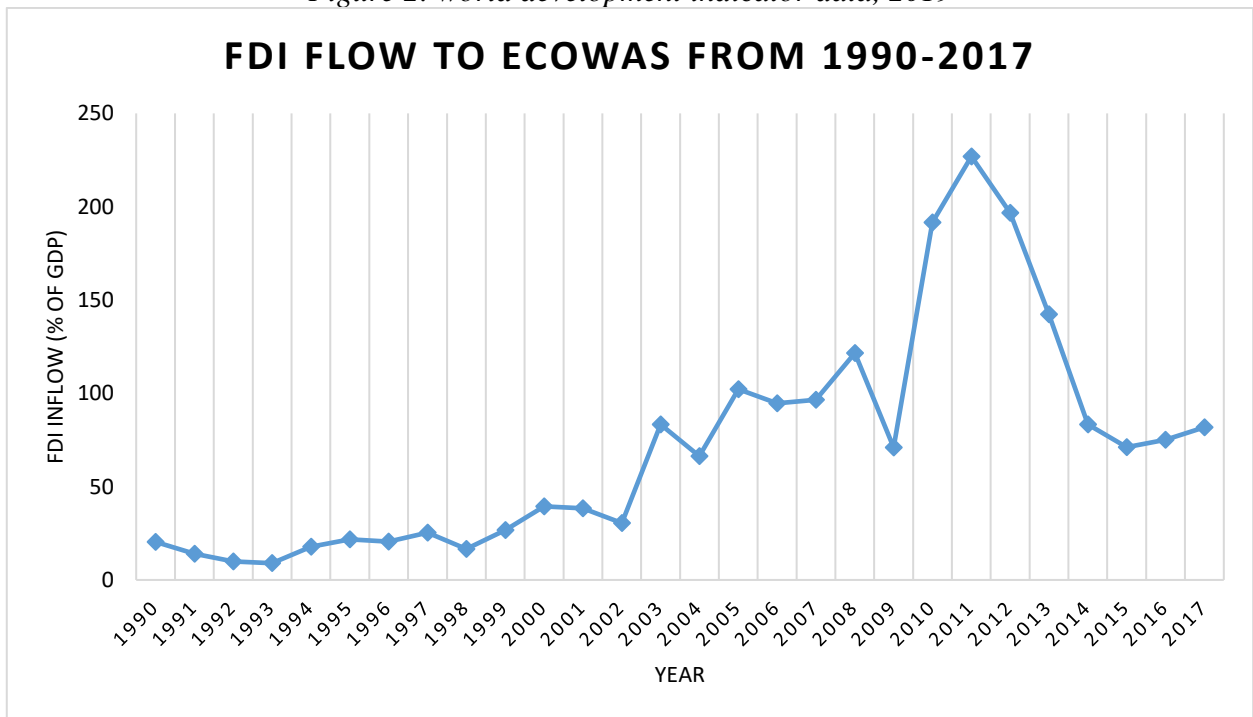


Figure 3: demonstrates the graph trend of world development indicator data of 2019

The relative strength of home and foreign currencies is the basis for which Aliber (1970) explains the currency-based theory of FDI. He elucidates the cost associated with money borrowing from external financial market differs with respect to the anticipated risks associated with the currency of the borrower. In view of this, a higher risk related to the home currency of the debtor, the higher the borrowing cost from the financial market overseas. Aliber (1970) differentiates between ‘harder’ and ‘softer’ currencies and believes that makes firms from harder currency economies to have some competitive edge over the host country firms in the softer economies. The former has the prospect of borrowing money at a lesser interest rate in softer currency economies as compared to their indigenous firms. The firms in the harder currencies make use of the same expected flow of income at a higher rate. Therefore, the main determinant for investing abroad is the strength of the investor’s home currency. The currency-based theory of FDI has been criticized by researchers such as Lall (1976) and Buckley & Casson (1976) and stated that the theory did not fully clarify foreign direct investment inflow. Lall identified that currency-based theory seems irrelevant in emerging economies. The reason stems from the fact that their capital markets are imperfect. Buckley and Casson though recognized the theory’s significance in explaining FDI by

