

THE EFFECT OF FOREIGN DIRECT INVESTMENT ON GROWTH IN SUB-SAHARAN AFRICA

Objectives of the Study

The general objective is to investigate the impact of foreign direct investment on the economic growth of Sub-Sahara African countries from 1980 to 2017.

Specific Objectives

To examine the influence of FDI on economic growth in Sub-Sahara African countries.

To investigate the impact of human capital development on economic growth in Sub-Sahara African.

To study the impact of interaction of institutions on economic growth in Sub-Sahara African.

1.5 Research Questions

1. What is the impact of FDI on economic growth in Sub-Sahara African countries?

To what extent has human capital development influence economic growth in Sub-Sahara Africa countries?

Does impact of interaction of institutions cause economic growth in Sub-Sahara African countries?

1.7 Scope of the Study

The scope of this study is limited to examine the impact of foreign direct investment on economic growth in Sub-Sahara Africa. More specifically, this

study covers the entire 48 countries in Sub-Sahara African countries using a panel spanning from 1980 to 2016 due to the availability of the data.

It is also believed that data will be very much accurate by providing sufficient and reliable information that can be useful when taking decisions by both local and foreign investors in SSA and other developing countries.

3.3 The Model and Econometric Framework

The Model

Several previous papers have employed cross-country regression analysis in empirical studies of growth. Nevertheless, cross-country growth regressions depend on unrealistic assumptions about both the country specific effects and the endogeneity of the explanatory variables. The problems presented by these assumptions, in addition to the issues of measurement errors in the right-hand side variables, give rise to inconsistent and biased parameter estimates when the model is estimated using OLS. As a result, recent studies have relied on dynamic panel growth methods to estimate growth regressions, and these have proven to be more efficient. This study estimates dynamic growth model to investigate the channels through which FDI may contribute to economic growth in SSA by estimating the model:

Following the model of Musibau, Suraya and Agboola (2017) on the impact of foreign capital inflow on economic growth in ECOWAS member countries with little modification. The model for this study is specified as thus:

$$GDP_{it} = \beta_0 + \beta_1 FDI_{it} + \beta_2 HCD_{it} + \beta_3 NetExport_{it} + \beta_4 INSTITUTION_{it} + \beta_5 INRT_{it} + \mu_i \quad (1)$$

Where *gpc* is real GDP per capita,

FDI is foreign direct investment flow as a percentage of GDP.

Net Export proxy by sum of export minus import

INSTITUTION is proxy by control of corruption

INRT is represented by real interest rate

I unit root problem. To avoid spurious results in the time series analysis, in the first stage, the LLC unit root test is conducted to examine the stationarity for each data set in the study. A brief description of the error correction model used to unify the long and short run estimate is also examined.

Table 4.3:
The Penal Unit root result

	LEVEL	First Difference			Decision
Variables	Constant +Trend LLC	Constant +Trend Imp	Constant +Trend LLC	Constant +Trend Imp	Stationary at Order One.
InGDPit	33.1904 (1.0000)	33.7367 (1.0000)	-15.1134 (0.0000)	-16.2138 (0.0000)	I(1)
InFDIit	-8.79839 (0.4281)	-11.3627 (0.7339)	-49.1179 (0.0000)	-46.6237 (0.0000)	I(1)
InHCDit	5.01491 (1.0000)	5.97452 (1.0000)	-5.90726 (0.0000)	-3.13724 (0.0009)	I(1)
InNEXPORTit	6.81735 (1.0000)	8.88393 (1.0000)	-26.9764 (0.0000)	-25.3621 (0.0000)	I(1)
InCOCit	-2.20406 (0.8849)	1.19972 (0.1380)	-2.20406 (0.0000)	-7.51046 (0.0000)	I(1)
InINTRTit	5.0791 (0.5179)	-5.3827 (0.1002)	-38.1319 (0.0000)	-34.5639 (0.0000)	I(1)

Note: The number in () denotes probability value. The lag length is chosen based on the Akaike's Information Criteria (AIC) where the maximum lag order was specified (k) in autoregression and then the appropriate lag order was selected according to the AIC. All the reported values for the LLC *t*-stat are distributed $N(0,1)$ under null of unit root or no cointegration. N.B: * Indicates significant at the 5% level.

The results from Table 4.3 present the unit root test of the dependent and independent variables vis GDP, FDI, HCD, NEXPORT, Control of corruption COC and Interest rate INTRT. Our empirical results find that variables are integrated of order one, I(1) at 5 percent level of significance. Thus, the economic growth indicator GDP follows an integrating I(1) process so that the foreign direct investment, human capital development, net export, control of corruption and interest rate are all I(1) variables since they found stationary at first difference. So, all the variables can be carried forward for cointegration test. We have the validity to proceed further for long-run relationship test because the variables of this research are suspected to be long-run variables. To estimate a long-run association running from these, independent variables to the dependent variable, we, therefore, proceed to Johansen cointegration test. As we observed from Table 4.3 below.

