Foreign Direct Investment, Governance and Economic Growth Trilogy: New Evidence from ECOWAS Countries

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Abstract

This study examined the impact of FDI and governance on growth. In addition, the role of the level of governance on the FDI-economic growth nexus was also explored. Data from, seven (7) ECOWAS countries from 1996-2010 were used for the enquiry. The Ordinary Least Square (OLS) and Threshold Auto Regressive (TAR) models were employed. The TAR model was applied to determine the optimal level of governance, which once attained, will induce the positive impact of FDI on growth. The study found that FDI and governance are positively related to growth in the linear regression (OLS). For the non-linear effect (TAR), the result showed that the positive effect(s) of FDI would begin to manifest once governance reaches a threshold level of -1.2. The study further conducted the Likelihood Ratio test and obtained a value of 8.326, which affirms the statistical significance of the result obtained at the 5 per cent level. Finally, we found that sound macroeconomic policies also played an important role in conditioning the direct benefits of FDI.

Key words: Foreign Direct Investment, Governance, Growth and Threshold Auto Regressive Model

1. Introduction

The importance of economic growth cannot be overemphasized. The literature on economic growth shows diverse channels through which growth can be achieved. A prominent channel is investment. The role played by externally financed investment in spurring growth is significant. Countries therefore lay emphasis on various efforts to attract Foreign Direct Investment (FDI) into their economies (Mengistus and Adams, 2007). Policies such as tax rebate and holidays, low interest loan, grants, subsidies, increased spending on infrastructure, creation of export processing zones and other concessions have been put in place to attract FDI inflows.

In recent times, developing countries, especially in Africa see the role of FDI as crucial to their development. FDI is seen as an engine of growth as it provides the much needed capital for investment, increases competition in the host country industries, and aids local firms to become more productive by adopting more efficient technology or by investing in human and/or physical capital. FDI contributes to growth in a substantial manner because of its stability relative to other forms of capital flows as a result of its ownership structure[3]. The benefits of FDI include being as a source of capital, employment generation, facilitating access to foreign markets, and generating both technological and efficiency spillover to local firms. FDI is the largest source of external finance for developing countries, and the inward stock of FDI in 2000 amounted to around one-third of their GDP, as compared to just 10 percent in 1980 (UNCTAD, 2006).

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[3] The minimum required level is 10% as stated by Ayanwale (2007). Hill (2003) and Adeoye (2009) used the words "control" and "long term" to make distinction between FDI and portfolio investment.

It is expected that by providing access to foreign markets, transferring technology and building capacity in the host country firms, FDI will inevitably improve the integration of the host country into the global economy and foster growth. FDI not only boosts capital formation but also enhances the quality of capital stock. Though, FDI has been critized because of its perception that it might lead to crowding out effect of the indigenous companies. In addition to this, Hill (2003) posits that FDI might adversely affect Trade Openness of the host country as a result of profit repatriation among other causes. Though, these criticisms are logical and constructive but "… it is imperative to state that the benefits outweigh the costs" (Ayanwale, 2007).

The empirical evidence on the effect of FDI on economic performance is inconclusive. While some studies have indicated a positive impact of FDI on economic growth, other studies reported otherwise. A third group of the study suggested that the effect of FDI on a host country's economy is dependent on the country's absorptive capacity in terms of its human capacity, the level of development, and financial development (Borensztein et al. 1998; Hermes and Lensink, 2003; Alfaro et al, 2004). In order words, the extent to which FDI contributes to growth depends on several factors. These include in addition to above factors, rate of savings in the host country, the degree of openness and the level of technological development, among others. Hence, FDI will have a positive effect on the growth prospect of the recipient economy if the host country has a high savings rate; an open trade regime and high technology (Akinlo, 2004).

A country's institutional framework that could engender the ideal absorptive capacity that attracts FDI largely leans on good governance. Governance is broadly defined as "the traditions and institutions that determine how authority is exercised in a country" (Kaufmann et al. 2005). However, the relationship between governance and growth is vague in most developing countries which form the core of Sub-Sahara African countries (SSA). This is because of the existence of structural and fiscal constraints as well as attitudinal limitations.

