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FOREIGN AID, FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH IN ECOWAS COUNTRIES: ARE THERE DIMINISHING RETURNS IN THE AID-GROWTH NEXUS?

Hassan O. Ozekehome¹

Abstract

This paper investigates the impact of foreign aid and foreign direct investment (FDI) on economic growth in the Economic Community of West African States (ECOWAS) region, and whether diminishing returns occur in the aid-growth nexus, for the period 2000-2015, employing the Generalized Method of Moments (GMM) Estimator. The empirical results reveal that trade openness; foreign direct investment, real gross domestic capital formation, human capital and lagged real GDP (a measure of previous economic growth/ market size) are the principal drivers of economic growth in ECOWAS countries. Foreign aid and its squared term (a measure of diminishing returns on account of absorptive capacity constraints) are both found to have negative impact on growth. Inflation (a measure of macroeconomic environment) is also found to have a dampening impact on economic growth in ECOWAS countries. We recommend amongst others; open trade and investment-enhancing policies (domestic and foreign), sound and stable macroeconomic policies, institutional structures, as well as policy coordination and harmonization with respect to trade and investment among member countries, to fast-track rapid economic growth, particularly in the quest for increased economic integration in the sub-region.

Keywords: Foreign Aid, Foreign Direct Investment, Economic Growth, ECOWAS, Generalized Method of Moments (GMM)

JEL Classification: F21, F35, F43, C13

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INTRODUCTION

The need for foreign capital inflow is rooted in the Harrod-Domar and Chenery –Strout two gap models, which holds the view that development of resource-scarce developing countries may be hampered by the existence of two gaps viz: the savings gap and the foreign exchange gap. The savings gap arises from the fact that for a variety of reasons, domestic savings tend to be low in a typical developing country. Thus, savings will inevitably fall short of the required investment i.e. investment needed to propel the rapid development of their economy. The foreign exchange gap on the other hand, arises on account of the fact that due to multiple factors, the foreign exchange earnings of a typical developing country tend to be inadequate to facilitate the importation of the required capital machineries and other inputs needed for growth. These models, therefore advocate that capital inflows in the form of foreign direct investment (FDI) and foreign aid will be needed to bridge the two gaps. The role of foreign capital in this sense is that it permits the developing countries to invest more than it can save domestically (Iyoha, 2004).

During the process of development, many developing countries, including ECOWAS run trade deficits for a host of reasons including extreme dependence on volatile primary commodity exports, exports instability, unfavourable terms of trade and, internationally transmitted shocks. The balance of payments deficit, constitutes a foreign exchange gap, which can naturally be filled by foreign private capital and aid flows. It is argued that even when a country has enough domestic resources in the form of savings; it may not be possible to transform them into foreign exchange resources needed for growth. Thus, there can be a foreign exchange gap without a savings gap and according to (Iyoha, 2004), a savings gap without a foreign exchange gap could also exist. In most cases for typical developing countries, both gaps exist. Accordingly, since capital imports financed by aid flows tend to accelerate the rate of capital formation and foreign private capital flows have the ability to augment domestic resource shortage in the form of addition to investment resources, both inflows are needed to propel rapid growth of ECOWAS countries (Ndabemdia and Njoupouognigni, 2010; Fiodendji and Evlo, 2013, Ozekhome, 2016).

Pack and Page (1994) have shown that initial high investment ratios and human capital development contributed in no small measure to the spectacular growth performance recorded in high-performing Asian economies, as it gave them the opportunity to move to a new and higher production function. Some of the channels identified by Pack and Page through which the high-performing Asian economies achieved accelerated growth performance include new equipment, foreign direct investment, technological development and innovation, research and development among others (Ozekhome, 2016).

Overall economic performance, as reflected in annual growth rates of per capita income, has on the average been rather weak in ECOWAS countries during the past decades. From an average growth rate of 4.8 percent, in the 1990s, growth rate declined to 3.3 percent in 2000. It further declined to 3.1 percent between 2000 and 2010 (WDI, 2014), with Cote d' Ivoire, Guinea Bissau, Liberia and Togo recording negative real GDP growth rates, with that of Cote d' Ivoire particularly more disappointing, in 2002 and 2003 with a growth deceleration of -1.6 percent and -1.7 percent respectively (WAMA, 2009) and -1.3 percent in 2015 (WDI, 2015). The poor growth performance may not be unrelated to the extremely low level of the region's share in world trade; a value which is below 0.3 percent of world trade (UNCTAD, 2014), extremely low level of domestic investment (gross capital formation), with an investment to GDP ratio below 46 percent (WDI, 2015), and dwindling foreign private capital inflow, particularly foreign direct investment inflows into the region on account of poor macroeconomic environment, decrepit infrastructure and weak institutional base and absorptive capacities (Ozekhome, 2017).

The low level of economic growth among West African countries can be attributed to the failure to actualize the objectives and dreams of the founding fathers of the Economic Community of West African States (ECOWAS). After more than 38 years of existence, a fully functioning customs union is still not a reality in ECOWAS. Available evidence by the World Bank Development Indicators (WDI, 2014) points to the fact that the low volume of investment and FDI flows into ECOWAS countries contrast sharply with the heavy volume going to Asian countries (Adamu, Ighodaro and Iyoha, 2012, cited in Ozekhome, 2017).

To the best of the author's knowledge, the simultaneous effects of aid and FDI have not received any notable empirical attention in the literature, particularly at regional level. In addition, the few related existing studies on the subject matter (see Adamu et al 2012; Alege and Ogundipe, 2013, Ozekhome, 2016) ignored the aid-investment growth channel. Importantly, none of these studies and other related studies in the sub-region has examined the effect of absorptive capacity or its constraints on the aid-growth nexus. It is the perceived gap in literature that has made this study important. In addition, given the strong impact of foreign aid and foreign direct investment in enhancing economic growth in West African countries, particularly in their quest to achieve greater economic integration (UNCTAD, 2015, Ozekhome, 2016), there is need to empirically re-examine their effects on growth. This is the focus of this study.

The specificity of this paper is to analyze the simultaneous effects of foreign aid and foreign direct investment on economic growth, given the level of domestic saving, and since foreign aid as well as foreign direct investment are considered as additional foreign capital necessary to sustain economic growth in the ECOWAS region. In particular, a novel feature of this paper is that it contributes to the literature on aid-investment-growth nexus by analyzing the effect of diminishing returns arising from absorptive capacity constraints and macroeconomic uncertainties in the aid-investment-cum-growth nexus (see Feeny and McGillivray 2008; Ekanayake and Chatrna, 2012) on regional basis, specifically the ECOWAS region, which to the best of the author's knowledge has not been examined in other studies.

Following this introduction, the paper is organized as follows. Section two presents a review of aid, FDI, investment and economic growth performance in ECOWAS region. Section three consists of literature review which considers key theoretical, empirical and policy issues associated with foreign aid, FDI and economic growth nexus. Section four contains methodology, model specification and data, while section five contains the empirical results and analysis. Section six contains the conclusion and policy recommendations.