American firms into European countries but stated that the theory gave no clarification to the rise European and Japanese multinational firms. Barrie (2017) investigates the determinants of FDI in Sierra Leone. Findings from the study demonstrate that trade openness, credit to the private sector, natural resources endowment, development of infrastructure and past FDI levels associate positively with inward FDI. However, inflation and civil war have hindered FDI inflow in Sierra Leone. Enisan (2017) explores the determinants of Foreign Direct Investment inflows in Nigeria from 1970-2012. The results from the Markov-Switching model explain that GDP growth, macro stability, financial development, exchange rate, inflation and discount rate are the main determinants of FDI in Nigeria. In exploring the determinants and causal linkages of Foreign Direct Investment (FDI) in emerging economies, (Diana et al., 2019) adopt an annual data from 1985-2015 for the case of Ghana. Results from a robust regression show that natural resource endowment, government expenditure, external debt and infrastructure significantly affect Foreign Direct Investment. Andrašić et al (2019) explore the behavior and nature of the relationship between macroeconomic factors and Foreign Direct Investment in Southern European countries from 2000-2012. The results of the study demonstrate that the countries’ market size was the only significant variable that affects FDI in Southeastern European countries. Therefore, this paper aimed to contributes to the literature on FDI inflows by examine the political and economic determinants of FDI in ECOWAS region and then, the differential effects of the factors identified.

Methodology

Econometric Model Specification

From the discussion according to literature, the econometric model for the study is specified as follows:

$$FDI_{it} = \beta_1 EXDEBT_{it} + \sum_{i=2}^N \beta_i X_{it} + \mu_i + \lambda_t + \epsilon_{it} \dots (1)$$

$$FDI_{it} = \gamma_1 POLS_{it} + \sum_{i=2}^N \gamma_i X_{it} + \mu_i + \lambda_t + \omega_{it} \dots \dots \dots (2)$$

$$FDI_{it} = \delta_1 TO_{it} + \sum_{i=2}^N \delta_i X_{it} + \mu_i + \lambda_t + \Sigma_{it} \dots \dots \dots (3)$$

$$FDI_{it} = \varphi_1 INF_{it} + \sum_{i=2}^N \varphi_i X_{it} + \mu_i + \lambda_t + \varpi_{it} \dots \dots \dots (4)$$

In the models above, FDI is Foreign Direct Investment, EXDEBT is External Debt, POLS represents Political Stability, TO is trade openness, INF is Inflation and **X** is a vector of control variables consisting of Economic Growth (GDPG), Human Capital (HC) Infrastructural Development (INFRAD) and Financial Development (FD), i represent a given country, t is the time period and ϵ, ω, Σ and ϖ are the error terms for models 1 through to 4 respectively. μ_i captures the entity specific effect and λ_t captures time fixed effects.

Models 1 to 4 above would be used to test the differential effects of the key variables of interest on FDI flow to ECOWAS member countries in the presence of the conditioning set. In testing whether or not the key covariates jointly and significantly enter the determinants of FDI equation in the long-run is specified as below.

$$FDI_{it} = \alpha_1 EXDEBT_{it} + \alpha_2 POLS_{it} + \alpha_3 TO_{it} + \alpha_4 INF_{it} + \sum_{i=5}^N \alpha_i X_{it} + v_{it} \dots \dots \dots (5)$$

All variables retain their descriptions as outlined earlier. $v_{it} = \mu_i + \lambda_t + \epsilon_{it}$.

