



FOREIGN DIRECT INVESTMENT: IS NATURAL RESOURCES THE REJOIN? EVIDENCE FROM GHANA, NIGERIA, AND TOGO: FIXED EFFECT APPROACH



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ABSTRACT

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Several scholarships have endeavored to guesstimate the sway of natural resources on foreign direct investment inflows around the globe, but very few have engrossed on relative studies on Ghana, Nigeria, and Togo. The current paper departed from prior lessons and employed a thoughtful charter that clearly investigate the question of whether natural resource endowments is a more relevant factor to explain FDI's attraction to the countries under study. Two models fixed and random effects were established using pooled ordinary least squares (POLS) model, to estimate the coefficients. We applied a panel and time series data from 1982-2017. Preliminary results were obtained using both the random effect and fixed effect model. After conducting several tests such as Hausman Test and Breusch and Pagan Lagrangian Multiplier Test, the fixed effects model was considered the most appropriate model for the study. The results of the study yielded by both techniques registered natural resources to be significant as a propelled feature for FDI inflows. Additional issues such as GDP per capita, trade openness, political stability, and economic liberalization were also found to be significant in FDI determination.

Contribution/ Originality: The study contributed to the existing literature by revealing the inevitable impact of natural resources and liberalization on FDI inflows through the application of Fixed Effect model.

1. INTRODUCTION

Foreign direct investment (FDI) has become one of the key sources of capital infusion into the third world countries. Economic concept guessed that international capital inflows, among others, *endorse* the effective distribution of resources, which in turn boosted economic growth (Insah, 2013). According to Insah (2013) FDI may be viewed as a reagent for technological transfer from the developed to developing countries.

Mello (1997) added that inward FDI entuse local investment by swelling domestic investment through associations' with the production chain when foreign firms bought locally, made inputs or when foreign firms supplied intermediate inputs to local firms. In this sphere, the foreign capital inflow enlarge the supply of funds for investment. Apart from being a source of development finance and a channel for technology transfer, FDI has a number of proven attributes. It advances managerial knowledge and skills, and efficacy in productivity. It also

provides a wide range of goods and services to the economy. In addition to those benefits, there are employment and income generating effects of the investment and immediate or long-term balance of payment implications (Enu *et al.*, 2013). The above uniqueness climaxes the need to validate for the current macroeconomic and institutional features of African states when framing precise national and regional policies that are embattled at swelling foreign investment flows to the region. Unfortunately, studies on natural resources and FDI in Africa especially Ghana, Nigeria, and Togo remained very limited and are yet to account fully for those structural features that were strange to countries in the region. The degree of this trial was inveterately by Asiedu (2006) who maintained that though several investor surveys have suggested that macroeconomic instability, investment restrictions, corruption, and political instability have had a negative impact on FDI to Africa; few empirical studies have been done on the relationship between FDI and these country characteristics. Several scholars' have recently apportioned with FDI flows in Ghana, Nigeria, and Togo. For example, Asiedu (2006); Djokoto and Dzeha (2012); Onu (2012) and Morisset (2000) used multiple regression analysis to regulate factors that have prejudiced FDI inflows in these countries. However, most of these studies were concerned with strategic FDI policy to attract FDI flows. To close this gap in the existing literature, the current study tends to examine whether natural resources is the main driving force of attracting FDI inflows into Ghana, Nigeria, and Togo using data from 1982 – 2017. The study further resolute whether economic liberalization has had an impact on FDI inflows. The choice of these countries is driven by the fact that they represent different levels of development and resource dependences. For example, while Togo is a relatively diversified economy, Nigeria and Ghana are much more resource dependents (Asiedu, 2006). In the review of country studies, it has been found that these countries differed significantly in the number of social, economic, and political aspects suggesting that country-specific mix of factors may have been as important as or even more important than common factors that affected SSA economies.