FDI, AID, GROSS CAPITAL FORMATION AND GROWTH PERFORMANCE IN ECOWAS

Table 1 indicates that, prior to 2005; Nigeria was the leading FDI destination as she recorded the largest chunk of FDI inflow in the region, both in absolute terms and in FDI to GDP ratio. However, beginning 2005, Ghana recorded the largest FDI inflows. This apparently was made possible due to stability of the Ghanaian economy, and improvements in other key socio-political areas such as security, bureaucratic process and infrastructural development. Ghana has also made significant strides in terms of stable macroeconomic policy environment and strong institutional framework in important areas such as reducing corruption and rent-seeking behaviour. Côte d'Ivoire, Togo and Sierra Leone did fairly well as they were able to attract over 10 per cent share of its GDP as FDI inflow during the period (UNCTAD, 2011).

Table 1: Share of FDI Flows to ECOWAS Countries (in percent of GDP)

	2000-2004	2005-2010	2011- 2015
Benin	7.61	13.27	8.03
Burkina Faso	6.3	6.4	2.9
Cape Verde	5.7	10.2	4.8
Côte d'Ivoire	9.59	11.21	6.7
Gambia	5.5	6.4	3.5
Ghana	9.32	44.99	9.2
Guinea	7.2	8.5	22.1
Guinea Bissau	5.3	3.2	1.83
Liberia	2.3	4.2	1.22
Mali	5.2	4.9	2.2
Niger	4.3	7.1	2.8
Nigeria	14.80	23.04	4.2
Senegal	5.02	10.79	3.9
Sierra Leone	10.75	19.62	2.2
Togo	16.68	12.69	2.1

Source: Author's Computation from UNCTADSTAT and WDI (2015)

Report from (UNCTAD, 2015) shows that as at 2011, FDI as a percentage of GDP in Guinea was as much as 24.3 percent and in Ghana (8.4 percent), Nigeria (3.8 percent), Gambia (3.5 percent) and Sierra Leone (2.0 percent). This compares favourably with the values in 1998, when only two countries registered shares above 1 percent, Nigeria (3.4 percent) and Gambia (2.8 percent). In spite of this trend, countries in ECOWAS have continued to witness a not-too-impressive growth on account of their dependence on a narrow range of primary products that are subjected to internationally generated and transmitted shocks, poor macroeconomic policy, weak institutions, low level of technology and weak industrial base (Iyoha, 2004). Guinea which had one of the highest percentage of FDI in GDP, paradoxically witnessed a declining trend in its average growth levels from 4.4% in the period 1990-2000, to 2.2 percent in the period 2001-2011. This is a sharp contrast to Nigeria's average levels of 1.9 percent and 6.3 percent respectively within the same period (Akpan and Ekong, 2013). The dwindling level of FDI to GDP ratio of African countries (including ECOWAS) when compared to other parts of the world is further shown in Table 2.

Table 2: Global FDI inflow as Percentage of GDP (2000-2015)

	2000-2004 (Average)	2005-2010 (Average)	2011-2015	World (Average)
World	100	100	100	100
Developing Economies	31.74	27.28	26.1	28.37
Developed Economies	66.90	69.01	73.40	69.77
Africa	1.61	2.47	2.28	2.12
America	24.79	18.83	20.23	21.28
Asia	18.61	16.87	17.25	17.57
Europe	39.11	46.15	47.57	44.27
LDCS	0.64	1.32	1.28	1.08

Source: Author's Computation from UNCTADSTAT (2015), and WDI (2015)

From Table 2, it can be observed that developed countries had continually witnessed increasing large share of the global flow. This can be attributed to the well developed and organized infrastructures as well as stable government policies, which are considered as major determinants of FDI. It is therefore, not surprising that developing countries have been experiencing diminishing FDI flow, given their inability to adequately provide the pre-requisite determinants of FDI.

In terms of the ratio of aid to GDP for ECOWAS countries, the average variations seem to be stable around 10 percent over the last decade. In Guinea Bissau, aid to GDP ratio reached its highest levels in the 1990s, attaining a peak of 51 percent in 1996. During the same period, Côte d'Ivoire, Guinea and Nigeria relatively, registered the lowest aid to GDP ratio. In Nigeria, the ratio of aid to GDP was around 1 percent during 1990s, dwindled to almost nil between 1995 and 2005, rose slightly in 2006 and dramatically reached 8 percent of GDP in 2007. The trend, however, fluctuated during the period 2007-2014. The case of Sierra Leone was different, as the ratio of aid to GDP percent hovered around 5 percent starting from 1990, with the exception of 2003 and 2008, when the ratio was 22 percent and 21 percent respectively. Overall, available statistics from UNCTAD (2012) have shown some convergence of ratio of aid to GDP for most of ECOWAS countries since 2000, with the ratio of aid to GDP between 1 percent and 10 percent (Fiodendji and Evlo, 2013). Iyoha (2004) and O. Connell and Soludo (1999) argued that the declining trend of aid flows to African countries is attributable to poor macroeconomic policy environment, donor fatigue, evidence of low aid effectiveness, and evidence of negative systemic effects of aid recipient countries. Other reasons advanced for the diminishing trend of aid flows are absorptive capacity constraints, as it tends to crowd out domestic institutional developments and create rent-seeking opportunities in African countries.

ECONOMIC PERFORMANCE IN ECOWAS

The ECOWAS region has been performing moderately over the last decades and this has been a source of concern to economic experts within and outside the region. The region is grappling with high poverty rate, low human development index, low savings rate and falling standard of living coupled with macroeconomic instability (particularly, inflationary pressures) that undermine investment and growth. UNDP (2012) show that of the 44 poorest countries in the world, 35 are in Sub-Saharan Africa including the ECOWAS region. Table 3 and Table 4 show the real GDP growth and investment to GDP ratio in ECOWAS countries.

Table 3: Real GDP Growth in ECOWAS

	2002-2005	2006-2010	2011-2015
Benin	3.58	4.8	4.46
Burkina Faso	6.13	4.92	5.06
Cape Verde	5.18	6.80	7.10
Cote d' Ivoire	0.03	2.94	5.18
The Gambia	5.55	6.50	5.58
Ghana	5.30	6.08	4.74
Guinea	2.68	3.30	3.24
Guinea Bissau	0.05	2.76	3.36
Liberia	1.13	8.90	5.48
Mali	5.08	4.94	4.86
Niger	4.30	4.84	4.82
Senegal	4.78	4.20	4.40
Nigeria	6.83	6.54	5.58
Sierra-Leone	8.60	6.22	5.50
Togo	2.08	2.56	2.58

Source: Data from ECOWAS Central Banks; WAMA Calculations and WDI

From table 3, it is evident that with the exception of few countries, most of the countries in the region have not been able to maintain a growth rate of 5 percent and above, over the three sub-periods. It is also observed that Cote'd' Ivoire, Guinea Bissau, Togo and Liberia witnessed the lowest growth in the period 2002-2005. Most of the countries in the Sub-region also witnessed growth deceleration in the period 2011-2015, when compared to the previous period of 2006-2010.