Estimation Method

The study uses panel Dynamic Ordinary Least Squares (PDOLS) proposed by Saikkonen (1991) which was generalized by Stock & Watson (1993) to estimate the models as specified in equations (1) to (5). PDOLS is selected for the estimation because it produces more efficient results due to the inclusion of lags and leads of the first-differenced variables which have a twin effect of dealing with endogeneity, which OLS does not correct for, and autocorrelation (Freckleton et al., 2010). The PDOLS outperforms the Fully Modified Ordinary Least Squares (FMOLS) estimator as it has a superior bias reduction Kao & Chiang (2000). It also allows for the inclusion of stationary and non-stationary variables in the same estimation and also performs well in small samples. The use of PDOLS typically follows three steps. These are testing for the unit root properties of the variables. The Pedroni panel cointegration test would be used to test for a potential long-run relationship among the variables. If they are cointegrated then equations (1) to (5) are estimated using the PDOLS model specified in (6) below to establish the long-run relationships among the variables. An adapted Stock-Watson PDOLS model is specified as follows:

$$Y_{it} = \beta_0 + \beta X_{it} + \sum_{j=-q}^p d_j \Delta X_{it-j} + \mu_{it} \dots\dots\dots (6)$$

Where;

Y = dependent variable

X = vector of explanatory variables

β = vector of long run coefficients, q = lead length

p = lag length

d = vector of coefficients of the leads and lags of the variables

μ = error term

Multicollinearity simply refers to a situation where independent variables are highly correlated; hence, making it difficult to account for which variable is explaining the variability in the dependent variable. A test of Multicollinearity would be conducted to ultimately determine whether or not the independent variables are highly correlated. This can be detected using the correlation matrix and the Variance Inflation Factor (VIF). If any of the correlation coefficients is more than 0.8 then it is an indication of the presence of Multicollinearity. However, to solve the problem of Multicollinearity, the VIF is used to determine which variable is responsible for the high correlation and such a variable is dropped or replaced. A VIF value below 10 is evidence of no Multicollinearity and a VIF value of 10 and above indicates the presence of Multicollinearity.

Sample size and study period

Usually, in surveys and econometric studies, a section of the population is carved out and studied. The section of the population which is the focus of the study is referred to as the sample. The time duration over which the study is conducted is the study period. For the purpose of this paper, the study population is the Economic Community of West African States (ECOWAS). The ECOWAS community is made up of 15 countries. Due to constraints with data availability for the study period under consideration, a sample of ten (10) ECOWAS member countries are selected for the study. The study covers a period of twenty-eight (28) years starting from 1990-2017.

Analysis and Results

Descriptive Statistics

Table 1 below gives a brief discussion of basic features for the variables of the study in the time period specified. The discussion would basically be centred on the averages of the variables.

Table 1 Summary descriptive statistics

Variable	Mean	Median	Max	Min	Std	Obs
FDI	2.957	1.911	18.818	-0.900	3.246	179
TO	64.931	61.228	118.102	30.732	21.171	179
INF	4.989	2.933	46.561	-5.368	6.994	179

POLS	3.559	0.262	95.902	0.196	14.557	179
EXDEBT	50.671	43.555	173.956	0.196	37.192	179
GDPG	4.956	4.889	15.376	-4.387	3.483	179
DCPS	19.751	15.499	65.742	3.302	13.498	179
TELPL	27.978	11.438	138.571	0.000	33.726	179
ENROLL	84.464	83.131	129.597	28.013	24.461	179

Source: Research Data and Author`s Construction

The average of FDI of 2.96% of GDP to ECOWAS countries is an indication that over the period of 1990-2017, Foreign Direct Investment inflow has not contributed much towards the economies of ECOWAS member states as against the popular belief that FDI contributes immensely to the growth of developing countries such as those in the ECOWAS sub-region.

ECOWAS member countries are very open to trading as it is evidenced that on average, ECOWAS member countries openness to trade contributes about 65% to the Gross Domestic Products of the economies between 1990 and 2017. Also, Inflation on the average change from year to year by an approximate 5% in ECOWAS member countries and for that matter the drag on the economic growth of ECOWAS member countries is largely not down to inflation but other factors, though, inflation is relatively higher in the ECOWAS sub-region on a country-by-country basis.

Political stability on the average is 3.6 indicating a high level of political stability. Political stability remains a key factor for the smooth macroeconomic and business setting of a country. This can stimulate foreign investors` interest to invest in any FDI projects. External debt of the ECOWAS member countries is high on average at approximately 51%. This would lead to higher debt service cost in the ECOWAS sub-region hence a disincentive for the attraction of FDI inflows.