4.4 Cointegration Analysis Result and Interpretation

In determining the number of cointegrating vectors, trace test and maximum eigenvalue test using the more recent critical values of Mackinnon-Haug-Michelis (1999) was applied. The assumption of no deterministic trend and restricted constant was for all the variables. The choice was tested using Akaike Information Criterion (AIC) and Schwartz Information Criterion (SIC). The results below show the cointegrating relationship among variables used.

Table 4.4

Johansen cointegration test's Result (Pedroni Result)

S/No	Test	Statistic	Prob
1	Panel v-Statistic	-0.610904	0.0037
2	Panel rho-Statistic	-1.302613	0.0964
3	Panel PP-Statistic	-1.878597	0.0301
4	Panel ADF-Statistic	-2.000235	0.0227
5	Group rho-Statistic	-1.238286	0.1078
6	Group PP-Statistic	-2.842358	0.0022
7	Group ADF-Statistic	-4.426511	0.0000

Source: Author.

The result of from the Pedroni test in Table 4.4 above, at 5% level of significant all the variables under the Panel v-Statistic and the Panel ADF-Statistic shows a long run relationship meaning that null hypothesis was accepted at that 5% level. Meanwhile, under Panel rho-Statistic and Panel PP-Statistic null hypothesis is rejected and we accept the alternative hypothesis because the significant level is less than 5%. The Granger causality results at lag 2 for short-run causality (presented in table 4.6) show the impact of the individual variable of foreign capital on growth. To see which of the variable cause growth in the selected West African countries via Wald Test.

Table 4.5

Granger Causality Test

Null Hypothesis:	Obs	F-Statistic	Prob.
FDI1 does not Granger Cause GDP	1204	0.20027	0.9908
GDP does not Granger Cause FDI1		0.26238	0.9777
HCD1 does not Granger Cause GDP	32	0.61617	0.7517
GDP does not Granger Cause HCD1		0.32211	0.9449
NEXPRT does not Granger Cause GDP	1152	17.9974	2.E-25
GDP does not Granger Cause NEXPRT		80.4002	3E-105
COC does not Granger Cause GDP	141	0.47761	0.8701
GDP does not Granger Cause COC		0.24418	0.9815
INTRT does not Granger Cause GDP	602	2.83477	0.0043
GDP does not Granger Cause INTRT		3.89453	0.0002

The study examines the role of control of corruption on FDI and growth in SSA through interaction term. We checked empirical impact of control of corruption on FDI and its influence on economic growth in SSA. Table 4.7 Shows that control of corruption is positive and statistically significant in SSA as its coefficient explained growth by 10 percent. Meaning that control of corruption will be a blessing for foreign direct investment in SSA since the money diverted for personal gain can be used in providing infrastructure that will reduce the transactional cost of both local and foreign investors in the region thus increase their production and in the long run sustainable growth will be achieved.

4.8 Conclusion

The analysis results established positive and significant influence of FDI, HCD, net export and corruption in SSA's economy also concludes that corruption is positive and significant in explaining economic growth in SSA owing the fact that corruption has been a tradition no transaction can be done freely without been extorted by public officer in Sub-Sahara countries. This finding lends support to the ones reported by previous studies (see Orji et al., 2014; Sbia, Shahbaz & Hamdi, 2014; Musibau, Hussin and Suraya, 2017).

CHAPTER FIVE DISCUSSION, RECOMMENDATIONS AND CONCLUSION

5.0 Introduction

The conclusion of this research will be delivered in this chapter. And this will be presented in difference sections. First, the research objective will be discussed. Second, will present the contribution of the research discussion. Third, the discussion of policy implications inferred from the research. Fourth, will present a summary of the research methodology employed. Fifth, discussion on the possible limitations of the research. Lastly, in line with the limitations of the research, potential ways for future research will be identified.

5.1 Brief Discussion of Research Objectives

The research objectives for the study are in 3 main components. Firstly, was to examine the influence of FDI on economic growth in Sub-Sahara African countries. The first objective extended by examining the possible impact in SSA which is derived by FDI. Secondly, it investigated the impact of human capital development on economic growth in Sub-Sahara African. The second objective also includes the investigation as to what extent has human capital development influence economic growth in Sub-Sahara Africa countries. Thirdly, it investigated the impact of interaction of institutions on economic growth in Sub-Sahara African. The third objective further extended by examining the role of control of corruption.

5.2 Research Contributions

This paper contributes to the empirical literature on FDI and growth by focusing solely on Sub-Saharan Africa. The study employs a larger dataset than other FDI studies on the region, by covering the whole countries in the sub Sub-Saharan Africa

which comprises of forty-eight countries over the period of 1980-2016. The growth rate of real GDP is the dependent variable in all regressions, while gross inward FDI flows as a percentage of GDP.