Table 4: Investment as Share of GDP in ECOWAS Countries (2014-2015)

Countries	Investment (% of GDP)
Benin	28.8
Burkina Faso	32.3
Cape Verde	47.8
Cote' d' Ivoire	20.4
Gambia	32.3
Ghana	35.2
Guinea	36.4
Guinea Bissau	29.3
Liberia	25.1
Mali	22.2
Niger	28.2
Nigeria	32.7
Senegal	32.1
Sierra Leone	24.6
Togo	20.2

Source: *Author's Computation from WDI (2015)*

The ECOWAS region is also characterized by abysmal low level of domestic investment (gross fixed capital formation) necessary to propel rapid economic growth. Since investment (capita accumulation) is believed to be the engine of growth, there is need for external capital particularly FDI, to augment the savings-investment gap. Table 4 clearly shows that Cape Verde performed better compared to the other countries in the region, although, the investment/GDP ratio was below 50 percent, while Togo had the lowest investment GDP ratio.

LITERATURE REVIEW

Foreign Aid, FDI and Economic Growth- The Theoretical Nexus

The theoretical foundation for the proposition that foreign capital (i.e. FDI and aid) can stimulate economic growth is premised on the existence of the savings gap and foreign exchange gap enunciated by Chenery-Strout and Mckinnon. The savings gap arises from the fact that domestic savings tend to be low and as a result fall short of required investment while the foreign exchange gap arises from the fact that most developing countries run balance of payment deficits due to their over-dependence on primary commodity exports, exports instability, and internationally transmitted shocks (Iyoha, 2001). Thus, these gaps can be filled by foreign capital inflow in the form of aid and FDI. Additionally, there exist two strands of literature on the role of foreign capital on economic growth. The first proponents-the modernization Hypothesis holds that overseas capital inflow is necessary for economic growth in the less developed countries. They claim that there exist a positive relationship between capital inflow and economic growth because it complements domestic resources and also supplements domestic savings and investment. Furthermore, foreign capital inflow in the form of aid and FDI assists to close the foreign exchange gap, provides access to modern technology and managerial skills, and allows easier access to foreign market (Chenery and Strout, 1966; Levy, 1988; cited in Eregha, Sede & Ibidapo, 2012).

The second proponents argue that external capital exerts significant negative effects on economic growth of recipient countries. According to this view, foreign capital is fully consumed and substitutes rather than compliment domestic resources. Furthermore, foreign aid assists to import inappropriate technology, distorts the domestic income distribution, and encourages a bigger, inefficient and corrupt

government in developing countries (Easterly, 1999). They argue that the host country depends on foreign capital which has poor linkages within the economy, to the detriment of domestic investment. This situation has the tendency to create destabilizing effects on growth, especially when capital flight occurs (Bornscier, 1980). In line with this argument, Lopez-Meija (1999, cited in Edo, 2011) posits that capital inflow leads to expansion in aggregate demand and macroeconomic heating. These are likely to reflect in inflationary pressure, real exchange rate appreciation, widening current account deficit and economic deceleration. The literature on the role of capital inflow, however, contains overwhelming evidence in support of the Modernization Hypothesis that, foreign capital inflow is growth-enhancing and efforts therefore needs to be stepped up to increase its inflow in developing countries.

Foreign direct investment is positively correlated with growth through its role as a conduit for advanced technology transfer, innovative capacity, managerial expertise from advanced countries to developing countries (Makis and Samworu, 2004; Balamount-Lutz, 2004; Lim, 2001; cited in Adamu et al 2012). According to recent developments in growth theory, improvements in technology, efficiency, capital accumulation and productivity resulting from openness and foreign direct investment, has the capacity to stimulate growth. The theoretical contention is based on the notion that FDI increases the rate of technical progress in the host country through a contagion (externalities or spillovers) effect from advanced technology and managerial expertise used by foreign firms (Ozekhome, 2016). Romer (1989) through endogenous growth model has demonstrated that increased trade openness induces marginal returns to capital investments, with positive spillovers, permitting increasing returns to scale in aggregate production, and investments through technological diffusion, which in turn, enhances growth.

The most interesting aspect of endogenous growth models is that they help explain anomalous international flows of capital that exacerbate wealth disparities between developed and developing countries. The potentially high rates of return on investment offered by developing economies with low capital-labour- ratios are greatly eroded by lower levels of complementary investments in human capital (education), infrastructure, research, and development (R&D). Endogenous growth theory stresses the point that opening up of an economy to trade and investment opportunities under a liberalised economy results in high economic growth. The model gives an explicit recognition to international trade via trade openness and FDI in which improvements in technology, efficiency, capital accumulation and productivity brought about openness and foreign direct investment has the capacity to stimulate growth. Accordingly, through international trade and investment, there will be increasing returns in production through positive externalities and spillovers. Thus, capital accumulation encompassing investments in physical and human capital, foreign direct investment and macroeconomic policy are critical to economic growth. In the new growth theory (endogenous growth model), the possibility exists that sustained investments in physical and human capital can generate external economies, positive growth-enhancing spillovers and productivity improvements, that exceed private gains by an amount sufficient to offset diminishing returns, which inevitably engenders rapid economic growth.

Romer (1989) developed a model where by taking advantage of larger markets, an open economy can specialize in the production of relatively large number of intermediate goods and thus grow faster. Other authors have recently concentrated on the relationship among openness, foreign private capital, technological progress, and productivity growth. Grossman and Helpman (1991) and Edwards (1992), for example, have argued that openness affects the speed and efficiency with which small countries can absorb technological innovations developed by industrial countries. This idea, based on an insight that countries with lower level of distortion will experience faster growth in total factor productivity, and given other good macroeconomic policies and institutional framework, will grow faster than countries that inhibit international competition and foreign capital (Dornbusch and Edwards, 2004). These authors have tried the general implications of these theories using cross-country data sets by using empirical models to examine the relationship between trade orientation, investment and growth of total factor productivity. According to them, increased trade fosters investment. Increased investment,

improvements in innovations and technical progress lead to increased productivity and competitiveness, which triggers further increase in trade. This positive feedback effect brings about a virtuous circle of increased trade, investment and growth. This view is supported by Haberler (1988) who argued that development policies that give attention to foreign trade, private enterprise and foreign direct investment have been found to yield sustained and efficient industrialization and growth.

Review of Empirical Studies

Considering the fact that foreign aid and foreign direct investment have been used as a supplement of capital accumulation, their impact on economic growth has received extensive investigation. The empirical studies on them have focused not only on their simultaneity as capital supplements on economic growth, but also on their importance on growth. To this end, a number of empirical cross-country studies and country-case studies have examined their impact on long-run growth. These studies are briefly reviewed.