The growth of the Gross Domestic Product of ECOWAS countries from 1990-2017 averaged at 5% per annum. That is over a twenty-eight (28) year period. This may not high enough to induce inwards flows of FDI. Hence, it may have an overall insignificant, nil or even negative effect on the flows of FDI into the ECOWAS sub-region. Domestic credit to the private sector in ECOWAS countries over the 28-year period averaged at 20% of GDP. This is high enough to stimulate growth led by the private and hence an incentive to draw FDI inwards into the sub-region. A telephone line per 1000 people on average is 28% over the period under discussion. This is a significant improvement in infrastructural development and can attract FDI inflow into the ECOWAS sub-region. Finally, gross primary school enrolment in ECOWAS member countries averaged at a high rate of 84% over the 28 years under discussion. This depicts that human capital development is quite on the rise and can aid in attracting FDI into the sub-region.

The correlation matrix as shown in Table 2 below confirms the diagnostic analysis given under the descriptive statistics.

Table 2 Correlation Matrix

	FDI	TO	INF	POLS	EXDEBT	GDPG	DCPS	TELP L	ENROL L
FDI	1								
TO	0.425	1							
INF	-0.015	0.07	1						
POLS	-0.067	-0.025	0.321	1					
EXDEBT	-0.078	0.431	0.006	-0.305	1				
GDPG	0.166	-0.037	0.121	0.083	-0.279	1			
DCPS	0.275	0.293	-0.229	-0.183	-0.174	0.081	1		
TELP L	0.248	0.179	0.080	-0.152	-0.379	-0.007	0.301	1	
ENROLL L	0.285	0.495	0.076	0.087	-0.136	0.079	0.209	0.352	1

Source: Research Data and Author`s Construction

Inflation, Political Stability (POLS) and external debt (EXDEBT) have negative, though, a weak relationship with FDI inflows into ECOWAS member countries. Growths of GDP, domestic credit to the private sector, telephone lines and secondary school enrolment all have a weak positive relationship with FDI flows. A cursory look at the pairwise correlation coefficients points to the absence of a potential problem of Multicollinearity which inflates the standard errors and reduces t-statistics, hence, rendering otherwise significant coefficients insignificant. This is so because none of the correlation coefficients is above 0.8, in fact, none is even exactly equal to 0.5. Notwithstanding this, the VIF test after regression estimates would be conducted to ascertain whether or not there is an issue of Multicollinearity among the independent variables.

The panel unit root test is done to ascertain whether or not all the variables are stationary at levels. If all variables are not stationary at level, then it is an indication of a possible long-run relationship. The long-run relationship would be tested using the Pedroni Panel Cointegration test as shown in Table 3 below.

Table 3 Unit Root Test

Variables	Levine, Lin and Chu test @ Level			Levine, Lin and Chu test @ First Difference		
	Statistic	P-value	Decision	Statistic	P-value	Decision
FDI	-4.432	0.000	Stationary	-12.374	0.000	Stationary
TO	-2.272	0.012	Stationary	-12.405	0.000	Stationary
INF	-7.862	0.000	Stationary	-8.584	0.000	Stationary
EXDEBT	0.992	0.839	Non-Stationary	-10.538	0.000	Stationary
POLS	-0.704	0.241	Non-Stationary	-9.321	0.000	Stationary
GDPG	-8.207	0.000	Stationary	-16.538	0.000	Stationary
DCPS	-2.475	0.007	Stationary	-10.553	0.000	Stationary
TELPL	-1.758	0.039	Stationary	1.836	0.967	Non-Stationary
ENROLL	0.618	0.732	Non-Stationary	-3.622	0.000	Stationary

Source: Research Data and Author`s Construction using Eviews

From Table 3 above, using the Levine, Lin and Chu tests for unit roots in panel data, it is clear that not all the variables are stationary at level. That is the study`s data is constituted by both stationary [I (0)] and non-stationary [I (1)] variables. The I (1) variables become stationary after first difference. Having established the stationarity properties of the series of the study, the next step is to test for whether or not the variables are cointegrated, that is, whether there is a long-run relationship among the variables under study. The panel Cointegration test using the Pedroni Residual Cointegration test is presented in Table 4 below.