Additionally, the study used GMM techniques since our cross section (N) is greater than Time (T). GMM techniques enabled us to control endogeneity problem and problem more robust result than other studies so far. The study found that increased FDI inflows are generally associated with higher growth in Sub-Saharan African countries. This finding would be further strengthened by readily-accessible data on institutional variables, which might have helped to account for the extraordinary situations in the countries with extreme values of growth and FDI.

Nevertheless, my results are of economic significance, as they show that a percentage point increase in FDI as a share of GDP is associated with a subsequent increase in annual GDP growth. This positive correlation is consistent with the findings of other studies on FDI and growth, such as Orji et al (2014), Brambila-Macias and Massa (2010), and Musibau, Hussin and Suraya (2017).

The primary implication of findings is that African leaders are justified in enacting initiatives to attract FDI to their economies, as FDI has had a positive, economically significant impact on growth thus far. If the past is a reasonable predictor of the future, it is conceivable that FDI will enhance economic growth in Africa in the years to come.

In addition, the coefficient of FDI remains higher than the coefficient of government expenditure in all the regressions and suggests that FDI is a better policy alternative to the governments' own spending. As they aim to meet the Millennium Development Goals and pull their populations out of poverty, African countries need to be able to attract the kind of FDI that augments economic growth. Research that estimates FDI's effectiveness by sector will equip governments with the information necessary to establish policies that channel FDI to the appropriate sectors of their economies. As the World Bank and United Nations work together with agencies in developing countries to improve their statistical capacity (World Bank 2012b, United Nations 2012), I am hopeful that disaggregated FDI data that will permit such research will be available in future.

5.3 Policy Implications and recommendations

The findings of this research reveal important factors that robustly influence economic development in Sub-Saharan Africa. Having used four broad pillars (economic structure, governance, infrastructure, and human capital) to support the different theories also to capture some of the variables used in the empirical analyses, it is important to conclude that these factors can effectively stimulate development. However, economic structure has been very robust in determining FDI, firm performance, and economic growth in SSA. This is an important factor as it is very vital for the Lewis turning point and progression along the investment development path. Therefore, based on the findings and contributions of the study, a number of policy implications have been derived. Due to the nature of the research, some of the policy implications can overlap.

First, trade liberalization and the campaign against corruption and bad governance in SSA have improved the business environment domestically and is a huge incentive for FDI. It is important that these are continually monitored and improved.

measures used to gauge performance shows a single measure might not be overly representative.

5.5 Conclusion

Foreign direct investment (FDI) has been viewed as a key driver underlying the strong growth performance experienced by the Sub-Sahara economies. The central role of both Foreign Direct Investment (FDI) and Human Capital Development (HCD) as important driving force in the process of economic growth has long been established in the theoretical literature of growth. Following these theoretical postulations, a large body of empirical literature have significantly emerged to support the theoretical argument presented by the neoclassical growth theory particularly in developed economies. Unlike previous empirical studies on the relationship between FDI inflows, HCD and economic growth that applied cross country or panel data analysis, this study will employ the time series method of data analysis on individual country. Using annual time series data for the period 1980–2016, this paper examines the effects of FDI, Human capital development on economic growth in Sub-Sahara Africa.

Consistent with the prediction of the market size hypothesis, real GDP is found to have a significant positive impact on FDI inflows. There is evidence that growth rate of GDP exerts a small positive impact on inward FDI. From a policy point of view, the results suggest that increases in the level of financial development, infrastructure development, and trade openness promote FDI. On the other hand, higher statutory corporate tax rate and appreciation of the real exchange rate appear to discourage FDI inflows. Interestingly, the results also seem to suggest that higher macroeconomic uncertainty induces more FDI inflows. Human capital development is also positive and significant in SSA so we recommend a policy that will create human capital in Sub-Sahara Africa region. More anti-corruption practices are recommended as corruption is positive and significant in SSA. We are found control of corruption as a significant variable through interaction. This indicates that control of corruption is imperative to improve productivity in SSA.

5.6 Further Research

Based on the limitations of this study, a number of possible avenues for future research have been identified. First, future research foreign investments in SSA should be investigated using firm level data. This will help compliment what is already known of the determinants of country level FDI in SSA. Second, considering that the analyses for firm performance used a single time period, it will be important for other studies to replicate this based on a panel data. Such studies would help control for country, industry, year, and dynamic effects. Third, this study used profit per worker to capture firm performance, thus future research can explore other measures of firm performance.

Fourth, the study on firm performance was based just on manufacturing industries. It would therefore be interesting to investigate firm performance in other industries. Fifth, with regards to some of the important variables of the determinants of FDI, firm performance and economic growth that this study did not use, future research can employ such variables. Sixth, investigating the determinants of sectoral FDI or the impact of sectoral FDI on economic growth is another interesting avenue for further research.