Balasubramanyam, Salisu & Sapsford (1996) using the endogenous growth model in a cross-sectional analysis of 46 countries examined the relationship between trade openness, investment and economic growth. The results reveal that the growth-enhancing effects of FDI are stronger in countries that adopted export-oriented policies than those who followed an import substitution policy. The findings by Borensztein De Gregorio & Lee (1998) using evidence from a sample of 69 developing countries from 1970-1989 in an endogenous growth model also show that FDI facilitates technological transfer and, hence, economic growth.

Burnside and Dollar (2000) investigate the relationship between foreign aid, economic policy, and growth of per capita GDP using a new database on foreign aid that had just been developed by the World Bank. They run a number of regressions in which the dependent variable of growth rates in developing countries depend on initial per capita national income, an index that measures institutional and policy distortions, foreign aid, and then, aid interacted with policies. To avoid the problems that aid and growth may be correlated over a period of few years, but not on a year-to-year basis, they divide their sample into six four-year time periods running from 1970-1973 to 1990-1993. In certain specifications they also include variables to capture ethnic fractionalization, whether assassinations occurred, and dummy variables for certain regions (regional dummies), and even a measure of arms imports. In many of their empirical findings, they found the interaction term between foreign aid and good policy to be significantly positive. The results reveal that aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policies but has little effect in the presence of poor policies. This finding was also supported by further studies by Collier and Dollar, (2002). However, if the variation in the effectiveness of aid on productivity is not policy induced but rather a result of other poor initial conditions, a very different allocation rule would maximise the effect of aid donations on long-run productivity and poverty (Dalgaard, Harsen & Tarp, 2004).

Gomanee, Girma & Morrissey (2002) examine aid effectiveness in Sub-Saharan Africa for the period 1970-1997. The study used the investment channel as a transmission mechanism to the effectiveness of aid on growth with a panel of 25 Sub-Saharan African countries and revealed that aid had a positive effect on growth largely through aid-financed investment. The authors concluded that it may not be correct to explain the poor growth performance in Sub-Saharan African in the context of aid ineffectiveness. In a similar study in 8 transition economies in Europe between 1994 and 2001, Mencinger (2003) found a negative causal relationship between Openness, FDI and economic growth. The conceivable explanations for these controversial results were on account of country specific effects (economic peculiarities) regarding stages of their development, sample period, data and methodologies (Zhang and Song, 2001).

Iyoha (2004) finds evidence that the diminishing level of foreign private capital flows, particularly FDI and its inability to positively and significantly affect growth in Nigeria and other Sub-Saharan African countries is due to poor macroeconomic policy environment and weak institutional framework. (O'Connell and Soludo, 1992), cited by (Iyoha, 2004) argue that the dominant factors responsible for the massive decline in aid to Africa countries include donor fatigue, evidence of low aid effectiveness in many African countries, and evidence of negative systemic effects of aid recipient countries. Finally, some suggest that aid and other resource flows tend to crowd out domestic institutional developments and create rent-seeking opportunities in Africa countries.

Ericsson and Irandoust (2005), and also cited by Ndambendia & Njoupouognigni (2010), examine the impact of foreign aid and foreign direct investment on economic growth using likelihood-based panel cointegration for five Sub-Saharan Africa countries over the period 1965-2000. The empirical results reveal that foreign aid and foreign direct investment positively affect economic growth in all countries. The results by Karras (2006) for a sample of 71 aid-receiving developing countries also buttressed these findings. Importantly, evidence has lend credence to the fact that domestic savings significantly affects investment, and therefore economic growth, when foreign aid is included in the regression (Kasuga, 2007). Though foreign aid enhances the effects of domestic saving on growth, the foreign aid-growth nexus remains ambiguous, as observed by (Bowles, 1987, cited by Ndambendia and Njoupouognigni, 2010). That ambiguity has been found in empirical studies assessing the link between foreign direct investment and economic growth as well. More precisely, channels through which foreign direct investment affects economic growth seem to be controversial. Hatemi-J and Irandoust (2005) investigate the relationship between foreign aid, investment, and economic growth for a panel of developing countries for the period 1974-1996. The study employed a panel cointegration approach and finds that foreign aid and investment have positive and significant effect on the economic activities for each country in the sample period. The study draws implications that foreign capital flows has favourable effects on real income by supplementing domestic savings.

As observed by the previous studies, the effects of foreign direct investment on economic growth are positive and statistically significant (Roy and Berg, 2006; Xu and Wang, 2007; Bhandari et al., 2007). These effects have been found to be supported by some institutional factors such as level of education, basic physical infrastructure, and appropriateness of institutions (Adams, 2008). However, attractiveness of FDI which is based on good policy, economic and political stability of host country is a necessary condition, but not sufficient to stimulate positive relationship between FDI and economic growth. Concerning the channels, it seems obvious that domestic investment is likely the most important. While Khawar (2005) finds that foreign direct investment positively affects real income per capita, irrespective of any human capital requirement, Li and Liu (2005) find evidence that the interaction of FDI with human capital exerts a strong positive effect on economic growth in developing countries.

According to Ndambendia and Njoupouognigni, (2010), it has been stressed that factors such as political and macroeconomic instability, low growth, weak infrastructure, poor governance, inhospitable regulatory environments, and ill-conceived investment promotion strategies, are identified as responsible for the poor FDI record in Sub-Saharan Africa. By contrast, (Dupasquier and Osakwe, 2006), noted that despite the low growth effect on FDI, Adams (2008) finds that FDI positively affects economic growth in the region. This conclusion, however, has to be used cautiously given the fact that it seems sensitive to model specification. Cieslik and Tarsalewska (2008) using evidence from Central Eastern European (CEE) countries empirically examine the relationship between trade, FDI and economic growth and found that trade and FDI are positively related to economic growth in the countries studied. The findings reveal that openness, domestic investment and macroeconomic stability are critical growth-driving factors.

Chatterjee and Turnosky (2005) investigate the link between foreign aid, economic growth, and welfare in a small open economy of Swansea. The study finds external transfer to impinge on the recipient's macroeconomic performance by affecting resource allocation decisions and relative prices. The study emphasises that endogeneity of the labour-leisure choice and the adjustment of the real wage rate plays a crucial role in the propagation of foreign aid shocks and that another crucial determinant of the efficacy of foreign aid is externalities associated with the public good that aid helps finance. The study further shows that transitional adjustment to a foreign aid shock is dependent crucially on the elasticity of substitution in production and the relative importance of the labour-leisure choice utility.

Sakyi (2010) analyze the effect of trade openness and foreign aid inflow on economic growth in post liberation Ghana for the period 1993-2007. The study adopted the ARDL bounds testing cointegration approach and revealed that the effect of aid is positive and significant in both short run and long run.

In an empirical study of 10 emerging countries in Europe before they joined the European Union, Varamini and Kalash (2010) provide mixed results on the causality relationship between FDI and economic growth. Their empirical findings reveal both uni-directional and bi-directional relationship between FDI and growth on the one hand and, openness and FDI on the other hand. Malik (2010) examines the effectiveness of foreign aid and FDI for economic growth in the six poorest and highly aid dependent African countries, namely the Central African Republic, Malawi, Mali, Niger, Sierra Leone and Togo. Using panel cointegration analysis, the empirical results reveal a long run relationship between per-capita real GDP, aid as a percentage of GDP, investment as a percentage of GDP and openness. However, the long run effect of aid on growth was found to be negative for most of these countries. He recommended sound macroeconomic policy environment, institutional framework and cautious restraint to enable African countries maximize the benefits of aid.