Table 4 Panel Cointegration Test

Pedroni Residual Cointegration Test					
Null Hypothesis: No Cointegration					
Alternative hypothesis: common AR coefficients (within-dimension)					
				Weighted	
		Statistic	Prob.	Statistic	Prob.
Panel v-Statistic		0.449	0.327	-1.983	0.976
Panel rho-Statistic		2.915	0.998	1.642	0.949
Panel PP-Statistic		-10.088	0.000	-4.279	0.000
Panel ADF-Statistic		-5.789	0.000	-5.970	0.000
Alternative hypothesis: individual AR coefficients (between-dimension)					
		Statistic	Prob.		
Group rho-Statistic		2.682	0.996		
Group PP-Statistic		-6.919	0.000		
Group ADF-Statistic		-6.949	0.000		

Source: Research Data and Author’s Construction using Eviews

The Pedroni Panel Residual Cointegration tests presented above have eleven (11) statistics to test against the null hypothesis of cointegration among the variables. The rule of thumb is that the null of no cointegration is rejected when majority of the eleven (11) statistic has p-values less than the conventional 5% significance level. The statistic of six (6) out of the eleven (11) has p-values below the 5% significance level. Hence, the null of no cointegration is rejected and thus it is concluded that there is cointegration or long-run relationship among the variables. Having established a long-run relationship, the study goes on to estimate the relationships using Panel Dynamic Ordinary Least Squares (PDOLS). The results of the long run relationships are shown in Tables below. The specified models are estimated using the conventional two lags and one lead of variables for the Panel Dynamic Ordinary Least Squares (PDOLS) estimation technique as indicated in Table 5 below.

Table 5 Impact of Trade Openness on FDI

Dependent Variable: FDI				
Method: Panel Dynamic Least Squares (DOLS)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TO	0.100	0.053	1.888	0.072
GDPG	-0.142	0.179	-0.790	0.438
TELPL	0.003	0.016	0.178	0.860
ENROLL	0.005	0.020	0.229	0.821

Statistics:				
R-squared	0.954			
Adjusted R-squared	0.746			
Observations	129			

Source: Research Data and Author’s Estimation using Eviews

From Table 5 the key variable of interest is TO. The results depict that trade openness in the ECOWAS sub-region both positively and significantly affect FDI inflows into ECOWAS. This confirms the findings of Barrie (2017), Adbella, Naghavi, & Fah (2018), Ali et al (2018). This is so because the less restrictive the sub-region is, the more it incentivises investors to invest in the region. Economic growth as proxied by GDP growth is found to be negatively but insignificantly related to FDI inflows to ECOWAS. Also, confirming the finding of Agbloyor, Aboagye and Lucy (2017) though theirs was a significantly negative relationship between economic growth and FDI. Infrastructure proxied by telephone lines (TELPL) and primary school enrolment (ENROLL) all have positive prior signs but each of them is an insignificant determinant of FDI inflows to ECOWAS. This result contradicts the findings of Rodriguez-Pose & Cols (2017) and Kudaisi (2014). With an adjusted R-squared of 75%, it shows that the model well fits the data and explains 75% of the variability of the dependent variable (FDI). Table 6 below shows the impact of inflation on FDI.

Table 6 Impact of Inflation on FDI

Dependent Variable: FDI				
Method: Panel Dynamic Least Squares (DOLS)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFLATION	0.186	0.150	1.233	0.231
GDPG	0.306	0.329	0.929	0.363
TELPL	0.011	0.019	0.567	0.577
ENROLL	0.033	0.036	0.914	0.371
Statistics:				
R-squared	0.932			
Adjusted R-squared	0.648			
Observations	110			

Source: Research Data and Author’s Estimation using Eviews.

