ANALYSIS OF THE EFFECT OF FOREIGN DIRECT INVESTMENT ON ECONOMIC GROWTH: THE CASE OF GHANA

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Abstract

This paper analyzes the effect of foreign direct investment in a typical developing economy: Ghana, for the period 1980-2015. The Vector Error Correction Model (VECM) results show that foreign direct investment has a negative and statistically significant effect on economic growth. The results seem to support the argument that foreign direct investment into the industrial sector might not be growth enhancing. In addition the results showed that trade openness had a negative and statistically significant effect on economic growth. Gross Domestic Investment and the human capital proxy were found to have a positive, though, statistically insignificant effect on growth. Gross Fixed Capital formation was also found to have a negative and statistically insignificant effect on economic growth. To investigate the long run equilibrium relationship, Johansen and Juselius co-integration approach is used, while the speed of adjustment in the short run is analyzed through the use of Vector Error Correction Method (VECM) method. In order to check for the direction of causality between the two variables, the Toda Yamamoto Granger causality test is applied. The results indicate that foreign direct investment has a negative effect on economic growth in Ghana in the long run.

Keywords: Economic Growth, Foreign Direct Investment, Ghana
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Introduction

For a country to develop economically, it depends on the return of its investment and its accumulation from both human and physical capital. This capital could be sought either internally or from external sources. When capital within the country is insufficient as in the case of most less or under developed countries, then capital from external sources is sought. The term "foreign capital" refers to any inflow of capital into the home country from abroad. It may be in the form of foreign aids, like loans or grants, and also in the form of foreign private investments from multinational companies and investors.

According to Todaro and Smith (2011), international flow of financial resources can be in the form of private foreign direct portfolio investment or public and private development assistance. Private foreign direct portfolio investments are usually undertaken by large multinational corporations with headquarters in developed nations, private institutions like banks, corporations and private individuals. Public and private assistance comes in the form of foreign aid from individual national governments, multinational donor agencies and private non-governmental organizations (Todaro and Smith; 2011: 17-29)

According to the OECD benchmark definition, "*FDI reflects the objective of establishing a lasting interest (10% or more voting power of an enterprise) by a direct investor resident in another economy*" (OECD, 2008). Foreign Direct Investments can be in the form of an investor buying shares in a foreign company (equity capital), reinvesting its earnings into its subsidiary or mother company and intra-company loan between the mother company and the subsidiary company.

Literature Review

Most growth theories are in support of the fact that FDI contributes to economic growth directly or indirectly, but some empirical evidence indicate that the effect of FDI is controversial. Authors like Balasubramanyam (1996), DeMello (1990), Antwi (2003), Adams (2009), Aggrwawal (2011), and Nkechi (2015), found a positive impact of FDI on economic growth, in the sense that it is an alternative source of

capital, technology and skill gain and enhances socio economic development. Scholars like Borensztein (1998) and Akinlo (2004) on the contrary, argue that FDI retards economic growth as it results in the crowding out of domestic investment and local industries, leads to the exploitation of natural resources and in the end the profits are repatriated back to the home countries of the investors. Other scholars like Karikari (1992), Frimpong (1999), Asiedu (2001), Carkovic (2002) found no significant effect of FDI on economic growth.

Karikari J.A., (1992), examines the causality between foreign investment and economic output in a developing country, Ghana. Using data form 1961 to 1988, the results showed that Foreign Direct investment did not affect economic output, but increases in economic output did cause a slight decrease in the inflow of foreign dorect investment. This sought of situation is eminent if the country undertakes an import substitution strategy. Karikari attributed the insignificant effect of FDI on economic growth to the small size of FDI during the period under consideration. Also, as an economy grows there is an increase tendency towards free trade, which, in turns discourage foreign direct investment because protected markets is a major factor which attracts foreign direct investment in developing countries(Karikari; 1992: 2-4).

