

Impact of Foreign Capital Inflow to the growth of the economies of Sub-Saharan Africa

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Abstract

This study provided an empirical analysis on the impact of foreign capital inflow to the growth of sub-saharan African countries for the period 2010-2015 using difference GMM. It was found that Foreign capital inflow adversely affects the growth of the sub-saharan Africa economies. The implication is that sub-Saharan African countries are not adequately accessing the foreign capital which mostly come in form of FDI resulting from insecurity as well as non-conducive business climate prevailing in the region, as a result of which the foreign capital inflow negatively affects their level of economic development instead of enhancing it.

Keyword: Economic growth, GMM, FDI

1. INTRODUCTION

After an celebrated boom in capital flows to developing countries between 1990 and 1997, global recession which resulted from a series of international financial crises that loomed the international communities in the late 2000 culminated to a decline in capital flows across countries particularly those flowing from developed to developing countries and eventually, increased doubts about the benefits of such flows. The fiscal predicament experienced by the developed countries led to the sharp decline in the financial assistance issued by the developed countries to the under developed ones which greatly stimulates their growth and development there by leading to a serious implication for the economic growth recorded in these part of the world. Stressing this new skepticism were studies which inferred that only a weak relationship existed between capital flow liberalization and long-run growth. The concerns tempered the enthusiasm for capital inflows and have led to a reassessment of the policy approaches to attracting and managing them.

2. LITERATURE REVIEW

Greater importance is attached to the role of foreign capital flows particularly in developing countries in relations to achieving higher economic growth. Though recently literature expresses

concern about the detrimental effect of capital flows on the developing countries that are mostly seen as recipient countries. For instance some scholars are of the view that FDI which is seen as one of the pivotal of capital inflow displaces domestic savings (see Reinhart & Talvi; 1998; Cohen, 1993).

Another area which received greater focus in the literature recently is the impact of domestic savings on growth. Theoretically, relationship between savings and growth can run in bi-direction. For instance the life-cycle hypothesis predicted that causal direction runs from savings to economic growth. On the contrary, the permanent income hypothesis predicted reverse causality between saving and economic growth. The hypothesis predicted that there exist a negative correlation between income growth and savings rate. In a rational situation individual who anticipates a decline in future income will eventually increase savings. (see Campbell, 1987; Attanasio, Picci, and Scorn, 2000). Carroll and Weil (1994) examined the dynamic relationship between savings and growth rates using 64 countries for the period 1958 to 1987. They demonstrated that growth Granger causes savings but not the other way round. On the contrary, Levine and Renelt (1992) and Mankiw, Romer, and Weil (1992), shown that savings drive growth through the savings–investment link. Attanasio et al. (2000) established that there exist a connection between savings and growth in relation to a large panel data. It was found that growth Granger causes savings. However, Rodrik (2000) posited that growth tends to lead savings, not the other way round. He contended that countries undergoing growth transitions, due to improved terms of trade or increase domestic investment, usually recorded permanently higher savings rates.

Baharumshah, & Thanoon, (2006). Using dynamic panel data analysis found; first, that domestic savings positively contributed to long-term economic growth. Second, it was confirmed that FDI is growth enhancing and that its impact is felt both in the short and long run. Moreover, FDI tends to influence growth more than domestic savings. Third, short-term capital inflow has a negative effect both in the long-term as well as short-term growth prospects and it appears to be sensitive to long-term capital inflows. Fourth, long-term debt tends to have positive effect on growth though, its effect does somewhat disappear in the long-term. Conclusively, the observed positive contribution of FDI in the growth process of East Asian Economies is a robust finding. The evidence suggested that countries that are successful in attracting FDI can finance more investments and grow faster than those that deter FDI.

However, the neoclassical theory of economic growth suggests that FDI is likely to be an engine of growth, considering the fact that it may enhance capital formation and employment augmentation, it may promote manufacturing exports, it may bring special resources such as capital, managerial skills, knowledge flows and results in technology and spill over effects among others (Grossman&Helpman, 1991).

A handful of literature existed on dynamic panel analysis concerning the role of capital inflow in the growth of Sub-Saharan African countries. This study intends to bridge such gap within the concept of dynamic framework.

3. MATERIALS AND METHOD

This research paper aimed at examining the effect of foreign capital flows to the growth of Sub-Saharan African Countries using difference generalise method of moments. Adopting the exogenous growth model of (Mankiw et al., 1992; Barro, 1991; Islam, 1995 ;). The model for the study is presented thus:

$$Y_{it} = \alpha + \beta X_{it-1} + \delta X1_{it} + \delta X2_{it} + \delta Xn_{it} + n_i + n_t + \varepsilon_{it} \quad \text{Eq 1}$$

$$Y_{it} = \alpha + \beta Y_{it-1} + \delta GDS_{it} + \delta GDPC_{it} + \delta FDI_{it} + \delta Xn_{it} + n_i + n_t + \varepsilon_{it} \quad \text{Eq 2}$$