In table 6 Inflation is the main variable of interest. Surprisingly, inflation has a positive long-run, albeit, insignificant impact on FDI flows into ECOWAS member countries. This confirms the results of Danladi and Jennifer (2015) and Someah-Addae (2016) but contradicts the findings of Khalil (2015), Brima (2015), and Dondashe & Phiri (2018) who found a negative relationship. All other control variables have the expected signs but are also insignificant. As a rule of thumb, when none of the variables in an econometric specification is significant, it points to a potential issue with Multicollinearity which inflates the standard errors and thus deflates the t-statistic, hence, the loss of significance of variables that otherwise would have been significant. However, the Adjusted R-squared is still above the 50% mark which means the model is a good fit for the data. The Variance Inflation Factors (VIF) as presented under the diagnostics section proves that there is no issue of Multicollinearity, hence the model is correctly specified and estimated. Thus, when only inflation as the main variable of interest enters the equation, it is not a significant determinant of FDI flows to ECOWAS neither are the control variables of economic growth, infrastructure and human capital development though are having the expected signs. Table 7 below demonstrates the impact of external debt of FDI.

Table 7 Impact of External Debt on FDI

Dependent Variable: FDI				
Method: Panel Dynamic Least Squares (DOLS)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
EXDEBT	-0.017	0.023	-0.797	0.433
GDPG	0.096	0.224	0.429	0.672
TELPL	0.013	0.027	0.478	0.636
ENROLL	-0.025	0.044	-0.573	0.572
Statistics:				
R-squared	0.966			
Adjusted R-squared	0.808			
observations	129			

Source: Research Data and Author’s Estimation using Eviews

External debt (EXDEBT) is a key variable of interest in Table 7 above. The coefficient for EXDEBT has the expected sign but it is not a significant determinant of FDI inflows for the panel of countries studied and thus the ECOWAS sub-region. This finding supports the finding of Mugambi & Murunga (2017). Economic growth (GDPG) and Infrastructure (TELPL) have the a priori signs but again, they are not significant drivers of FDI in the model. Another surprising result is the sign of the coefficient of Human Capital (ENROLL). It is expected that Human Capital would have a positive, even if insignificant, impact on FDI inflows. However, it has a negative impact on FDI inflows though it is insignificant. As explained under Table 6, a rule of thumb, when none of the variables in an econometric specification is significant, it points to a potential issue with Multicollinearity which inflates the standard errors and thus deflates the t-statistic, hence, the loss of significance of variables that otherwise would have been significant. None of the coefficients has a significant, either positive or negative, impact on FDI inflows to ECOWAS. Again, the Adjusted R-squared is above the 50% mark which means the model is a good fit for the data. The Variance Inflation Factors (VIF) also shows that there is no problem with Multicollinearity. The VIFs are shown under the diagnostics section.

Table 8 Impact of Political Stability on FDI

Dependent Variable: FDI				
Method: Panel Dynamic Least Squares (DOLS)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
POLS	0.073	0.029	2.479	0.027
GDPG	0.390	0.241	1.619	0.128
TELPL	0.046	0.019	2.369	0.033
ENROLL	0.096	0.061	1.554	0.143
Statistics:				
R-squared	0.981			
Adjusted R-squared	0.852			
Observations	109			

Source: Research Data and Author’s Estimation using Eviews

Political Stability (POLS) is the variable of interest in the results presented above in Table 8. Under the results when Trade Openness (TO), Inflation (INFLATION) and External Debt (EXDEBT), when POLS is used in the estimation of the results, all the variables have the expected signs and two are significant at

the conventional 5% significance level. The result, as shown above, is evidence that the political stability of ECOWAS member countries has a positive and significant impact on inward flows of FDI to the sub-region. Simeon Oludiran & Nicasise Abimbola (2018) and Abdella, Naghavi, & Fah (2018) support this result. There is also evidence that infrastructural development (TELPL) has a positive and significant impact on FDI inflows to ECOWAS countries. Although, economic growth (DGPG) and human capital (ENROLL) all have the expected positive signs they are not significant drivers of inward flows of FDI to the ECOWAS sub-region. The Adjusted R-squared of 85% depicts that the model is a very good fit for the data and that 85% of the variability in the inward flows of FDI to ECOWAS is explained the model. Table 9 Joint Impact of Trade Openness, Inflation, External debt and Political stability on FDI