Ndambendia and Njoupouognigni, (2010) investigate the long-run relationship between foreign aid, foreign direct investment and economic growth in 36 Sub-Saharan Africa countries over the period 1980-2007. Employing the recent dynamic panel data of mean group (MG), pooled mean group estimator (PMG), and dynamic fixed effect (DFE) proposed by Pesaran and Smith (1999), their empirical results find strong evidence of positive impact of foreign aid and foreign direct investment on economic growth. However, the effect of foreign aid on economic growth in SSA was found to be low. For example, an increase by 1 percent of foreign aid induces only 0.05 percentage point of economic growth for PMG and 0.13 percentage point for DFE, while it's ten times greater for employment in PMG and approximately six times greater in DFE. As economic policy implication, it's much better to focus on internal factors than external factors to boost economic growth in SSA.

Tiwari (2011) examines the effectiveness of foreign aid, foreign direct investment, and economic freedom for selected 28 Asian countries in a panel framework. The model includes foreign aid, foreign direct investment, economic freedom, labour force, and capital stock. The estimation procedure was carried out on pooled annual time series data for the period 1998-2007. Employing static and dynamic panel data techniques and GMM-type estimator proposed by Arellano and Bond (1991), the empirical results indicate that an increase in fiscal freedom, financial freedom and domestic capital stock were significant factors positively affecting economic growth. Freedom from corruption, inflow of foreign direct investment and foreign aid were significant factors that also affect economic growth. Further, the findings show that life expectancy played a significant and positive role in economic growth. Foreign aid had a non-linear impact (negative impact of high aid flows) upon economic growth.

Eregha, Sede & Ibidapo (2012) investigate the nexus between aid and investment cum growth link in a regionally based study specifically the ECOWAS region. The Pooled Panel regression method is adopted for the study. The empirical findings reveal a negative and significant effect of aid on growth in the region. The study recommends that aid should not be seen as a medium to buy growth in these

countries but other instrumentalists that undermine growth in these countries should be addressed with increase in the inflow of quality aid to assist these countries.

Ekanayake and Chatrna (2012) investigate the impact of foreign aid on the economic growth of developing countries. The study uses annual data on a group of 85 developing countries covering Asia, Africa, and Latin America and the Caribbean for the period 1980-2007. Employing panel data techniques for foreign aid, while accounting for regional differences in Asian, African, Latin American, and the Caribbean countries as well as the differences in income levels with the use of regional and income level dummies, the findings indicate that foreign aid has mixed effects on economic growth in developing countries.

Adamu, et al. (2012), examine the impact of trade openness and foreign direct investment on countries of the West African Monetary Zone. Employing the Instrumental Variable (IV) Two Stage Least Squares (2SLS) technique, the empirical results reveal that trade openness; domestic investment, foreign direct investment, human capital development and lag of economic growth are the principal drivers of economic growth in the region. Against this backdrop, the authors recommend policies that will encourage domestic openness to trade and foreign direct investment in the region, as well as sound and stable macroeconomic policies in order to drive economic growth in the region.

Alege and Ogunidipe (2013) investigate the relationship between foreign direct investment and growth in ECOWAS using the System-GMM panel estimation technique covering the period 1970-2011. The study adopted System-GMM in order to overcome the problem of endogeneity inherent in the FDI-Growth argument. The study likewise interacted human capital and institutions indicators with other variables to explain the variability of FDI. The results appears contrary to earlier studies, as the contribution of FDI was insignificant and impacts negatively on growth in ECOWAS, despite controlling for the role of human capital and quality of institutions in the model. These findings according to the authors might not be unconnected with the fact that FDI inflow into ECOWAS is absolutely resource-seeking. Following these results, the authors recommend that policy makers in developing Africa need to exercise cautions in adopting domestic openness. Particularly excessive openness in the extractive industries , but to encourage more manufacturing FDI and domestic investment of repatriated capital by ensuring more economic stability and raising domestic interest rate.

Fiodendji and Evlo (2013) investigate the threshold effects in the Foreign aid-economic growth nexus in the context of the role of institutional quality and macroeconomic policy environment. The empirical analysis is based on a panel data set including 13 ECOWAS countries during the period from 1984 to 2010. Using a modified panel threshold model, the evidence strongly supports the view that the relationship between aid and economic growth is nonlinear with a unique threshold of 0.206. The findings reveal that a stable macroeconomic environment and better institutional quality are sine qua non for the effective contribution of aid to sustainable growth in ECOWAS countries as bad institutional quality may have detrimental effects on economic growth. The empirical findings also found institutional quality to be an important determinant or channel through which aid affects economic growth. The study successfully identified the desirability to keep the combination of macroeconomic policy environment and institutional quality above their thresholds respectively, as the condition under which aid has a positive impact on economic growth. The resultant effect will be important for the policymakers and international financial institutions, which increasingly favour conditionality and selectivity in the allocation of aid resources. The major policy implication of the findings according to the authors is not that foreign aid should be reduced but rather a call for rethinking of strategies for international assistance and redesigning existing aid programs. Some studies have found that good fiscal, monetary and trade policies as well as right institutional framework are a necessary condition for effectiveness in the foreign aid-growth nexus (Ekanayake and Chatrna, 2012; Fiodendji and Evlo, 2013).

Ozekhome (2016) investigates the impact of trade openness and investment on economic growth in the ECOWAS region, using dynamic panel data methodology for the period 2000-2013. Employing the Generalized Method of Moments (GMM) estimation technique, the empirical results reveal that trade openness; foreign direct investment, real gross domestic capital formation, human capital and lagged real GDP (a measure of previous market size) are the principal drivers of economic growth in ECOWAS countries. The impact of inflation (a proxy for macroeconomic policy environment) is found to have negative and significant effect on growth. Industrial output, on the other hand, is found to be positively related to growth in ECOWAS countries but its effect is rather weak, perceivably due to the low level of industrialization in the region. Against this backdrop, the author recommends open trade and investment-enhancing policies, sound macroeconomic policies, institutional structures, and policy coordination and harmonization, for the region's rapid economic growth.

From the fairly large volume of literature, it appears that the findings of empirical studies on the effects of aid and foreign direct investment on growth are rather mixed and non-conclusive for the developing countries. In particular, no regional study in the ECOWAS sub-region has considered the effect of absorptive capacity constraints on the foreign capital-growth nexus, hence warranting further empirical investigations.

EMPIRICAL METHODOLOGY

Theoretical Framework and Model Specification

This study is based on the endogenous growth model. The motivation for the endogenous growth model stems from the failure of the neoclassical theories to explain the intrinsic characteristics of economies that cause them to grow over extended period of time.