Subscript *i* and *t* represent the country and time index, respectively, *y* represents real GDP per capita which is the common proxy for growth in most of the contemporary literature. GDS represent growth domestic savings, GDPC represents growth domestic product per-capita, FDI stands for foreign direct investment, *X* represents vector of other control variables hypothesized to affect growth, while η_t and n_i represents time-invariant unobserved and country-specific effect terms. ε represents the usual error term. The main control variables to be considered for this study comprise the log of dependent variable (initial income), population growth, the investment ratio, trade, and a log of life expectancy. Eq. (2) forms the basis for our estimation. As in Baharusha and Thanoon, (2006). The methodology adopted for the study as earlier mentioned is difference general method of moments (D-GMM) as proposed by Arellano and Bond (1991), Arellano and Bover (1995), Blundell and Bond (1998), and Holtz-Eakin et al. (1988). Various reputable literature apply this method in regression concerning growth (see, for instance, Caselli et al. (1996); Siddiqui and Ahmed (2013) and more recently Idris and Zaleha, (2015). Eq. (2) is expressed as a dynamic panel regression and then subsequently takes the first difference to eliminate country-specific effects.

The repressors in the first-difference equation are instrumented using the right-hand-side series lagged one period, under the assumption that time-varying disturbances in the original equations are not serially correlated. This strategy is known as a difference GMM developed more specifically by Arellano and Bond (1991). Some of the advantages of using difference generalised method of moments estimator include; controlling for country-specific effects, dealing with simultaneity biases, which are obvious problems in growth regressions.

4. RESULT AND DISCUSSION

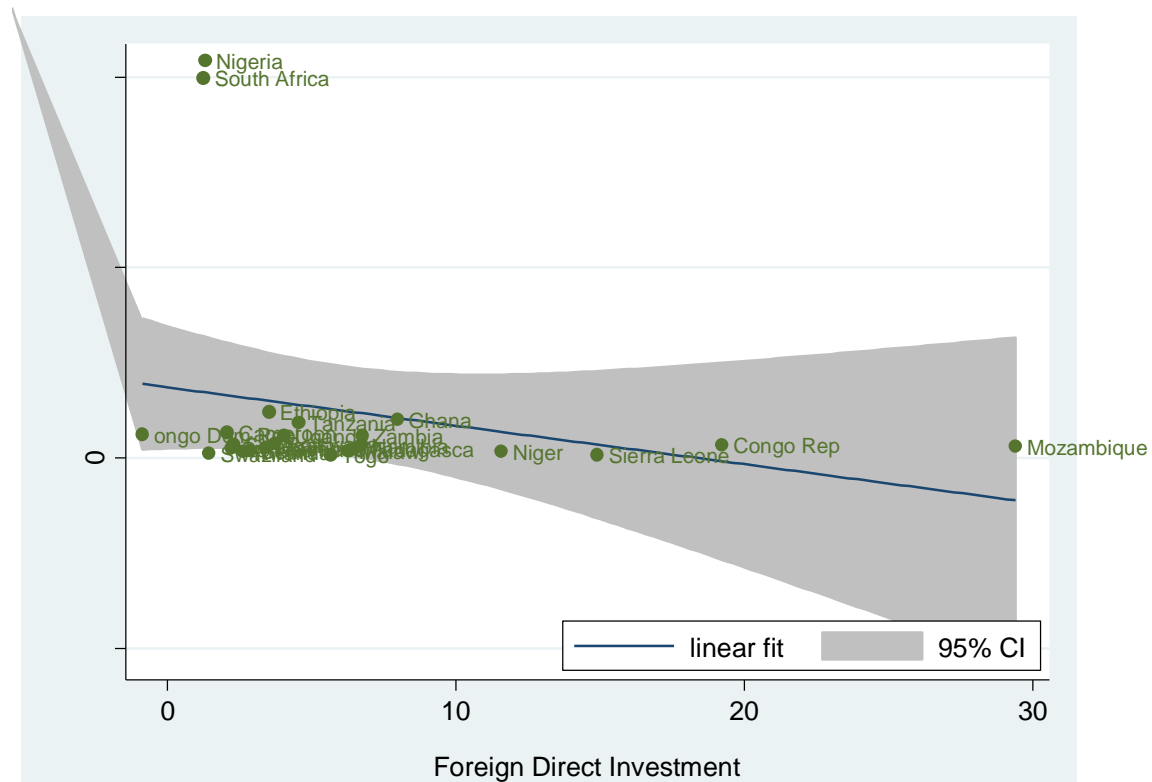


Figure 1 Scattered Plot showing correlation between Economic growth proxied by the real GDP and foreign capital inflow proxied by FDI.
Source: Authors computation based on data from World Development Indicators (WDI).

Depiction by Figure1 indicated that there exists a negative relationship between foreign capital inflow and the growth of sub-Saharan countries. This signifies that as more capital flows into the economies of sub-Saharan African countries those countries become redundant and consequently experience a decline in the rate of their economic growth. This proposition is contrary to the empirical studies based on East Asian countries(see Baharumsha and Thanoon, 2006).