Analyzing 46 developing countries over the period 1970 to 1985 using the OLS method Balasubramanyam, Salisu and Sapsford (1996), examined the role FDI plays in the growth process in the context of developing countries characterised by different trade policy regimes. In the paper, countries were categorised based on their trade stategy, that is whether a country follows the export promoting or import substituting strategy. Balasubramanyams' hypothesis links trade strategy to both the magnitude of FDI individual countries are able to attract and its efficacy in promoting growth. The results were based on an equation that explains economic growth using the following variables: gross domestic product, labour, domestic capital stock, stock of foreign capital and exports. The analysis results showed that foreign direct investment had a greater impact on countries that pursue an export promotion policy rather than import substitution (Balasubramanyam et al., 1996: 92-105).

Borensztein et al., (1998), in his paper focuses on the critical role of human capital for 69 developing countries over the last two decades (1970-1989) within a cross-country regression framework. The results were clearly in agreement with the view that foreign direct investment is an important vehicle for the transfer of technology and it contributes relatively more to growth than domestic investment. However, the productivity of foreign direct investment holds only when the host country has a minimum threshold stock of human capital (that is the level of educational attainment, which was used as a proxy for human capital in the study). That is FDI contributes to economic growth only when a sufficient absorptive capacity of the advanced technologies is available in the host economy. There was also an evidence of complementarity between FDI and domestic investment. This is also known as "crowding-in effect". It was concluded that FDI is a vehicle for the adoption of new technologies and therefore, the training required to prepare the labour force to work with the new technologies suggest that there may also be an effect of FDI on human capital accumulation (Borensztein et al., 1998: 115-135).

De Mello (1999), analyzed the impact of FDI on capital accumulation, output and total factor productivity growth in the recipient economy. The research made use of panel and time series data for 32 OECD and non-OECD countries in the period 1970-1990. According to the theory FDI is usually expected to boost long-run growth in the host economy through technology upgrading and knowledge spillovers, but the results of the research somewhat showed that the extent to which FDI is growth enhancing depends on the degree of complementarity and substitution between FDI and domestic investment(Mello, 1997: 115-135).

Asiedu (2001), analyzed the determinants of FDI to developing countries for the period 1988-97 and examined why Sub Saharan Africa (SSA) has been relatively unsuccessful in attracting FDI despite policy reforms. The Ordinay Least Squares (OLS) method was used for all estimations. The results indicate that the factors that drive FDI to developing countries have a different impact on FDI to SSA. The results

indicated that a higher return on investment, infrastructure and trade openness has a positive significant effect on non-SSA countries, but they have no significant impact on SSA countries. Another important finding is that FDI to SSA countries are generally lower. The study came to a conclusion that countries may receive low FDI by virtue of their geographical location (Asiedu, 2002: 107-119).

Akinlo (2004), in his study on Nigeria for the period 1970-2001 reported that both private capital and lagged foreign capital have small and not statistically significant effect on economic growth. The results of the Error Correction Model (ECM) seem to support the argument that extractive FDI especially FDI's to the oil sector might not be growth enhancing as much as manufacturing FDI. Additionally, the results also show that export has a positive and statistically significant effect on growth and finally labour force and human capital have significant positive effect on growth. These findings suggest the need for labour force expansion and education policy to raise the stock of human capital in Nigeria (Akinlo, 2004: 627-639).

Frimpong et al., (2006), studied the casual link between GDP growth and FDI in Ghana for the pre- and post-Structural Adjustment (SAP) periods. The direction of causality between the two variables for the period 1970- 2002 was tested using the more robust Toda Yamamoto Granger causality test. The results of the study found no causality between FDI and growth for the total sample period and the pre-SAP period. FDI however, caused GDP growth during the post SAP period (Frimpong and Abayie, 2006: 2-5).

Djokoto (2011), examines the movements of agricultural growth and FDI to agriculture and determined the causality between the two variables in Ghana for the period 1966 to 2008. Applying the traditional Granger Causality test to the stationary variables at levels neither FDI ratio nor agricultural growth caused each other. The results suggest that the variables in theoretical computable form may not induce each other singularly. Other policy variables may be considered seperately or in conjunction to induce increases in either of them (Djokoto, 2012: 4-7).