The general endogenous production function

$$GDP = AK^{\alpha_1} L^{1-\alpha_1} K^{\beta} \quad (1)$$

We assume symmetry across industries for simplicity, so that each industry will use the same level of capital and labour. Then we have the aggregate production function as

$$GDP_t = AK^{\alpha} L^{\beta} \quad (2)$$

Where;

GDP_t = GDP per capita at time (a measure of economic growth).

A = Total factor productivity- a measure of efficiency of factor inputs

K = Capital stock- which is decomposed to into physical and human capital

L = Labour.

The production function in equations (1) and (2) are endogenous, since the residual component, A, which is a measure of technological progress is endogenized; α and β , represents the elasticity of output to capital and labour, respectively. In empirical applications, the endogenous growth model takes account of the role of international capital flows (reflected in FDI and Aid), investment in human and physical capital, and other policy variables such as trade openness and macroeconomic policy (captured in this study by inflation) as critical ingredients of growth. The basic intuition here is that AID and FDI affect growth via the efficiency with which inputs are used, which among other things, depends on the total factor productivity, TFP, and openness of the economy (OPN). Thus:

$$A = (Aid, FDI, TFP, OPN) \quad (3)$$

Equation (3) states that efficiency with which factor inputs are used depend among other things on the size of Aid, FDI, total factor productivity and openness of the economy. But FDI and Aid can

contribute significantly to growth through increase in capital stock, improvements in human capital and advances in technology (Ajayi, 2006). However, the magnitude of gains from these positive spillovers is determined by the absorptive capacity of the host countries. Factors that are likely to affect host country's absorptive capacity in this respect are macroeconomic (levels of human capital development, openness, inflation e.t.c.).

As pointed out by (Feeny and McGillivray, 2008 and cited by Ekanayake and Chatrna, 2012), a plausibly robust finding of recent studies is that there is an inverted U-shaped relationship between aid and growth. This finding indicates that there are diminishing returns to aid due to recipient countries having absorptive capacity constraints and macroeconomic instability/uncertainties. Absorptive capacity relates to an aid recipient's ability to utilize foreign aid inflows effectively. In order to take into account this relationship, a square term is added to the model (see Ekanayake and Chatrna, 2012; Tiwari, 2011). These changes yield the following specification for the determinants of economic growth in ECOWAS countries:

$$\text{GRGDP} = f(\text{TOPN}, \text{AID}, (\text{AID})^2, \text{FDI}, \text{INV}, \text{SCHL}, \text{INF}) \quad (4)$$

Equation (1) shows that potentially, real GDP (RGDP) is determined by TOPN, FDI, INV, SCHL, INF a, which form a plausible relationship in order to estimate the above equation

Where:

GRGDP= real GDP rate or rate of growth of real GDP (a measure of economic growth in the countries)

AID =ratio of foreign aid to GDP

$(\text{AID})^2$ = Squared term of foreign aid flow to capture the presence of diminishing returns to aid

TOPN= trade openness- measured: as sum of exports [(X) + imports (M)]/GDP

FDI= foreign direct investment to GDP ratio

INV= real gross fixed capital formation as percentage of GDP (a measure of growth rate of capita stock)

SCHL= enrolment in secondary institutions as a measure of human capital accumulation

INF= inflation rate- measured as the percentage change in the consumer price index.

The empirical specification of the model to be estimated is therefore:

$$\text{GRGDP}_{2i, t} = \alpha_0 + \alpha_1 \text{TOPN}_{i,t} + \alpha_2 \text{AID} + \alpha_3 (\text{AID})^2 + \alpha_4 \text{FDI}_{i,t} + \alpha_5 \text{INV}_{i,t} + \alpha_6 \text{SCHL}_{i,t} + \alpha_7 \text{INF}_{i,t} + \varepsilon_{it} \quad (5)$$

Where i represents country (15 ECOWAS countries) and t time (2000-2015), and GRGDP, TOPN, AID, $(\text{AID})^2$, FDI, INV, SCHL, INF are as earlier defined. The *a priori* expectations are $(\alpha_1, \alpha_2, \alpha_4, \alpha_5, \alpha_6) > 0$; and $(\alpha_3, \alpha_7) < 0$.

$\alpha_0 - \alpha_7$ are parameters to be estimated, and ε_t is the error term.

From *a priori* expectation, trade openness, aid, foreign direct investment, real domestic capital formation and human capital are expected to have positive impact on economic growth, while the coefficient of inflation is expected to have a negative relationship with economic growth. The expected signs are based on economic theory. The higher the degree of trade openness of a country, the higher will be the economic growth rate since trade openness facilitates greater integration into the global economy and stimulates growth through the channels of better resource allocation, greater competition, innovation, transfer of technology and access to foreign capital. Foreign aid and foreign direct investment stimulates growth by increasing the stock of capital, easing domestic resource and foreign exchange constraints to

development, and facilitating the transfer of advanced technology, managerial and technical know-how from industrialized countries to host countries, thereby increasing productivity through positive spillovers (externalities).

On the other hand, absorptive capacity constraints-captured by square of foreign aid, causes diminishing returns to aid and growth (Tiwari, 2011; Ekanayake, and Chatrna, 2012). The higher the level of domestic investment, the more rapid will be the rate of economic growth since investment increases the capital stock and stimulate aggregate demand. An improvement in human capital (reflected in human capital accumulation) enhances growth through increasing the productivity of the work force. Thus, the higher the quality of human capital, the higher the rate of economic growth. Inflation is theoretically posited to have an inverse relationship with economic growth. This is because, evidence suggests that macroeconomic stability is crucial for long-term growth as no country has achieved sustained high growth in a persistently high inflation environment (i.e macroeconomic instability). Accelerating rates of inflation has a destabilizing effect on economic growth through its dampening impact on savings, investment and its increasing uncertainty syndrome (Park, 2012; Ozekhome, 2016).

Econometric Methodology

The specification of the proposed model is the dynamic panel, using a panel data regression econometric methodology. In the literature, one of the methods of estimating a dynamic panel data model is the Generalized Method of Moments (GMM) approach proposed by Holtz-Eakin, Newey and Rosen (1988) and further developed by Arellano-Bond (1991). This technique addresses the triple-problem of endogeneity of the regressors, the measurement error and omitted variables. This approach overcomes the problem of unobserved period and country specific effects (economic peculiarities) and joint endogeneity of most of the explanatory variables with the endogenous variable, and, thus control for the biases resulting from simultaneous or reverse causation. In this approach, we take advantage of the data's panel nature where these estimators are based on differencing of lagged endogenous instruments to control for unobserved effects. In addition, by using previous observations of explanatory and lagged dependent variables as instruments, called "internal" instruments, the potential bias that may arise from ignoring dynamic endogeneity is eliminated. This also provides theoretical basis for accounting for simultaneity, while eliminating any unobservable heterogeneity and the effect of common growth shocks across countries overtime. Therefore, the proposed model above is re-expressed in the following form:

$$RGDP_{2i,t} = \alpha_0 RGDP_{2i,t-1} + \alpha_1 X_{i,t} + \mu_{it} + \varepsilon_{i,t} \quad (3)$$

Where; $RGDP_2$ is the Real GDP (economic growth rate) of country i at time t ; α_0 is the parameter to be estimated, X is the vector of core explanatory variables – trade openness ($TOPN$), foreign aid (aid), foreign aid squared (aid)², foreign direct investment (FDI), real gross domestic capital formation (INV), years of schooling (SCHL- as a measure of human capital), and inflation (INF), μ is country specific effects; ε is the error term; and all variables are in log form.