The current paper departed from prior lessons and employed a thoughtful charter that clearly investigate the question of whether natural resource endowments is a more relevant factor to explain FDI's attraction to the countries under study. Examining the economic performance of the resource-rich countries, Sachs and Warner (1997) found that the natural resource-rich countries failed to grow faster than the resource-scarce countries. The spectacle is often referred to as the "resource curse". There is a hypothesis that countries that have been endowed with natural resources enriched the flow of FDI (Asiedu, 2006). This study contributed to the literature, both by extending the analysis of the relationship between FDI flows into the natural resources sector and the liberalization policies in Ghana, Nigeria, and Togo. Specifically, the study sought to determine whether FDI flow in natural resources is affected by policy changes, applying a fixed effect model. Despite a growing body of literature on FDI flows into these countries under study, a few studies have considered the explanatory factors behind the FDI flows into the natural resources sector using fixed effect approach interacting with economic liberalization. The remainder of the paper is organized as follows: Section 2 provides the literature review. Section 3 focuses on the methodology which describes the data, the explanatory variables, and model specification. Section 4 presents the empirical results and Section 5 presents the conclusion and recommendation. The final section presents policy implication.

2. LITERATURE REVIEW

Relatively number of scholarships has been conceded out on the issues of natural resources as a driven feature to the fortitude of FDI inflows to the countries under study. The upshot of this current study has found a number of literatures on natural resources as a driven factor, both from a hypothetical acuity and in terms of pragmatic work. Though this paper focuses on natural resources as a driven factor to FDI in Ghana, Nigeria and Togo, it also highlight the body of economic literature that has explored the effect of natural resources as a determinant of FDI flows into Ghana, Nigeria and Togo. A study by Sghaier and Abida (2013) for instance used general method of movement to determine the relationship between economic growth and FDI in Northern African countries. Their

results found an evidence of positive relationship. This was consistent with the results obtained by Har *et al.* (2008) who found a positive relationship between FDI flows and economic growth in Malaysia. They claimed a good environment as the main factor for FDI contribution to economic growth in Malaysia. They explained that unsuitable environment will tend to discourage investors. Similar studies were carried out by Oseghale and Amenkhienan (1987) on Nigeria. The results of their studies also show a positive relationship between FDI inflows and gross domestic product (They recommended government of less developed countries to create environment that are conducive for FDI attraction. Considering the vital role of FDI, Onu (2012) endorsed the need for upholding a steady economic growth and low inflation, increased in human capital development and an increased in national savings as a key contribution factors to attract FDI inflows. Qiang (2009) used Granger-causality test to examine the causal relationship between FDI and economic growth in Togo within the period 1991-2009. The direction of causation ran from FDI to GDP. This enables the author to concluded that FDI caused GDP and not otherwise.

The aggregate size of a market determines how big the demand for products are. The larger the total size of the market of the host country, the larger will be the demand for goods and services. This is supported by the study of Akingube (2003) who used GDP and GDP per capita as a proxy of measure the market size of a country Haile and Assefa (2005) also instituted GDP per capita to have a positive influence on FDI. Other studies by Chowdhury and Mavrotas (2003) examined the causal relationship between FDI and economic growth in Chile, Malaysia and Thailand. Using an innovative econometric methodology, they found a causal relationship between GDP and FDI in Chile; they however found a bi-directional causality between GDP and FDI in Malaysia and Thailand. The robustness of the above findings was confirmed by the use of a bootstrap test employed to test the validity of the result. Annual time series data from 1970 to 2005 were used by Frimpong and Oteng-Abayie (2006) investigate to the causality between FDI and GDP growth in Ghana for both pre and post structural adjustment program (SAP). Their study however, found no causality between FDI and GDP growth in the pre-structural period. However, in the post structural period GDP growth were found to cause to FDI inflows in Ghana.

Using the extreme bound analysis (EBA), Chakrabarti (2001) found no causality between GDP per capita and FDI, however other researchers such as Asiedu (2002) discovered a contrasting outcomes which reveals causality between GDP per capita and FDI inflows in Ghana. Ogunkola and Jerome (2006) found market size as significant factor to be responsible for FDI inflows in Nigeria. Anyanvuu (1998) however, argued that the termination of indigenization policy in 1995 considerably pave the way for FDI inflows in Nigeria which resulted in nurturing the country's economic growth. Iyoha (2001) discovered that economic size, macroeconomic instability and hesitation, and the country's external debt were crucial in attracting FDI. Okafor (2004) however, found market size proxies by gross domestic product (GDP) to be attracted FDI inflows in Nigeria. He also found inflation downcast capital flow. Using Ordinary Least Square (OLS) and co-integration Error Correction Method (ECM) methods Ndem *et al.* (2014) found market size as measured by GDP to be significant factor in attracting FDI inflows in Nigeria during the period of 1975 to 2010. Their studies also found trade openness and exchange rate to be impacted on FDI inflows.