Dependent Variable: FDI				
Method: Panel Dynamic Least Squares (DOLS)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TO	0.177	0.043	4.113	0.000
INFLATION	-0.009	0.112	-0.088	0.931
EXDEBT	-0.011	0.019	-0.538	0.593
POLS	2.955	8.389	0.352	0.726
GDPG	-0.1936	0.132	-1.452	0.152
TELPL	-0.017	0.015	-1.174	0.245
ENROLL	0.077	0.043	1.809	0.076
Statistics:				
R-squared	0.845			
Adjusted R-squared	0.676			
Observations	120			

Source: Research Data and Author’s Estimation using Eviews.

It can be seen clearly from Table 9 that all the variables of interest do not jointly and significantly influence FDI flow to the ECOWAS sub-region in the long-run. In the long-run, it is only Trade Openness among the key variables of interest which positively and significantly influence FDI inflows to ECOWAS. Inflation and External Debt though in the long-run serve as a drag on FDI inflows to the sub-region, are not significant in the joint estimation. When Inflation alone is introduced with the control variables it has a positive but insignificant long-run impact on FDI inflows and when External debt alone is introduced with the presence of the control variables, it has an expected negative but insignificant long-run impact on FDI flows.

Political Stability loses its significant long-run positive impact on FDI in the joint estimation, though it still has a positive long-run relationship with FDI inflows into the Sub-region. When it is introduced together with the control variables, it has a positive and significant long-run effect on FDI. Surprisingly, Economic growth and Infrastructure have a negative impact on FDI though the impacts are insignificant. Notwithstanding the fact that the signs are contrary to expectations, it could be explained to mean that the Economic growth and Infrastructural development in the ECOWAS sub-region are not at the convincing levels to win investor confidence to undertake FDI activities in the member countries. Finally, Human Capital Development (ENROLL) as expected, has a positive and significant long-run effect on FDI inflows to the sub-region at a 10% significance level. This is so because, with skilled labour in the host countries, Multinational firms have the incentive to establish subsidiaries in the host countries to take advantage of skilled but cheap labour, as the wage rates in most developing countries, including the ECOWAS member countries are relatively low. This presents the model diagnostics after estimation to be certain that estimations are not spurious regressions. The Variance inflation factors give information as to whether or not there are issues with Multicollinearity and its attended implications for the results and

hypothesis testing. A VIF of above 10 gives evidence of the presence of Multicollinearity in the estimated relationships and VIF values below 10 shows that there are no issues with Multicollinearity. The VIFs presented below shows that the estimated equations are free from Multicollinearity as all values are below 10. It is worth reporting here that Financial Development (DCPS) had very large VIF values in all estimated results. Hence, it was dropped from the estimations. The VIFs for both when DCPS was included in the estimation and when it was dropped are presented in Tables 10 and 11 respectively.

Table 10 Variance Inflation Factors (VIF) with Financial Development

Uncentered VIF					
VARIABLE	Model 1	Model 2	Model 3	Model 4	Model 5
TO	4.459				8.106
INFLATION		6.598			1.955
EXDEBT			1.159		4.348
POLS				3.859	6.422
GDPG	3.343	1.988	3.023	1.403	1.968
DCPS	22.534	28.655	10.824	12.592	21.637
TELPL	6.008	15.838	13.669	8.183	8.275
ENROLL	10.532	10.638	9.816	6.128	14.988

Table 11 Variance Inflation Factors (VIF) without Financial Development

Uncentered VIF					
VARIABLE	Model 1	Model 2	Model 3	Model 4	Model 5
TO	1.256				1.436
INFLATION		3.212			1.113
EXDEBT			2.518		2.195
POLS				1.931	3.488
GDPG	1.624	2.972	1.328	2.514	1.444
TELPL	2.353	1.711	3.209	1.187	1.853
ENROLL	2.845	2.906	5.143	1.370	2.955

Models 1, 2 3, 4 represents when Trade Openness (TO), Inflation (INFLATION), External Debt (EXDEBT) and Political Stability (POLS) are the only key variables of interest in the estimated models respectively and Model 5 is when all four main variables of interest are put together in one model. Given that there are no issues of Multicollinearity in any of the models coupled with the fact that the adjusted R-squares in each of the estimated models are well above 50% and that the Panel Dynamic Ordinary Least Squares (PDOLS) estimation technique used corrects endogeneity and autocorrelations, the long-run relationships espoused above are not spurious regressions.