There seems to be problems in using panel ordinary least squares (OLS), with fixed and random effects, to estimate the above equation. For example, the term lagged real GDP gives rise to an autocorrelation problem. To solve it, Arellano and Bond (1991) used the general method of moments (GMM) approach to estimate the above equation by firstly differentiating the model. Consequently, the fixed country-specific effects are removed: $E(\varepsilon_{i,t} - \varepsilon_{i,t-1})$. However, $(RGDP_{2i,t} - RGDP_{2i,t-1})$ still depended on $(\varepsilon_{i,t} - \varepsilon_{i,t-1})$. Therefore, a few more lags of the first-differentiated lagged dependent variable are instrumental in solving the problem.

The differencing of the model removes the unobserved time-invariant effects which then control for endogeneity, measurement error, omitted variable bias, time-invariant and country specific effects

(Arellano and Bond, 1991, Arellano and Bond, 1995). This method implies taking the first-difference of the equation

$$(\dot{y}_t - \dot{y}_{t-1}) = \alpha_1(I_t - I_{t-1}) + \beta(X_t - X_{t-1}) + \delta(y_{t-1} - y_{t-2}) + (u_t - u_{t-1}) \quad (3.1)$$

Where y = dependent variable;

I = independent variable of interest (core explanatory variables)

X = independent variable used as control

U = error term

t = time

and then using sufficiently lagged values of y , I , and X as instruments for the first differences,

$$(\dot{y}_{t-1} - \dot{y}_{t-2}) \text{ and } (X_t - X_{t-1}) \text{ in equation} \quad (3.2)$$

where variables are as earlier defined.

Data Sources

The data for this study are obtained from the World Bank's World Development Indicators (WDI) online database, the United Nations Conference on Trade and Development (UNCTAD) and various publications by ECOWAS. All data in this study are in log form. The log transformation approach is adopted for reliability and to obtain elasticities as estimated coefficients.

EMPIRICAL RESULTS AND ANALYSIS

As mentioned earlier, the nature of the study and the empirical tools employed suggest that the time series properties of the data to be used are examined to ensure stability and time invariance in the estimated relationships. The importance of stationarity of time series used in regression borders on the fact that a non-stationary time series is not possible to generalize to other time periods apart from the present. This makes forecasting based on such time series to be of little practical value. Moreover, regression of a non-stationary time series on another non-stationary time series may produce spurious and inconsistent estimates (Engle and Granger, 1987). There is thus the need to investigate the stationarity of variables in our model. These and other preliminary statistical examination of the data is carried out to observe the initial characterization of the data and their relational properties.

Descriptive Statistics

Table 4 presents the summary statistics for all the variables used in this study. Average real GDP growth for the ECOWAS countries during the period is 3.8 percent. The median value is 3.9, an indication that real GDP growth in some of the ECOWAS countries far exceeds the minimum average. Apparently, real GDP growth rate exhibit differential patterns in the respective countries. The maximum and minimum values are 29.1 and -1.4 respectively. This wide disparity further buttresses the differential (heterogenous) rates of growth in the sampled countries over the period. Thus, growth rate of real GDP has moved rather diametrically among the sampled countries during the study period. This wide dispersion and differential growth rate among the countries is further confirmed by the relatively high standard deviation value of 4.9. The corresponding average values for trade openness, Aid, square of foreign aid, FDI, investment, human capital, inflation are 48.3, 24.4, 11.5, 46.4, 32.2, 48.3 and 13.8. In terms of the standard deviation, inflation has the highest value of 5.8 over the sample period, reflecting inflation variability in the sampled countries. The Jarque Bera value is significant at the 1 percent level, indicating that the hypothesis of normality in the distribution cannot be accepted. This implies that the

data series may have endogeneity issues. This therefore necessitates the adoption of a dynamic GMM estimator which is capable of controlling the joint endogeneity effects of most of the explanatory variables with economic growth, and, thus to control for the biases resulting from simultaneous or reverse causation.

Table 4: Descriptive Statistics

	<i>Mean</i>	<i>Median</i>	<i>Max.</i>	<i>Min.</i>	<i>Std. Dev.</i>	<i>Skewness</i>	<i>Kurtosis</i>	<i>J-B</i>
<i>GRGDP</i>	3.82	3.90	29.1	-1.40	4.90	1.70	8.10	14.18
<i>OPN</i>	48.31	47.20	70.03	32.40	1.70	2.15	3.24	5.70
<i>AID</i>	24.4	22.3	56.10	1.20	4.50	1.52	2.60	6.10
<i>(AID)²</i>	11.50	12.01	24.15	1.86.	2.50	2.03	3.14	4.78
<i>FDI</i>	46.42	35.30	71.14	15.22	3.12	1.80	5.21	4.04
<i>INV</i>	32.20	27.20	48.40	12.10	1.92	4.10	3.13	5.24
<i>SCHL</i>	48.30	44.81	68.20	28.20	4.10	3.77	6.02	9.25
<i>INF</i>	13.82	12.22	19.50	7.40	5.80	-1.76	-1.85	5.30

Unit Root Analysis

The study begins by performing a panel unit root test. LLC, Fisher-PP and Fisher-ADF tests were conducted to examine whether the variables are stationary or non-stationary in both panels. If all the variables are stationary at their level, they would enter the model in their level form. The result in Table 5 shows that all variables are stationary at their levels, as all the tests reject the null hypothesis of a unit root in the examined series and consequently, enter the model directly.

Table 5: Unit Root Test for Variables in Levels

Test	LnGRGDP	LnTOPN	LnAID	Ln(AID) ²	LnFDI	LnINV	LnSCHL	LnINF
LLC	-3.11***	-4.23***	-1.92**	-1.78*	-3.01**	-6.25***	-2.18**	-6.44**
Fisher-PP	48.11**	50.22**	22.19*	32.21*	25.24*	44.32*	40.27*	54.38***
Fisher-ADF	47.31**	44.19**	53.72***	38.64**	39.23**	50.19**	45.42**	33.42**