Resource bangs lead to an increase in value of the domestic currency. This made the country's exports less inexpensive at world prices and thereby crowded out investments in non-natural resource tradable sectors (Sachs and Warner, 1995). According to Sachs and Warner (1995) if crowding out is more than one-for-one, it can possibly lead to an overall drop in FDI inflows. They further elucidated that natural resources, in particular, oil production, that are branded by booms and busts, can lead to increased volatility in the exchange rate. A higher share of natural resources in total merchandise exports implied less trade diversification, which in turn makes a country more vulnerable to external shocks. Morisset (2000) combine econometric and country analysis to identify factors that contributes to FDI inflows in 29 African countries. Using cross-sectional panel data from 1990-1997, he found natural resources and the size of the local market not to be the eminent of FDI inflows attraction in Africa. He

lamented that for African nations should not use natural resources and market size as the only indicators to justify the attractiveness of FDI inflows, rather there should be an improvement in their business environment. The paper emphasized GDP growth rate and trade openness be use to improve their business climate. In the same strain, [Asiedu \(2006\)](#) examined the relative effect of natural resources, market size government policy, host country's institutions and political instability in attracting FDI to SSA. The result revealed that a country that are endowed with natural resources or have large markets attracts more FDI. The study found an educated labor force, decent infrastructure, less corruption, macroeconomic stability and a well-organized legal system, to encourage FDI. She suggested that small countries and/or countries that lack natural resources in the region can attract FDI by improving their institutions and policy environment. The analysis utilized annual panel data for 22 countries in SSA over the period 1984–2000.

Similar studies by [Poelhekke and Ploeg \(2010\)](#) used firm-level data from MNCs in the Netherlands to investigate the effect of natural resources on FDI. They found natural resources as enhancement to FDI in the resource sector, but crowded out FDI in the non-resource sector, the latter effect however dominated. They also found the institutional quality to have a positive and significant effect on resource FDI and had no impact on non-resource FDI. Contributing to the literature on FDI in the developing world, [Okafor \(2015\)](#) assessed the locational determinants of US outward FDI into SSA utilizing panel data techniques on a sample of 23 SSA economies for the years of 1996–2010. He found the number of people accessing and using internet, accessibility of natural gas and crude oil, population growth rate, GDP per capita, and completion rate of primary education to be the set of variables that promoted US FDI into SSA, however, inflationary rates and the labor force in SSA lamented, put off investments into the sub-region. This is supported by studies such as [Dupasquier and Osakwe \(2006\)](#) and [Asiedu \(2002\)](#) who recounted that natural resources availability to possess a positive and significant impact on FDI inflows. Using a panel data of 36 nations of MENA countries, [Mohamed and Sidiropoulos \(2010\)](#) found, the size of government, natural resources, the size of the host economy and institutional quality to be the key factors that determined FDI inflows. [Asiedu \(2006\)](#) however, established that countries that possessed natural resources or have huge markets fascinated more to investors and perpetually leads to FDI. [Hailu \(2010\)](#) also performed an experimental analysis of the demand side to investigate the factors that stimulate an inflow of FDI to African countries. He established that trade openness, natural resources, infrastructure condition, the quality of labor, and market accession positively and significantly impacted FDI inflows but the availability of the stock market had an insignificant but positive effect.

Trade (both imports and exports) is vivacious to any efficacious modern economy. By divulging firms and products to international competition, economies are invigorated to emphasis on areas of comparative advantage. This helps to ensure that, scarce skills and resources are arrayed to where they are most productive. Trade increased, amongst other things, competition (hence boosting productivity and innovation), enabled firms to capitalize on economies of scale from having access to larger markets and exhilarated the spread of skills, knowledge, and innovation. In this context, [Addison and Heshmati \(2003\)](#) used exports and import as a percentage of GDP to analyze the impact of trade openness on FDI in 49 developing countries. Their results findings designated FDI to retorts significantly to increase in openness. Using cross-country data from 53 countries for the periods from 1996 to 2008, [Anyanwu \(2012\)](#) examine factors that induced FDI inflows in Africa. His results found market size, openness to trade, rule of law, foreign aid, natural resources, and past FDI inflows to have a positive and significant effect on FDI inflows. He however, obtained higher financial development to have a negative effect on FDI inflows. The study discovered that Eastern and Southern African sub-regions are positively likely to obtain higher levels of inward FDI.