Antwi et al., (2013), studied the relationship between FDI and economic growth in Ghana for the period 1980-2010 using annual time series data for the period 1980-2010. The Ordinary Least Squares (OLS) regression method was used for the analysis. The control variables used were Gross Domestic Product (GDP), GDP growth rate, Inflation, External Debt Stock, Gross National Income (GNI), Industry Value Added and Manufacturing Value Added Industry (MVA) value added and FDI net inflows as a percentage of GDP. The included variables were all found to be significant in explaining FDI since the corresponding p-values of their t-statistics were less than 5 percent, thus, we concluded that FDI have an influence in Ghana in the study period (Antwi et al., 2013: 18-25).

Nkechi (2013), examines the impact of FDI on economic growth and the role of human capital in the enhancement of FDI inflows into Ghana using a cointegration and error-correction mechanism. Utilizing the Cobb-Douglas production function, gross domestic product, foreign direct investment, adult literacy (proxy for human capital), domestic investment, Infrastructure development, openness of the economy and rate of inflation were used as control varibles. It was found that in the long run FDI has a positive significant effect on growth and human capital in Ghana. It was recommended that though FDI has a positive significant effect on Ghana, there is the need for government to provide an appropriate policy environment that can enable FDI diversify into other sectors apart from the mining sectors(Nkechi, 2013: 12-20).

Inusah, B. (2013), from his results of the analysis of FDI inflows and economic growth in Ghana advised policy makers not to concentrate on current macroeconomic inflows of FDI, but to consider effects of past FDI inflows on current levels of economic growth. This is because the elasticity of economic growth with respect to FDI had a positive sign and also significant at the 1 percent level. However, the effect of a three year lag of FDI on economic growth had a negative sign and significant at the 5 percent level. The Dynamic Ordinary Least Squares (DOLS) technique was used for the analysis and data for the period 1980 to 2010 was used.

The Engle-Granger two step methodology for error correction was used to test for the speed of adjustment of the variables (Inusah, 2013: 9-11).

Research Methodology

In this section, we aim to determine the effect of FDI flow on the economic growth of Ghana using econometric procedures. In order to do this we establish our model from the Neo-Classical steady state aggregate production function exhibiting constant returns to scale in labour and capital. The production function takes this general form

$$Y = f(K, AL) \tag{1}$$

Where **Y** is the real output level, **K** is the stock of capital and **L** is the stock of labour, **A** is the efficiency of production. From the above equation capital is further divided into domestic capital and foreign capital. Thus, the equation becomes

$$Y = f(AL, Kn, Kf) \tag{2}$$

Here **Kn** represents domestic capital and **Kf** represents foreign capital. If Real gross domestic product is used in place of the real output in the equation above the equation becomes

$$GDP = f(AL, Kn, Kf) \tag{3}$$

Our estimated equation or model is taken from the equation above. As stated before, A is our independent variable for techological development or labour productivity. In this study secondary school enrollment is used as a proxy for human capital, gross capital formation is used as a proxy for domestic capital, foreign direct investment is used for foreign capital and trade opennes as a proxy for A. Thus, using the Neo-Classical fuction our model for this research is shown below

$$GDP = f(GDS, GFCF, FDI, SEC, TRADE) \tag{4}$$

The data used in the analysis was taken from the World Banks' World Development Indicators for the period 1980-2015. Economic growth, as measured by the GDP growth rate is the dependent variable, while Foreign Direct Investment (FDI) inflow, Gross fixed capital formation (GFCF), Secondary School Enrollment (SEC), Gross Domestic Savings (GDS) and Trade Openness are the independent variables.

Trade Openness: Trade Openness is defined as the average of exports and imports as a percentage of GDP. Openness to trade promotes foreign direct investment. One way by which a country can increase its degree of openness is by liberalizing trade. International trade is a channel through which FDI, capital inputs, goods and services flow to host countries or regions. However, the lack of investment in human capital and R&D prevent less developed countries from fully exploiting technology transfers, and hence confines productivity growth.