The virtues of good governance had been highly extolled by several international organizations and numerous claims were made that it is one of the precondition for economic development take off (Litjobo, 2005). A growing volume of available literature suggests that lack of quality governance hinders growth and investment, and aggravate the effects of poverty and inequality. In fact, governance problem foils every effort to improve infrastructure, attract investment, and raise educational standards. Weak governance poses a major challenge not only to further gains in development but also to sustain economic growth achieved so far (Roy, 2005).

The importance of this study emerged from the fact that not much attention had been devoted to the trilogy issue of FDI, governance and growth. The main objective of this study is to determine the nature of the relationship among FDI, governance and economic growth. It is in this regard that we employed Threshold Auto Regressive (TAR) model as our estimation technique. The advantage of this methodology is its ability to determine the threshold level of governance that would facilitate positive relationship in the FDI-growth nexus. Prior to this threshold, the benefit(s) of FDI is "non-existence". The scope of this study is limited to developing ECOWAS countries[4] so as to avoid bias of any form when developed and developing countries are analysed simultaneously (Mengistus and Adams, 2007). In sum, we are seeking answers to these questions: what is the relationship between governance and FDI on economic growth process of a particular country? What effect would other control variables have on economic growth? Is the threshold value of governance achievable? Hence, the aim of the study is to determine the effect of governance in the FDI-

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[4] The countries are: Benin, Cote d' Ivoire, Ghana, Nigeria Sierra Leone, Senegal and Togo. The choice of these countries is based on data availability consideration for a period between 1996 and 2010.

growth nexus. Following the introduction, the rest of the paper is structured as thus: theoretical and empirical literature is explored in section two. Sections three and four discuss methodology and empirical results respectively while section five wraps up the study by giving concluding remarks.

2. Theoretical and Empirical Literature

The theories underlying the relationship between FDI and growth can be classified into two: the modernization and the dependency theory. The modernization theory is regarded as the pro FDI which can be further sub-classified into neoclassical growth and endogenous growth theories.

The neoclassical model of growth believes that with a sustained increase in capital investment increases the growth rate temporarily: because the ratio of capital to labour goes up but the additional unit of marginal product of additional unit of capital is assumed to decline and the economy eventually moves back to a long-term growth path, while the real GDP growing at the same rate as the workforce plus a factor to reflect improving "productivity".

A "steady-state" growth path is attained when output, capital and labour grow at the same rate, so output per worker and capital per worker are constant. Neoclassical economists believe that to raise an economy's long term trend rate of growth requires an increase in the supply and an improvement in the productivity of labour and capital. The neoclassical model treats productivity improvements as an "exogenous" variable meaning that productivity is assumed to be independent of capital investment.

The endogenous or new growth theory lays more emphasis on human capital as the cause of economic growth. The theory believes that improvements in productivity can be linked to a faster pace of innovation and extra investment in human capital. The theory predicts positive externalities and spill-over effects from development of a high value-added knowledge economy which is able to develop and maintain a competitive advantage in growth industries in the global economy. They believe that the rate of technological progress should not be taken as given in a growth model. There are potential increasing returns from higher levels of capital investment. The theory emphasizes that private investment in Research and Development (R&D) is the central source of technical progress; protection of property rights and patents can provide the incentive to engage in R&D; investment in human capital (education and training of the workforce) is an essential ingredient of growth. If all the above stated conditions are satisfied, it is expected that the economy will be on the growing trend.

The dependency theorists could be termed anti-FDI. They assert that FDI in whatever form will retard the growth process of the economy and thus called for an end to FDI as it is not favourable. This can be justified by the work of Rand and Tarp (2002) who found that FDI inflows are very volatile. In their assessment of the relationship between FDI and output, there is no general relationship between the two variables. Falki (2009) examined the Impact of FDI on Economic Growth of Pakistan and concluded that FDI has a negative, statistically insignificant relationship between GDP and FDI inflows in Pakistan. In a similar dimension, Carkovic (2005) analyzed the relationship between FDI and Growth by constructing a panel data set for 72 countries for a period of seven 5-year periods between 1960 and 1995. Their study found that the exogenous component of FDI does not exert a positive, robust influence on economic growth though they argued that their result was not a call for an end in the flow of FDI.