Macroeconomic stability is generally cited as one of the factors that MNEs considered when deciding to locate in developing countries. Inflation is frequently used as an indicator of macroeconomic instability reflecting the presence of internal economic tension and of the inability or unwillingness of the government and central bank to

balance the budget and to restrict the money supply. Heshmati (2003) used both the variance and the rate of inflation as determinants of FDI flows into 182 countries. Using pooled model he found the impact of the variance of inflation to be weakly significant and negative for Europe, central Asia, and MENA countries, it was however, found to be positive for Latin America. Asiedu (2006) for instance reviewed the results of four surveys on the business environment and found macroeconomic instability to be cited as one of the curbs to FDI inflows in Africa. Barro (1976;1980) conceptually explained that high rate of inflation rate is a sign of macroeconomic instability and a source of uncertainty in the economy and can create an uncertain economic environment that made it difficult for economic agents to extract correct signals from relative prices. He emphasized that creating an uncertain economic environment induced by high inflation rate can reduce both the expected return on investment and volume of investment. Similar studies by Asiedu (2006) empirically found African countries with high inflation rate less attractive to FDI.

Political instability can be harmful to investment and for a country's economic performance broadly speaking. It was not surprising that a country's level of political stability was one of the factors that firms' executive directors considered when making a decision for the location and the amount of investment (Asiedu, 2006). Indeed, political instability involved uncertainty when it induced a change of policymakers and economic policies. For instance, when following a political regime changes, there is always a refutation of former contracts with foreign firms, increased of the risk of expropriation, which reduces the volume of FDI. Likewise, political instability in the form of civil war can destroy a country's physical and human capital infrastructure, which delays investment productivity. Empirically, Asiedu (2006) found political instability to be negatively affected FDI inflows in Africa. While Loree and Guisinger (1995) perceived the political instability factor to be negligible, but Schneider and Frey (1985) bared a negative relationship between the flow of FDI and political instability. Liberalization could encourage better competition in the economy through the removal of interest rate controls, the new entry into certain sectors of the economy such as banking markets, the removal of credit ceilings, thus offering banks greater liberty to compete for customers and trade restrictions. The restrictive economic policies of most developing countries in Asia, Latin America, and Africa up to the early 1980s generally arose from their socialist inclines. This, together with the great benefits of investing in Western Europe, prevented any significant FDI into Asia. However, the successive failure of planned economies caused widespread disillusionment with restrictive policies, and gradually these governments started opening up their economies (United Nations, 1998). During 1991–1996, over 100 countries made a total of 599 changes to liberalize FDI regulations, but in 1997 alone, 76 countries made 151 liberalization changes (United Nations, 1998). Studies by Kyereboah-Coleman and Agyire-Tettey (2008) found the degree of openness of the economy to have a positive relationship with an inflow of FDI in Ghana. This suggested that the liberalization of the Ghanaian economy has enhanced FDI inflows, though the liberalization variable was found to be insignificant and weak, however the weakness could be an indicator of the fact that the liberalization process on its own did not brought about the much needed FDI that drives Ghana to a middle-income level. While the reform agenda lost some momentum in the late 1990s, the World Bank (2008a) has recognized Ghana for having implemented significant economic and institutional reforms in recent years. In fact, Ghana belongs to the group of top reformers and continues to increase the efficiency of its public services. On the political level, Ghana introduced a multi-party democratic system in 1992, helping to ensure a key prerequisite for attracting FDI, namely political stability.

Besides, economic instability like inflation, foreign exchange fluctuation, and economic crisis also become another important environmental factor for investors to consider before going abroad. When the domestic currency depreciates, there can be negative or positive effects on FDI inflows. On the one hand, a real depreciation of the currency of the host country may reduce FDI inflows into the host country, because a lower level of the exchange rate (measured in units of foreign currency per domestic currency) may be associated with lower expectations of future profitability in terms of the currency of the source country (Campa, 1993). On the other hand, a depreciation of the currency of the host country increased the relative wealth of foreign of entrepreneurs and therefore may

increase the attractiveness of the host country for FDI (Cleeve, 2008). With the help of a broader data set from 1970 to 2002, Kyereboah-Coleman and Agyire-Tettey (2008) studied the effect of the volatility of real exchange rate on FDI in a small and developing country like Ghana. The results of the study designated a negative relationship between FDI inflows and exchange rate. This meant that the real exchange rate volatility, which was a measure of risk, discouraged the inflow of FDI. Exchange rate movements can influence FDI by affecting the currency cost of acquiring an asset abroad (Froot and Stein, 1991). For example, a decrease in domestic currency value against foreign currency value or depreciation of domestic exchange rate will make it less expensive for a foreign investor to invest in the domestic country as the cost of acquiring asset becomes cheaper. Thus, depreciation of the exchange rate of a country will make inflows of FDI in that country rises (Love and Lage-Hidalgo, 2000).