Gross Fixed Capital Formation (GFCF): Gross fixed capital formation is a proxy for measuring the amount of domestic capital in the economy. Gross fixed capital formation represents capital investments into factories, office buildings, stores and the likes in the home country. GFCF is a component of the expenditure on GDP. It shows how much of the new value added in the economy is invested rather than consumed. The greater the capital investment in an economy the more favourable it is for the economy to grow.

Gross Domestic Savings (GDS): According to economic theory, savings increases propotionally with an increase in income. The impact of economic growth in a particular country can be felt by the increase in the disposable income of the populace. Hence, we can conclude that an increase in economic growth will increase the amount of savings all other things been equal.

Foreign Direct Investment (FDI): FDI inflows are generally defined as the measure of the net inflows of investment needed to acquire a lasting management interest (10 percent or more of voting stock) in an enterprise operating in an economy other than that of the investor. FDI as a percentage of GDP was used in the analysis.

Gross Domestic Product (GDP): Gross domestic product (GDP) is a monetary measure of the market value of all final goods and services produced in a period (quarterly or yearly). The GDP rate of a country is used to measure the attractiveness of the host contry's market. In theory, investments will only go to markets that are large enough to support

economies of scale needed for production. Thus, the higher the GDP growth rate, the greater the posibility of increased inward FDI.

Secondary School Enrollment (SEC): Due to absence of data, secondary school enrollment was used as a proxy for the human stock variable. This measure of educational attainment is the one most significantly correlated with growth. Secondary School Enrollment figures presents the number of children enrolled in a level (primary or secondary), regardless of age, divided by the population of the age group that officially corresponds to the same level.

Empirical Results

In order to do any meaningful policy analysis with the results we have to make sure we are dealing with stationary data. This is because unstationary data can produce a high regression coefficient when there is no meaningful relaioniship between the variables. In order to test for the presence of unit root in our data set the Augmented Dickey-Fuller (ADF) test was applied. As shown below all the variables were found to be nonstationary at level. Thus, the first difference of all the variables are taken to bring them back to stationarity.

Table 1: Augmented Dickey Fuller Test Results

	Level		First Difference	
Variables	**T-statistics**	**Probability**	**T-statistics**	**Probability**
Fdi	-0.575392	(-0.8635)	-4.967389	(-0.0003)
Gdp	-2.824539	(-0.0651)	-6.813705	-0.0003
Gfcf	-1.788801	(-0.3797)	-7.039653	(-0.0003)
Sec	-0.536247	(-0.8720)	-5.776441	(-0.0003)
Trade	-2.26577	(-0.1882)	-7.020923	(-0.0003)
Gds	-2.491552	(-0.1261)	-8.468325	
Critical Value (1%)	-3.6329		-3.639407	
Critical Value (5%)	-2.948404		-2.951125	
Critical Value (10%)	-2.612874		-2.6143	

In the above analysis, the test statistic value (t- statistic) was compared to the critical values at all the significance levels but all the variables were found to be unstable at level. In other words the presence of unit roots was found in all the independent variables (gdp, gcf, trade, fdi and sec). This is because absolute values of the ADF test statistic for all the variables were lesser than the critical values at all the significance. In addition, the probability values (p-values) corresponding to each of the test statistic at level were greater than 5 percent. Thus, the null hypothesis of the presence of unit roots in the data series was accepted and the alternative hypothesis was rejected. Thus, all the variables were first differenced to bring them to stationarity.

Co-integration Test

Having established that the variables are integrated of order one, I (1) we applied the Johansen-Juselius cointegration technique to determine whether there is atleast one linear combination of these variables that is stationary at level I(0). Table 2 provides the results from the application of Johansen cointegration test to the data set.