Thus, the unsettled argument from the two camps might have imposed varying results as regards the impact of FDI on growth hence, leading to an inconclusive debate on the FDI-growth nexus.

Different organizations have offered dissimilar means of measuring governance among which are Country Policy and Institutional Assessment (CPIA); International Country Risk Guide (ICRG); Freedom House indicator; Transparency International and World Bank (KKZ) governance indicator. It is important to note that Transparency International limit its definition of governance to just corruption while others define governance in a broader sense. It is the view of the study to employ the KKZ governance indicator which defines governance with six indices.

Good governance would include an effective, impartial and transparent legal system that protects property and individual rights; public institutions that are stable, credible and honest; and government policies that favor free and open markets (Chandra and Yokoyama, 2011). These conditions encourage FDI and presumably private domestic investment as well, by protecting privately held assets from arbitrary direct or indirect appropriation. Generally, "good governance" indicators have six dimensions: i) Voice & Accountability, ii) Political Stability and Lack of Violence/Terrorism, iii) Government Effectiveness, iv) Regulatory Quality, v) Rule of Law, and vi) Control of Corruption (Kaufmann *et al.*, 1999).

Matthias and Griozard (2006) captured governance with government regulations (business and labour regulations) and based their analysis on 84 countries that span through the period of 1994-2003. It was asserted that governance in also a major determinant of FDI aside from educational attainment level and financial market development as raised by Borensztein et al. (1998) and Alfaro et al (2004) respectively. The positive impact of FDI on growth is conditioned upon the fact that "…governments first have to tackle the institutional setting and regulatory framework in their countries".

As cited in Globerman and Shapiro (2003), a variable related to governance that has also been identified as an important determinant of FDI is privatization. Holland and Pain (1998) identified the privatization process as one of the key determinants of the level of direct investment in the early years of transition. Specifically, for eleven European economies for the period 1992-1996, they found that indicators of privatization were positively related to levels of inward FDI. Carstensen and Toubal (2003) also found that the level of privatization plays an important role in determining the flows of FDI into a sample of Central and Eastern European countries over the period of the 1990s.

Ford, Sen and Wei (2010) considered a disaggregated governance indicator and used China as a case study for a sample period of 1970 to 2005. Both Two Stage Least Square (TSLS) and Generalised Method of Moment (GMM) were adopted. The result shows that all the disaggregated form of governance is beneficial to economic growth. Trade liberalization and government expenditure on education are the two government policy that has influence on FDI. However, it was concluded that even in the face of good governance, FDI has no positive impact on growth.

A possible reason for difference in results by previous researchers could be related to the arguments raised by Blonigen and Wang (2005) who showed the importance of controlling for country-specific effects in cross national studies. In order to take this into consideration, this study takes cue from the works of Mengistus and Adams (2007), and Nath (2005) by employing dynamic fixed effects estimation approach to examine the effect of FDI dependence on economic growth in the selected developing countries.

In sum, there is consensus in the literature about the positive impact of governance on growth. This means that good governance leads to economic growth. However, there are diverse views about the impact of FDI on growth. The literature on governance, FDI and growth are limited and as such, there is need for further research.

The figure below depicts the a priori relationship between FDI, Governance and Growth. The arrows show there is a unidirectional relationship between the variables running from governance to (attraction of FDI inflow) and economic growth. This relationship

precedes the dotted arrows. The dotted arrows could be termed second order condition which shows bi-directional relationship amongst the variables which occur after the unidirectional causation must have taken place.