There were a few studies which examined the relationship between foreign aid and FDI by using cross-country panel data, most notably Kimura and Todo (2010); Harms and Lutz (2006) and Yasin (2005). Harms and Lutz (2006) found the effect of aid on FDI to be generally insignificant but significantly positive for countries in which private agents faced heavy regulatory burdens. Anyanwu (2012) using cross-country time series data of African countries for the period, 1996-2008, found that higher FDI goes countries where foreign aid are rampant. The study also found natural resource endowed countries to attract FDI and concluded that East and Southern African sub-regions are likely to obtained higher levels of inward FDI.

In summary, it is reasonable to conclude that no single factor impelled FDI crusade in an economy rather it is the eccentric rudiments of the country and the region that could differ in attracting foreign capital flow Asiedu (2004) and Ajayi (2006).

3. METHODOLOGY

3.1. Data Consideration and Sources

This study used time series data from 1982-2017 cover a period of 35 years. This time period was chosen to cover the variation in FDI from low levels in the 1980s and to the high levels in the 200s. Further, many policy changes were made to strengthen the economy through economy reforms. In addition, the 1990s also saw political stability and economic growth. The data are collected from several sources to include World Economic Outlooks (WEO) database, and various issues of International Financial Statistics Yearbook of the World Bank.

3.2. Description and Explanation of Variables

FDI inflows is chosen as the dependent variable for this study and is defined by Dunning (1977) and Asiedu (2006) as the annual total amount of foreign investment into a country measured in US dollars. As witnessed from various literatures, we expected a positive relationship between the host country's level of FDI and the explanatory variables. In the FDI determinant equation, we lagged FDI and we assumed that FDI level from the previous year would affect the flow of FDI in the current year. The flow of FDI in the prior year signaled a favorable condition of the investment environment and reduced uncertainty. To this effect we expect that the lag FDI had a positive relationship with the current year FDI inflow.

The literature revealed a bunch of explanatory variables, however, due to data constraints, the following variables were employed in the study as the explanatory variables. These were natural resources availability (NR), market size represented by gross domestic product per capita (GDP); economic growth rate represented by gross domestic product growth (GG), trade openness, (TOP), inflation rate (INFL); exchange rate (ER); political stability (PS); and economic reforms (LIB). The liberalization factor indicates policy reforms during the period under study.

3.3. Measurement of Variables

Several countries in West Africa received much FDI in natural resource-based sectors, as they were rich in minerals, oil, and natural gas. Indeed, both theoretical and empirical literature has shown that the need to get a secure access to natural resources is one of the key motivations that drive MNCs to Africa and its sub-regions (Dupasquier and Osakwe, 2006) and Asiedu (2006). Morisset (2000) also indicated that the availability of the natural resource is very significant for the flow of FDI to developing countries.

In this study, total mineral export, including oil export is used as a proxy for natural resources (NR) since about 90 percent of these countries' exports consist of natural resources. A positive sign is anticipated for the estimated coefficient. Owusu-Antwi *et al.* (2013) employed natural resources in their studies and found a positive relationship with FDI inflows in Ghana. The size of the host country market affects both future economic growth and the amount of FDI inflows. The common argument for the significance of the market size is that a large market is more likely to have a better-expected stream of future return. Thus, consequently, a host country with a large market size should grow faster and attract more FDI. The market size was found to play an important role in FDI inflows (Anyanwu, 2012) though the results of Kyereboah-Coleman and Agyire-Tettey (2008) indicated that most foreign investors do not consider this factor in making a decision to invest in Ghana. Oladipo (2008) and Ibrahim and Saidat (2008) examined the determinants of Nigeria's FDI inflow for the period 1970-2005 and found the nation's potential market size to be the most determinant factor in attracting FDI flows in Nigeria. This was justified by the increased in FDI inflows during that period. To proxy for market size, the current research shadowed the literature by utilizing GDP per capita (GDPCP). GDP per capita is determined by dividing a country's gross domestic product by total population and is measured as a ratio. A positive association between FDI inflows and market size is expected.