Table 2. Johansen-Juselius Cointegration Test Results

Sample (adjusted): 1982 - 2015				
Included observations: 34 after adjustments				
Trend assumption: Linear deterministic trend				
Series: GDPPC FDI GDS GFCF SEC TRADE_OPENNESS				
Lags interval (in first differences): 1 to 1				
Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.730237	113.9815	95.75366	0.0016
At most 1	0.601856	69.43434	69.81889	0.0536
At most 2	0.43335	38.1223	47.85613	0.2967
At most 3	0.333363	18.80982	29.79707	0.5066

At most 4	0.110612	5.022479	15.49471	0.8064
At most 5	0.030038	1.036936	3.841466	0.3085
Unrestricted Cointegration Rank Test				
Hypothesized		Max-Eigen	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.730237	44.54717	40.07757	0.0147
At most 1	0.601856	31.31204	33.87687	0.0982
At most 2	0.43335	19.31248	27.58434	0.3908
At most 3	0.333363	13.78734	21.13162	0.3828
At most 4	0.110612	3.985542	14.2646	0.8608
At most 5	0.030038	1.036936	3.841466	0.3085

The results in the table above shows that the null hypothesis of no cointegration can be rejected either using the Eigen value or the trace statistics. This is because the probability value of the null hypothesis of no cointegration is less than 5 percent. Alternatively, we accept the null hypothesis that there is atleast one cointegrating factor between the variables. Thus, we can conclude that there is a long relationship or association between between GDP growth, FDI, GCF, SEC and TRAD

Toda Yamamota Granger Causality Test

After as certaining the existence of a cointegrating relationship, we move ahead to check for the causality between the variables. That is to verify if the selected variables cause or have an effect on the dependent variable as assumed by theory. The empirical results of Granger Causality test based on Toda and Yamamoto (1995) methodology is estimated through MWALD test(Toda and Yamamoto, 1995: 225-250). The most common way to test the casual relationships between two variables is the Granger-Causality test proposed by Granger (Granger, 1969: 2-3). The traditional Granger Causality is easy to carry out, but has some limitations. First, a two-variable Granger-Causality test without considering the effect of other variables is subject to specification bias, that is a causality test is sensitive to model specification and the number

of lags and the results will reveal different results if it was relevant and was not included in the model. Therefore, the empirical evidence of a two-variable Granger Causality is fragile (Gujarati, 1995: 17-21). According to Gujarati (1995), when the variables are integrated, the F-test procedure is not valid, as the test statistics do not have a standard distribution. To avoid these shortfalls we apply the more robust T-Y procedure developed by Toda and Yamamoto (1995) and extended by Rambaldi and Doran (1996) to test for the Granger causality in this study ([1] Rambaldi., A & Doran. 1996: 6-9).

Table 3: VEC Granger Causality/ Blok Exogenity Wald Test Results

VEC Granger Causality/Block Exogeneity Wald Tests			
Sample: 1980 - 2015			
Included observations: 34			
Dependent variable: D(GDPPC)			
Excluded	**Chi-sq**	**df**	**Prob.**
D(FDI)	1.426566	1	0.2323
D(GDS)	0.0000914	1	0.9924
D(GFCF)	0.105706	1	0.7451
D(SEC)	0.331608	1	0.5647
D(TRADE_OPENNESS)	2.126061	1	0.1448
All	**3.850454**	**5**	**0.5711**

From the table above, it can be seen that there was no causal relationship from any of the independent variable to the dependent variable. This conclusion was derived at because the probability value of the F-statistic for was found insignificant. Meaning the null hypothesis of no granger causality was accepted and the alternative hypothesis of the presence of causality was rejected because the probability values of the F-statistics were found to be less than 5 percent.

Vector Error Correction Model

The Error Correction model developed by Engle & Granger is a means of reconciling the short run behavior of an economic variable with its long-run behavior. The coefficients of the Error Correction model reflects the long-run equilibrium effect of FDI, TRADE, SEC and GCF on GDP and the absolute value of the coefficient represents the speed of adjustment back to the long run relationship among variables or decides how quickly the equilibrium is restored.