Conclusion

Over the last two decades, while FDI flows have increased globally, these flows have also been fairly volatile. Overall, flows to developing countries have grown tremendously over the period. However, comparing to other regions, Africa especially ECOWAS member countries have consistently been the least recipient of FDI in the world. Previous authors have attempted to explain why Africa is the least recipient of FDI. One of the reasons is the fact that FDI to Africa is affected mainly by inflation, exchange rate, external debt, political instability and institutional quality, level of corruption, labor cost and market size. This necessitated the current study to investigate the differential and joint effect of external debt, political stability, inflation and trade openness on FDI flow to ECOWAS member countries. On the basis of results, the principal conclusion is that there are indeed differences in the factors that promote FDI to ECOWAS countries. This confirmed the argument that investors have different motives for investing in any location of their choice-whether risky or otherwise and therefore governments across the region have to be sensitive to these factors to ensure maximum benefits of FDI.

References

1. Aliber, R. Z. (1970). A theory of direct foreign investment. *The International Corporation*, 12–36.
2. Andrašić, J., Mirović, V., & Kalaš, B. (2019). IMPACT OF MACROECONOMIC FACTORS ON FOREIGN DIRECT INVESTMENT IN SELECTED SOUTHEASTERN EUROPEAN COUNTRIES. *TEME*, 1237–1251.
3. Barrie, M. (2017). *Determinants of Foreign Direct Investment in Sierra Leone*.
4. Buckley, P., & Casson, M. (1976). *The future of the multinational corporation*. London: Macmillan.
5. Diana, N., Kombui, P., & Kotey, R. A. (2019). *Foreign Direct Investment in an Emerging Economy: Exploring the Determinants and Causal Linkages*.
6. Enisan, A. A. (2017). Determinants of foreign direct investment in Nigeria: A Markov regime-switching approach. *Review of Innovation and Competitiveness: A Journal of Economic and Social Research*, 3(1), 21–48.
7. Freckleton, M., Wright, A. S., & Craigwell, R. (2010). Foreign direct investment, economic growth and corruption in developing economies. *University of the West Indies, Mimeo, August*.
8. Habimana, S. (2018). Analysis of the Determinants of Foreign Direct Investment in Rwanda (Period of 1970–2010): Econometric Approach. *Organization*, 6(3).
9. Kao, C., & Chiang, M.-H. (2001). On the estimation and inference of a cointegrated regression in panel data. In *Nonstationary panels, panel cointegration, and dynamic panels* (pp. 179–222). Emerald Group Publishing Limited.
10. Kudaisi, B. V. (2014). An Empirical Determination of Foreign Direct Investment in West Africa Countries: A Panel Data Analysis. *International Journal of Development and Economic Sustainability*, 2(2), 19–36.
11. Lall, S. (1976). Theories of direct private foreign investment and multinational behaviour. *Economic and Political Weekly*, 1331–1348.
12. Saikkonen, P. (1991). Asymptotically efficient estimation of cointegration regressions. *Econometric Theory*, 7(1), 1–21.
13. Stock, J. H., & Watson, M. W. (1993). A simple estimator of cointegrating vectors in higher order integrated systems. *Econometrica: Journal of the Econometric Society*, 783–820.
14. Trade, U. N. C. on, & Development (UNCTAD). (2014). *World Investment Report 2014: Investing in the SDGs: an Action Plan*. UN.
15. UNCTAD. (2014). *Economic Development in Africa—Catalysing Investment for Transformative Growth in Africa*. United Nations New York.