GDP growth rate (GG) is also considered as one of the independent variables. The argument for the significance of GDP growth rate is that a growing economy will improve the prospects of market potential. Profit-maximizing investors are attracted to fast-growing economies to take advantage of future market opportunities (Li and Resnick, 2003). High growth economies create stable and credible macroeconomic policies that attract foreign investors (Onyeiwu and Shrestha, 2004). Thus, GDP growth rate is vivacious in enticing FDI into SSA countries. For determinants equations, GDP growth rate is lagged which also use to represents economic growth rate. This variable is expected to have a positive effect on the level of FDI. Qiang (2009) established a positive relationship between economic growth and FDI and in Togo. The ease of capital movement in and out of a country's and trade openness affects both economic growth and the flow of FDI. The standard way of thinking is that countries with capital control and restrictive trade policies discouraged business, compared with countries with liberal policies. The openness of a country could be expressed in different ways. Among others, trade restrictions, tariffs, and foreign exchange control law are mentioned. Since the data for variables that measured capital account openness is not readily available, this study uses the net export (import minus export) as a proxy to trade openness (TOP). As openness of an economy is believed to foster economic growth and level of FDI, the more open an economy, the more likely it will grow and attract FDI. Thus, a positive relationship between trade openness and level of FDI is expected.

Macroeconomic stability of a nation greatly affects both economic growth and the flow of FDI. Macroeconomic instability was manifested by double-digit inflation, large external deficits, and excessive budget deficits (Goldfrank, 2012). While a stable single-digit inflation rate is perceived as a sign of economic stability, a high inflation, on the other hand, indicates the instability of the macroeconomic policy. It is suggested that price stability is an essential ingredient for investment and growth. A stable macroeconomic environment promoted FDI by indicating less investment risk (Anyanwu, 2012). Onyeiwu and Shrestha (2004) stated a high rate of inflation resulted from irresponsible monetary policy and fiscal policies, including excessive money supply, budget deficits, and a poorly managed exchange rate regime. Generally, inflation increases the investor's cost of capital and thus affects

profitability negatively and subsequently discourages investment and economic growth. Sachs and Sievers (1998) found that the greatest concern of foreign firms was the stability of political and macroeconomic environment of the host country. Reinhart and Rogoff (2003) proposed that without stable price, the risk to do business rises drastically, internal trade significantly hampered, and external trade even more so, which in turn negatively affects both economic growth and the flow of FDI. In this study, inflation is used as a proxy to measure the health of the economy. Since inflation increases the user cost of capital and affects profitability, a negative effect on inflation and the flow of FDI is expected. As a measurement for inflation rate (INFL), we use the annual growth rate of the consumer price index.

Speckled results have been found on the effect of exchange rate on FDI inflows. A case study on Ghana by Kyereboah-Coleman and Agyire-Tettey (2008) on the instability of the real exchange rate indicated that the hot-bloodedness of the real exchange rate has a negative effect on FDI inflow. However, Brahma-srene and Jiranyakul (2001) found no statistically significant relationship between the level of the exchange rate and FDI inflows. Exchange rate volatility is one of the most basic risk measure that confronted investors, and it referred to the short-term deviations of the exchange rate around its long-term trend. Fluctuations, whether positive or negative, is undesirable as they have the tendency of increasing risk and uncertainty on international transactions, thereby discouraging trade and investment flows. Kyereboah-Coleman and Agyire-Tettey (2008) employed real exchange rate as one of their explanatory variables to examine its impact on FDI flows in Ghana. The exchange rate variable (ER) is employed in this study and a positive sign is expected. Political instability involved hesitation when it persuaded the revolution of policymakers and economic policies. There has been a regime upon regime in these regions under study which have caused unstable policies and regulations. These political chases have had an impact most foreign investment. Political instability in the form of civil war can destroy a country's physical and human capital infrastructure, which is deterrent to the productivity of investment. Between 1966 and 1990 these countries under study became the seat of coup de tat which discouraged a lot of foreign investors during these eras. A study by Asiedu (2006) found a negative relationship between political instability and FDI inflows in Africa. In the same strain, Woodward and Rolfe (1993) found that political stability increases the probability that a country is selected as an investment location. As a proxy to political stability, (PS) is use as a dummy variable in this study. Chuhan *et al.* (1996) identified domestic economic reforms as an important factor in attracting FDI to developing countries in the 1990s. Specifically, economic reforms such as privatization of public enterprise, liberalization of currency and capital accounts, coupled with a stable macroeconomic environment have improved creditworthiness and expanded investment opportunities. Basu and Srinivasan (2002) offered political and macroeconomic stability and well-designed structural reforms as contributors to the increase in FDI in these countries. However, trade restrictions and poor policies discouraged FDI to Africa (Kyereboah-Coleman and Agyire-Tettey, 2008). Additionally, African countries tend to be less open than other emerging markets and are perceived as very risky characterized by poor policy environment relative to other developing countries. Financial and economic restructuring is indicated by liberalization (LIB) and is treated as a dummy variable.