Table 4. Error Correction Model Results

Dependent Variable: D(GDPPC)				
Sample (adjusted): 1983 2015				
Included observations: 33 after adjustments				
D(GDPPC) = C(1)*(GDPPC(-1) - 1.99667906182*FDI(-1) + 0.54820769188				
*GDS(-1) - 0.90470169686*GFCF(-1) + 130.870949961*SEC(-1) -				
14.7702434226*TRADE_OPENNESS(-1) - 88.6105587217) + C(2)				
*D(GDPPC(-1)) + C(3)*D(GDPPC(-2)) + C(4)*D(FDI(-1)) + C(5)*D(FDI(				
-2)) + C(6)*D(GDS(-1)) + C(7)*D(GDS(-2)) + C(8)*D(GFCF(-1)) + C(9)				
*D(GFCF(-2)) + C(10)*D(SEC(-1)) + C(11)*D(SEC(-2)) + C(12)				
*D(TRADE_OPENNESS(-1)) + C(13)*D(TRADE_OPENNESS(-2)) +				
C(14)				
	Coefficient	Std. Error	t-Statistic	Prob.
Ecm(-1)	-0.523263	0.221982	-2.357231	0.0293
Gdppc(-1)	0.285611	0.203901	1.400737	0.1774
Gdppc(-2)	-0.235192	0.187826	-1.252184	0.2257
Fdi(-1)	-1.331947	0.433047	-3.075758	0.0062
Fdi(-2)	0.143169	0.432808	0.330792	0.7444
Gds(-1)	0.301414	0.160881	1.873523	0.0765
Gds(-2)	0.073346	0.169364	0.433071	0.6698
Gfcf(-1)	-0.137151	0.172687	-0.794218	0.4369
Gfcf(-2)	-0.197754	0.151625	-1.304227	0.2077

Sec(-1)	24.306	39.18239	0.62033	0.5424
Sec(-2)	64.41001	34.45059	1.869634	0.077
Trade_Openess(-1)	-2.48529	5.213399	-0.476712	0.639
Trade_Openness(-2)	-16.87646	5.067909	-3.330063	0.0035
Constant	0.234305	0.607091	0.385947	0.7038
R-squared	0.635999	Mean dependent var		0.347868
Adjusted R-squared	0.386946	S.D. dependent var		3.135551
S.E. of regression	2.455067	Akaike info criterion		4.930601
Sum squared resid	114.5197	Schwarz criterion		5.565483
Log likelihood	-67.35492	Hannan-Quinn criter.		5.14422
F-statistic	2.553667	Durbin-Watson stat		2.282124
Prob(F-statistic)	0.031043			

As theory predicts the Error Correction term is negative and significant. The EC term of 0.523263 shows that a deviation from the long-run growth in the current period is corrected by about 52% in the next year. It can, thus, be concluded that the lag residuals of FDI, GFCF, GDS, SEC and Trade Openness has a long run causality on the dependent variable GDPpc.

The coefficient of Foreign Direct Investment was found to be negative and insignificant. The lagged coeffiecient of FDI though positive was found to be insignificant.

The coefficient of the Gross Domestic Saving variable and Secondary School Education exhibited a statistically insignificant positive sign for both the two lag periods implying a positive relationship between Economic Growth and the GDS and SEC variable in the short-run. The identified positive relationship between GDS and GDP in the short run tends to provide support from economic literature that only faster rate of GDS causes higher growth rates of per capita real GDP. This result, thus, supports the Keynesian view that only income induces savings although the coefficient was insignificant.

The coefficients of Gross Fixed Capital Formation and TRADE on the other hand showed a negative lagged effect in the short run. This implies that GFCF and TRADE have a negative effect on GDPpc in the short run. Whilst the coefficient of TRADE was found to be significant, the coefficient of GFCF was statistically insignificant. From the above model we can conclude that an increase in FDI reduces GDPpc in both the short and long run. However, FDI only has positive impact on growth in Ghana after a considerable lag and it is not significant.

The R-squared of 0.635999 obtained from the short-run model suggests that the entire explanatory variable jointly account for approximately 63 percent of the variations in GDP. The F-statistic of 2.553667 is relatively high with a probability of less than 5 percent (0.031043) and thus provides a good fit for the estimated model.