Figure 1: Conceptual framework of governance, FDI and economic growth
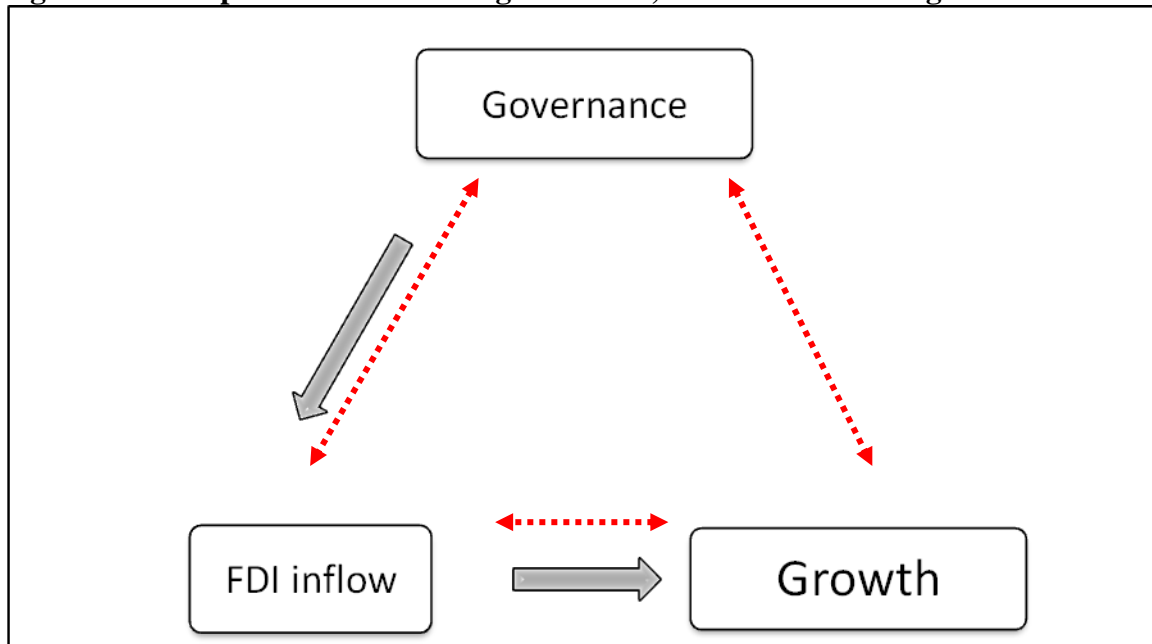
Source: Authors graphical explanations.

3. Methodology

It is the objectives of this study to capture both the linear and non-linear (TAR) growth model. Hence, we begin our analysis with the linear growth model. This paper serves as a follow up to the works of Mengistus and Adams, 2007; Nath, 2005; and Hermes and Lensink, 2003 to mention a few. The empirical analysis is based on a panel data set of 7 ECOWAS member countries over a period of 15 years (1996 - 2010)

3.1. Linear Growth Regression

Following Mengistus and Adams, 2007; Nath, 2005; and Hermes and Lensink, 2003, we estimate a cross-section regression of the form;

$$Y_{it} = \beta_0 + \beta_1 X_{it} + \beta_2 Z_{it} + \mu_i + \varepsilon_{it} \qquad (1)$$

Where Y_{it} is measured by GDP per Capita growth rate, for country i and at time t. X is a vector variable set that contains trade openness (OPN), Stock of human capital (SCH) and foreign direct investment (FDI). Z is an additional vector variable set which are considered as determinant of growth (Barro, 1991) and they include government consumption (GOC), inflation (INF), and proxy for governance (GOV). μ_i represent country specific effects which is assumed to be time invariant and ε_{it} is the observation error term. The fixed effect specification allows us to control for unobserved country heterogeneity and the associated omitted bias, a problem that seriously afflicts cross-sectional country regression (Mengistus and Adams, 2007).

3.2. Non-Linear Growth Regression

TAR model is one of the non-linear time series models available in the literature. It was first developed by Tang (1978) and later improved upon by Tang and Lim (1980), Tang (1983) and Hansen (1999) to mention a few. TAR model is the movements between regimes

governed by an observed variable. Unlike the simple linear model which usually leaves certain aspect of economics and financial data unexplained, non-linear model helps to solve this problem. The model involves several computing intensives stages and there are no diagnostic statistics available to access the need for a threshold model for a given data set. The model has not received attention due to lack of a suitable modeling procedure and the inability to identify the threshold variable and estimate the threshold values.