3.4. Model Specification

Various replicas were established to explore the effect of natural resources on FDI inflows into the countries under study. To this effect we estimated different test to govern the suitable method for the study. To this end two equations were adopted with different techniques. Using data from 1980 to 2015 for three sub-Saharan African countries the FDI model were estimated. The specification of the equation and the selection of variables are motivated by the extensive empirical literature on FDI. FDI equation is stated in Equation 1 as follows:

$$FDI_{it} = \alpha_{it} + \delta_1 NR_{it} + \delta_2 GCP_{it} + \delta_3 GG_{it} + \delta_4 TOP_{it} + \delta_5 INFL_{it} + \delta_6 ER_{it} + \delta_7 PS_{it} + \delta_8 LIB_{it} + \epsilon_{it} \quad (1)$$

where α is the common intercept mean for all the 3 countries i denotes country, t denotes year, and variables are: foreign direct investment (FDI_{it}); natural resources (NR_{it}); gross domestic product per capita (GCP_{it}); gross

domestic growth rate (GG_{it}); a measure of trade openness (TOP_{it}); inflation rate ($INFL_{it}$); exchange rate $\delta_6 \ln(ER_{it})$; political stability (PS_{it}) and economic liberalization (LIB_{it}) ϵ_{it} is the residual term. To determine an appropriate result for the study, the FDI model is re-specified in a long-form as:

$$\ln FDI_t = \delta + \delta_1 \ln NR + \delta_2 \ln GCP + \delta_3 \ln GG + \delta_4 \ln TOP + \delta_5 \ln INFL + \delta_6 \ln ER + \delta_7 PS_{it} + \delta_8 LIB_{it} + \epsilon_{it} \quad (2)$$

Natural log (\ln) is substituted in the model to reduce the variation in the variables. All the variables in equation 3 are in log form except the liberalization (LIB) and political stability (PS) variables represented as dummy variables in the model (2). The parameters to be estimated are $\alpha, \delta_1, \delta_2, \dots, \delta_8, \epsilon_{it}$ residual term. The rest of the variables remained the same as in Equation 2.

The model was piloted in both non-log linear and log form using pooled ordinary least squares (POLS) technique and fixed effect models. We run the model in non-linear form but the results reveals most of the variables to be insignificant. We therefore run the model again in log-linear form using both fixed and random effects model with pooled OLS as the coefficients estimator. The pooled OLS pool all the 108 observations together and run the regression model, neglecting the cross-section and time series nature of the data. By coalescing the three countries together through pooling, heterogeneity or individuality that may exist among the three countries were repudiated. Fixed Effect (FE) allowed for heterogeneity or individuality among the three countries by allowing them to have their own intercept value. Random Effect (RE) on the other hand model allowed the three countries to have a common mean value for the intercept. These estimates were equivalent to maximum likelihood estimates assuming that random errors (the ϵ_t in the equation) came from a normal distribution. To this end, the regression model was developed with a log of FDI as the main dependent variable. The model gritted the effect of natural resources on FDI inflows to the countries under study with liberalization and political stability indicators. After conducting several tests such as Hausman Test and Breusch and Pagan Lagrangian Multiplier Test, Fixed Effects Model is considered the most appropriate model to apply in this study rather than Random Effects Model.