Residual Statistics

Table 5: Serial Correlation Test and Heteroscedasticity Test Results

Breusch-Godfrey Serial Correlation LM Test:				
F-statistic	1.789513	Prob. F(1,18)		0.1976
Obs*R-squared	2.984102	Prob. Chi-Square(1)		0.0841
Heteroskedasticity Test: Breusch-Pagan-Godfrey				
F-statistic	1.098469	Prob. F(18,14)		0.4357
Obs*R-squared	19.32021	Prob. Chi-Square(18)		0.3724
Scaled explained SS	6.075983	Prob. Chi-Square(18)		0.9959

Table 6: Normality Test

Mean	1.80E-15	Jarque-Bera	0.271534
Median	-0.024008	Probability	0.873046
Maximum	4.950463		
Minimum	-3.438488		
Standard Deviation	1.891756		
Skewness	0.216188		
Kurtosis	2.897385		

The VECM residual tests for normality, serial correlation and heteroscedasticity was conducted. In all the three residual tests performed the probability values were greater than 5% meaning we can accept the null hypothesis of no serial correlation, no heteroscedasticity and normally distributed data set. Thus, we can conclude that the data set are homoscedastic, normally distributed and not serially correlated. Based on this we can say that the model is good for analysis and policy interpretation.

Conclusions and Suggestions

The traditional view of macroeconomic theory is that higher FDI leads to higher economic growth. However, the empirical result of this study does not provide clear evidence to support this conventional view. In other words, the findings of the study do not support the null hypothesis that FDI promotes economic growth in Ghana. The result of this research work is in agreement with Borensztein (1998), Frimpong (2001) and Akinlo (2004), who argue that FDI retards economic growth through crowding out domestic investment and infant/local industries, exploit local resources and in the end the profits aare repatriated back to the home countries.

The coefficient of the effect of FDI in the short run though significant showed a negative sign meaning there exists a negative relationship between FDI and GDPpc in the short run. However, the lagged FDI had a positive sign suggesting that FDI has a positive effect

on growth in the short run though the coefficient was not significant. We can thus, conclude that FDI to the industrial sector (building/construction subsector) might not be growth inducing as much as to the other sectors. The results is not surprising because the industrial sector which receives the largest share of FDI is owned by foreign companies which repatriate back their profits to their home country.

The policy implications of this results are that growth will be enhanced if FDI inflows are channeled into sectors other than the industrial sector. There is the need for policy efforts to diversify Ghana's FDI into the manufacturing sectors from the highly concentrated mining sectors. Development of the Ghanaian financial market will also provide much needed capital and increase competition in the banking sector by ensuring a better access to credit at a lower cost. Efforts should, however, be made to ensure that the positive spillovers associated with FDI will offset the short term costs associated with the implementation of the incentives. The government should impose the relevant policies like joint venture in order to give opportunities to the domestic producers to become part and enjoy the profit together with foreign direct investors. This will benefit the local partners as they will be exposed to higher technology.

The results also suggest the need to increase Gross Domestic Savings and improve human capital because their coefficients though insignificant showed a positive relationship with economic growth.

Gross Fixed Capital Formation was found to have a negative effect on GDPpc, but not significant. The insignificance of GFCF can be due to the small nature of domestic investment in the Ghanaian economy. Most of the lucrative sectors are controlled by the government and big multinational companies thus, resulting in the gradual crowding out of local investors.

The coefficient of Trade Openness though negative was found to be significant in the short run. This result is in agreement with the endogenous growth models, which postulate that the contribution of trade to economic growth varies depending on whether the force of comparative advantage supports the economy's resources towards

activities that generate long-run growth or not. The theory suggests that due to technological or financial constraints, less-developed countries may lack the social capability required to adopt technologies developed in more advanced economies. Thus, the growth effect of trade may differ according to the level of economic development. Opening up to trade might reduce long-run growth if an economy specializes in sectors with dynamic comparative disadvantage. There is a need for improvement in the area of export in Ghana where a bulk of export earnings is from primary commodities, which are prone to weaker price fluctuations on the international market.

In summary, policies that facilitate liberalization of the industrial sector and other subsectors, encourage domestic savings and improve human capital will lead to higher economic growth in Ghana.

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