Table 1: GMM estimation on the effect of foreign capital inflow on the growth of sub-Saharan African countries

Variables	Coefficient and probability Values
Real GDP _{it-1}	0.000 ^{***} (0.485)
Foreign Direct Investment	0.449 (0.005)
GDP Per-capita	0.000 ^{***} (0.956)
Gross Domestic Savings	0.008 ^{***} (-0.009)
Population Growth	0.086 [*] (0.039)
Trade	0.665

	(0.001)
No of Groups	24
No of Instruments	20
Sample Periods	2010-2015
Sargan Test (P-value)	0.080
AR ₁	0.004
AR ₂	0.156

Note

- 1. All regressions are estimated using difference GMM estimator (Arellano and Bond1991)**
- 2. The figures in parentheses represents the standard errors**
- 3. ***, ** and * indicate statistical significance at 1%, 5% and 10% respectively.**

The difference generalised method of moment result, indicated that the lagged dependent variable is dynamic, signifying that the model is dynamic in nature, thus dynamic panel estimator such as difference generalised method of moment could be used in analysing the issue. Foreign direct investment is positively related to economic growth in sub-Saharan African countries though it is statistically insignificant. This by implication signifies that the capital inflow into the sub-Saharan African countries does not in a way stimulate economic growth of those countries. The GDP per-capita is positively related to the growth of sub-Saharan African countries and is statistically significant at 1% level of significance. This mean increase in income stimulates the growth of the countries. Growth domestic savings is positively related to growth in the countries slated for the study and it exhibited significance at 1%. This implies that the savings in these countries stimulates their growth over the period 2010-2015. Population growth exerted a positive influence on economic growth of sub-Saharan African countries and is statistically significant at 10%. This indicated that their population advantage leads to market expansion assisted greatly in enhancing their growth. Trade is positively related to growth, though it is statistically insignificant. The diagnostic test indicated that the Sargan test of over identifying restriction was rejected at 0.080. Similarly, the null of absence of first order serial correlation (AR₁) was failed to be rejected at 0.004 while the null of the second order serial correlation (AR₂) was rejected at 0.156. The passing of diagnostic test indicated that the model is correctly specified and that the instruments are valid.

5. CONCLUSION AND POLICY RECOMMENDATIONS

The present study empirically analysed the impact of foreign capital inflow to the growth of sub-Saharan African countries for 2010-2015 based on data from 24 countries. The result revealed that foreign capital inflow negatively affects economic growth of the countries slated for the study instead of stimulating the economic growth as prophecies by the theory and found by previous study for instance (Baharumsha and Thanon 2006). The implication is that sub-Saharan African countries are not adequately accessing the foreign capital which mostly come in form of FDI resulting from insecurity as well as non-conducive business climate prevailing in the region, as a result of which the foreign capital inflow negatively affects their level of economic development instead of enhancing.

Therefore, governments of sub-Saharan African countries should strive towards providing enabling business environment by providing adequate security to lives and properties as well as provides the necessary incentives in form of tax holiday to the technologically advanced countries who are mostly the custodians of FDI.

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Appendix 1

LIST OF SUB-SAHARAN AFRICAN COUNTRIES

Benin	Botswana	Burkina Faso	Cameroon
Congo (Brazzaville)	Congo (DRC-Kinshasa)	Ethiopia	Ghana
Guinea	Ivory Coast	Kenya	Lesotho
Madagascar	Malawi	Mauritius	Mozambique
Namibia	Niger	Nigeria	Rwanda
Senegal	Sierra Leone	South Africa	Swaziland
Tanzania	Togo	Uganda	Zambia

APENDIX 2

xtabondlrgdp, noconsendo(lfdilgdpcldslpopltrd, lag(0,1))maxldep(1)

Arellano-Bond dynamic panel-data estimation Number of obs = 90
Group variable: code Number of groups = 24
Time variable: year
Obs per group: min = 2
avg = 3.913043
max = 4

Number of instruments = 20 Wald chi2(6) = 4401.99

Prob> chi2 = 0.0000

One-step results

lrgdp	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
lrgdp						
L1.	.4853873	.0296231	16.39	0.000	.4273271	.5434474
lfdi	.0047677	.0063035	0.76	0.449	-.007587	.0171224
lgdpc	.9558775	.0577734	16.55	0.000	.8426437	1.069111
lgds	-.0088588	.0033247	-2.66	0.008	-.0153751	-.0023425
lpop	.0385261	.0224376	1.72	0.086	-.0054508	.082503
ltrd	.0012712	.0029321	0.43	0.665	-.0044756	.0070181

Instruments for differenced equation

GMM-type: L(2/2).lrgdp L(2/2).lfdi L(2/2).lgdpc L(2/2).lgds L(2/2).lpop L(2/2).ltrd

. estatsargan

Sargan test of overidentifying restrictions

H0: overidentifying restrictions are valid

chi2(18) = 26.9901

Prob>chi2 = 0.0792

. estatabond

Arellano-Bond test for zero autocorrelation in first-differenced errors

Order	zProb> z
1	2.8469 0.0044
2	1.42 0.1556

H0: no autocorrelation