To the best of our knowledge, no previous studies have captured the threshold effect of governance on FDI-growth nexus. Hence, we estimate the growth regression of the form;

$$Y_{it} = \propto_1 X_{it} + \propto_2 Z_{it} + \begin{cases} \beta_1 FDI_t + \varepsilon_1, & GOV \leq \gamma \\ \beta_2 FDI_t + \varepsilon_2 & GOV > \gamma \end{cases} \qquad (2)$$

Equation 2 can be re-written in the following form;

$$Y_{it} = \beta_1 FDI_{it} DM(GOV_{it} \leq \gamma_1) + \beta_2 FDI_{it} DM(GOV_{it} > \gamma_1) + \theta' X_{it} + \varepsilon_{it} + \mu_{iy} \qquad (3)$$

Where all variables remain as earlier defined with the exception that GOV is no longer a variable in the Z vector and DM represent Dummy variable which is equal to 1 if GOV> γ or 0 if otherwise. GOV serves as sample split in the growth equation. This means once GOV reaches the threshold value, the perceived benefits of FDI on growth will start to manifest. Until then the cause of economic growth (if any) may not be attributable to FDI.

3.3. Data Measurement

The choice of our variables was informed by previous studies such as Borensztein et al, 1998; Alfaro et al, 2004; Hermes and Lensink, 2003; Blonigen and Wang, 2005 and Mengistus and Adams, 2007. It is our view that among the variables of interest in this study is FDI and it is measured as total FDI inflow as a percentage of GDP. As a result of augmenting the low savings rate in the host country, it is expected that FDI will propel economic growth. Economic growth is measured by GDP growth rate. Trade openness (summation of export and import) which is measured as a percentage of GDP reflects the degree to which an economy liberalizes its borders with trading partners'.

Inflation is also measured in percentages and it captures macroeconomic stability. Inflation-economic growth nexus exhibits a negative relationship (a priori) because high inflation rate reduces real income and hence, makes the economy worse-off[5]. We include government consumption to determine the level of government involvement in the economy. It is expected that there is a negative relationship between economic growth and government consumption[6]. This is because government consumption (GOC) crowds out private participation. It is conventional in the literature to capture economic growth through the use of GDP[7].

Finally, the governance index we use was first developed by Kaufmann, Kraay, and Zoido-Lobaton (1999), and recently expanded upon and updated by Kaufmann, Kraay and Mastruzzi (2010). We measure it by finding the average of the fist component (estimate) of the six indicators created by KKM. This is in contrast to Globerman, and Shapiro (2003) who aggregated the indicators. If this is done for the selected countries, it might be found that the aggregate would exceed the range (-2.5 to 2.5) used by Kauffman et al as measuring yardstick.

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[5] There is a certain level of inflation that is detrimental to growth. Though, identification of this level is not the interest of this study.

[6] Though, this has been critized on the ground that if such consumption are channeled to the execution of developmental projects and infrastructure, then, a positive relationship between Government consumption and growth is expected.

[7] Though GDP can be measure in nominal or real term. We decide to choose the real term.

4. Empirical Result
4.1. Linear Growth Equation

We presented our result in Table 1. FDI is positively related to GDP in both OLS and Fixed- effects estimation at the 5% and 10% level of significance, respectively. We included the lagged value of both FDI and GDP in order to capture the dynamic effect of our growth equation. The result of the dynamic effect failed to confirm the positive relationship in the FDI and growth nexus, though, this was found not to be significant. It was also found that governance is positively related to growth in almost all the regressions. The reason postulated by North (1996) is that economic growth is affected by its good institution and that they are not only important in establishing efficient markets, but may indeed be the single most important determinant of economic performance.

The result confirms the a priori expectation of the negative relationship between INF and economic growth in both OLS and fixed-effects estimation which is significant at 5%. This confirms the results of Romer and Romer (1998). Government consumption is positively related and significant to growth in our OLS estimation. However, this ceases to be the case for fixed-effects estimation and result obtained was not significant. This negates the assertion of Barro (1991) who opined that increase in government consumption is related to decline in the rate of economic growth.