*** Statistical significance at the 1% level

** Statistical significance at the 5% level

* Statistical significance at the 10% level

Analysis of Generalized Method of Moments (GMM) results

Since all variables are stationary at their levels, the Arellano and Bond (1991) GMM estimator can be carried out to determine the impact of foreign aid, foreign direct investment, and other macroeconomic variables on economic growth in ECOWAS. An examination of the results reported in table 6 show that all variables have the correct signs except the coefficient of aid. Lagged growth rate of real GDP has the correct positive sign and is significant at the 10 percent level. This implies that previous economic growth constitute a spring board and anchor for attaining higher economic growth rate in ECOWAS countries. This is particularly important as it tends to help in the re-direction of macroeconomic policies towards achieving better growth rate in succeeding years. Since all the data are in log form, the coefficients are elasticities. Accordingly, table 6 shows that a 10 percent increase in previous economic growth will stimulate future economic growth in the succeeding year by 3.8 percent. The coefficient of trade openness is positive in line with theoretical expectation and significant at the 5 percent level. Thus, increased trade openness (particularly intra-ECOWAS trade) has the capacity to propel rapid economic growth in ECOWAS through greater integration into the global economy, better resource allocation, and greater competition. This finding is consistent with the results of (Adamu et al 2012). It also encourages a more efficient utilization of resources and greater growth in productivity. Increased openness induces marginal returns to capital investments, with positive spill-overs, permitting increasing returns to scale in aggregate production, and investments through technological diffusion, which in turn, enhances growth. The result buttresses the findings by (Balasubramanyan et al, 1996; Kandiero and Chitiga, 2003 and Ozekhome, 2016).

Table 6: Results from the Arellano and Bover (1995) (GMM) Estimator Dependent Variable: GRGDP

Variables	Estimated Coefficients	t-statistics	Prob.
C	0.0211	1.5380	0.10
Lagged GRGDP	0.3810	1.7764*	0.08
LnTOPN	0.1804	2.4815**	0.02
LnAID	-0.1072	-2.014**	0.04
Ln(AID) ²	-0.0603	-1.8772*	0.07
LnFDI	0.2042	2.6720***	0.00
LnINV	0.3202	3.2140***	0.000
LnSCHL	0.0670	2.2602**	0.01
LnINF	-0.1413	-2.1172**	0.03
J -statistic=4.456			0.26

*** Statistical significance at the 1%leve

** Statistical significance at the 5 % level

* Statistical significance at the 10% level

In line with the estimates, a 10 percent increase in trade openness will stimulate economic growth by 1.8 percent in ECOWAS countries. The coefficient of foreign aid is negative and significant at the 5 percent level. Evidence highlights some key issues which may undermine the impact of aid on growth. These include donors conditionality attached to aid inflow, stable macroeconomic environment in aid recipient country, institutional quality, governance issues; (Fiодendji and Evlo, 2013). The square term is also found to be negative and significant at the 10 percent level. Thus, foreign aid has a destabilizing impact on economic growth in ECOWAS countries. This finding is in line with the findings of Malik (2008); Tiwari (2011); Eregha, Sede & Ibiadpo (2012), and Ekanayake and Chatrn (2012). Apparently, foreign aid appears to have an adverse effect on economic growth in ECOWAS countries. This may not be unconnected with the negative effects of aid dependency-syndrome, absence of poor macroeconomic policy environment and weak institutional framework, corruption and diversion of foreign resources meant for growth. Combining this with the square term of foreign aid indicates the presence of diminishing returns to aid in ECOWAS due to absorptive capacity and institutional constraints. In particular, evidence points to the fact that most developing countries, including ECOWAS are characterized by macroeconomic policy instability (poor macroeconomic environment) and weak institutional framework resulting to policy inconsistencies, high level of corruption, incessant political crises and ethnic tensions. The results of Feeny and McGillivray (2008), Ekanayake and Chatrna, (2012) Tiwari, (2011) and Fiодendji and Evlo, 2013) support this contention.

The elasticity coefficient of foreign aid indicates that a 10 percent rise in foreign aid will dampen economic growth in ECOWAS by 1.1 percent, while that of its squared term indicates diminishing returns to aid by 0.6 on account of absorptive capacities and institutional constraints (Ekanaye and Chatrna, 2012). The coefficients of FDI and domestic investment (real gross domestic capital formation) both have the expected positive signs and are significant at the 1 percent level respectively. This implies that increased foreign direct investment and domestic investment (reflected in rising domestic gross capital formation) will invariably enhance economic growth in ECOWAS countries through the channels of innovation, transfer of advanced technology and know-how, and domestic capital accumulation (Baliamount-Lutz, 2004). The elasticity of economic growth with respect to FDI and investment (gross capital formation) are 0.2 and 0.3, respectively. Thus, a 10 percent increase in FDI and domestic capital accumulation will on the average trigger economic growth in ECOWAS countries by 2 percent and 3 percent respectively.

Human capital has the expected positive sign and passes the significance test at the 5 percent level. This implies that increase human capital investment and development will promote rapid economic growth in ECOWAS through acquisition of improved knowledge, skills, expertise and “learning by doing”, which in turn increases productivity as exemplified in the endogenous growth model. Its coefficient of 0.067 implies that 10 percent increase in human capital will on the average induce economic growth in ECOWAS by 6.7 percent. This high elasticity value is an indication of the high growth-yielding capacity of human capital. The coefficient of Inflation is significant at the 5 percent level and has the expected negative sign. Thus, high inflation rates militate against rapid economic growth in ECOWAS. Its elasticity coefficient of -0.14 implies that a 10 percent rise in the rate of inflation will dampen economic growth in ECOWAS by 1.4 percent. This destabilizing effect of inflation on growth is also buttressed by the findings of Adamu et al (2012). In terms of the diagnostic test, the J-statistic fail the significance test at the 5 percent level, indicating the acceptance of the null hypothesis that there is an endogeneity problem. This confirms that the over-identifying restrictions are equal zero and therefore, valid. Thus, we cannot reject the specification of the model, since it is well specified and the instruments seem to be appropriate and valid.

CONCLUSION AND POLICY RECOMMENDATIONS

This study assesses the impact of foreign aid and foreign direct investment on economic growth and whether diminishing returns occur in the aid-growth nexus in the ECOWAS sub-region, using dynamic panel data for the period 2000-2015. The choice of the estimation period was informed partly by the oscillatory nature of FDI and Aid flows to the region during the period, making it worth studying, and partly by data availability. The empirical results reveal that trade openness; foreign direct investment, domestic capital formation, human capital and lagged real GDP (a measure of previous economic growth rate) are the principal drivers of economic growth in ECOWAS countries. Foreign aid and its squared term (a measure of diminishing returns due to absorptive capacity constraints) are found to dampen growth in the region, while high inflation (an indicator of macroeconomic instability) is found to have a destabilizing effect on economic growth.

Given the potential economic benefits realizable from increased investment and foreign capital inflows in terms of Foreign aid and FDI, in augmenting domestic resources for rapid economic growth, particularly in the drive towards greater economic integration and regional convergence, it is important that policy makers in the region adopt, trade and foreign direct-investment-enhancing policies. This implies implementing policies that will stimulate trade, foreign direct investment, and physical and human capital accumulation, among others. Policy coordination and harmonization with respect to trade and investment is also critical in this respect. Importantly, governments need to create strong absorptive capacities in terms of sound institutional framework and stable macroeconomic environment that will enable the region maximize the benefits of FDI and foreign aid.

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