The effect of trade openness on growth is positive and mostly statistically significant. Thus, a favourable the trade openness enhances the growth process. The effect of governance on economic growth is positive and significant for our OLS estimation. This confirms the assertion of Chandra and Yokoyama, 2011 and Ndulu and O'Connell, 1999 who all stated institution plays a major role in the growth process of a country because it ensures formation of property rights and efficient allocation of resources. In addition, North (1996) affirms that "…it may indeed be the single most important determinant of economic performance after capturing for efficient markets".

Table 1: Linear Equation Regression Result

Variables	OLS		FIXED EFFECT	
	STATIC EFFECT	DYNAMIC EFFECT	STATIC EFFECT	DYNAMIC EFFECT
FDI	0.2531*	-0.6779	0.0038**	-0.6458
	(0.8799)	(-1.7214)	(0.0105)	(-1.5646)
INF	-0.0376*	0.0537	-0.0909**	0.0198*
	(-0.7549)	(1.1964)	(-1.2517)	(0.2913)
GOC	0.5913*	0.2800	0.3918	0.0358**
	(2.3154)	(1.2898)	(1.1678)	(0.1234)
BOP	0.2496**	0.0179*	0.2935	0.0259*
	(2.9695)	(0.2289)	(2.2948)	(0.2218)
GOV	2.9984*	0.3185**	6.0699	-0.2471
	(2.3626)	(0.2722)	(2.1219)	(-0.0908)
FDI$_{it-1}$		0.9317*		0.9572*
		((2.1410)		(2.0039)
GDP$_{it-1}$		0.439**		0.4366**
		(4.8462)		(4.4812)
R^2	0.1441	0.3295	0.1606	0.3472
DW	1.604	2.2863	1.1755	2.3577

Source: Author's computation. *, ** denotes level of significance at 5 and 10% respectively. Values in parenthesis represent the t-statics. The blank cells indicate the absence of initial values of FDI and GDP in the regression equation.

4.2. Non-Linear Growth Equation

For this section, our estimation is based solely on OLS as we neglect Fixed and dynamic-effects. A repeated estimation of equation 3 was done using different values for our sample-split; it was found that the threshold level of governance for the positive relationship in the FDI-growth nexus is about -1.2[8]. Until this threshold is achieved, governance has no role to play in the nexus. When the significance test proposed by Hansen (2000) was carried out, the Likelihood Ratio obtained was 8.3263 which then led us to state that the threshold value of governance is statistically significant at the 5% level in Hansen's Asymptotic Critical Value. This result is presented in Table 5.3.

Table 2: Non-Linear Equation Regression Result

Variable	Coefficients	S.E	T Stat		
fdi*(gov≤-1.2)	6.433174	1.121624	5.735589		
fdi*(gov>-1.2)	-0.15322	0.477989	-0.32055		
Inf	0.018048	0.048276	0.373843	LR Value	8.3263
Goc	0.868842	0.267627	3.246468	R-squared	0.626128
Gov	0.886712	1.375348	0.644718	Sum squared resid	524.3167
Bop	0.207706	0.077401	2.683515		

5. Conclusion

This study examines the trilogy issue of FDI, Governance and Economic Growth in seven ECOWAS Countries from 1996 -2010. Our linear equation result confirms positive impact of FDI and Governance on economic growth process. Thus, it should be emphasized that policy makers should formulate policies that are not limited to attracting FDI but also those that could improve governance in the country. Trade openness and government consumption follow the expected impact and are significant. The TAR result estimated a threshold value for governance to be -1.2, and is statistically significant at 5%.

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[8] The KKM governance indicator index ranged between -2.5 and 2.5

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APPENDIX

Table A1: Variables, Symbols, Sign and Sources of Data Collection

Variable	Symbol	Sign	Source of Data
Foreign Direct Investment	FDI	+	World Development Indicator, 2012
Trade Openness	BOP	+	United Nations Conference on Trade And Development , 2012
Government Consumption	GOC	-	World Development Indicator, 2012
Governance	GOV	+	www.govindicator.org
Inflation	INF	-	World Development Indicator, 2012