4. RESULTS AND DISCUSSION

4.1. Descriptive Statistics for the Dependent and Independent Variables

The investigation commenced with a swift of the descriptive statistics of the variables used in the estimation. Table 1 displays the average values and the standard deviations of the variables under study. The mean value and the standard deviation for the dependent variable, foreign direct investment inflows ($\ln FDI$) remained fairly fluctuated throughout the sample period, and it is reported as 1.130 with the standard deviation of 1.99. The minimum and maximum values were recorded as -7.390 and 8.840 respectively. The average value for natural resources (NR) is recorded as 16.781 associated with a standard deviation of 11.784 whereas the minimum value and the maximum value were given as 4.1769 and 63.520 respectively. This large figure is most likely attributable to the unearthing of commercial quantities of oil in Ghana during the period of study. The corresponding average for gross domestic product per capita (GPC) was recorded as 633.864 with a standard deviation of 620.321. These values reflected a high productivity in the economy of these countries. However, the gross domestic product growth rate (GG) shows a low mean value given 3.644 with a standard deviation of 5.884. This might indicate a slow growth of the economies during the period of study. The minimum and maximum values were recorded as -15.095 and 33.735 respectively. Trade openness (TOP) showed low values of .683 with a standard deviation of 0.632. The average figure for inflation (INFL) was given as 17.407 inclined to be increasing with a high standard deviation of 20.896, however, the mean values for exchange rate (ER) had not been stable along with stable standard deviation, and these were reported as 209.465 and 429.002 respectively. The high mean of the exchange rates was vindicated by the persistence depreciation of the currencies of the countries under study during the time span under review.

Table-1. Descriptive statistics for the period 1982 – 2017.

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
FDI	108	1.1309	1.9909	-7.3908	8.8409
NR	108	16.78109	11.78471	4.176968	63.52083
GPC	108	633.864	620.321	153.6467	3221.678
GG	108	3.644944	5.884018	-15.09583	33.73578
TOP	108	.6835642	.2719871	.0632034	1.250334
INFL	108	17.40764	20.89605	-3.526629	122.8745
ER	108	209.4652	429.0029	49.77731	3660.639
PS	108	.6851852	.4666073	0	1
LIB	108	.6203704	.4875572	0	1

Note: FDI denotes foreign direct investment inflows. NR denotes natural resources. GPC is the gross domestic product per capita. GG represents GDP growth rate. TOP denotes trade openness and INFL represents inflation rate. ER denotes exchange rates while PS represents political stability. LIB indicates economic liberalization.

4.2. Correlation Analysis

The correlation analysis shows the relationship between the dependent variables and the explanatory variables. The existence of high correlation among the independent variables will lead to the problem of multicollinearity in the estimation. Table 2 presents the correlation matrix of all the variables involved in the empirical analysis.

Table-2. Correlation matrix for the dependent and the independent variables.

Variables	ln FDI	NR	GPC	GG	TOP	INFL	ER
LnFDI	1.000						
NR	0.5703*	1.0000					
GPC	0.5899*	-0.0532	1.000				
GG	0.2179*	0.0918	0.1994*	1.0000			
TOP	-0.0638	-0.0890	-0.1850	0.1552	1.0000		
INFL	-0.1142	0.1378	-0.1586	-0.0900	-0.4562*	1.0000	
ER	-0.2776*	-0.1439	-0.1015	-0.2723*	-0.4571*	0.5941*	1.0000

Note: FDI denotes foreign direct investment inflows. NR denotes natural resources. GPC is the gross domestic product per capita. GG represents GDP growth rate. TOP denotes trade openness and INFL represents inflation rate. ER denotes exchange rates. * indicates significance level.

As anticipated, the dependent variable shows a significant correlation with the independent variables. The correlation matrix in Table 2 displays that FDI is positively and significantly correlated with natural resources, reported as 0.570. Gross domestic product per capita (GPC) and gross domestic product growth rate (GG) also had a positive and significant relationship with FDI with values reported as 0.589 and 0.217 respectively. However, trade openness (TOP) and inflation (INFL) were observed to be negatively and insignificantly correlated with FDI. The values were respectively reported as -0.063 and -0.114. Inflation (NFL) and trade openness (TOP) however were negatively and significantly correlated with a value of -0.456. Exchange rate (ER) was negative and significantly correlated with gross domestic product growth rate (GPC), trade openness (TOP) and inflation (INFL) but it however negatively and insignificantly correlated with natural resources (-0.143) and gross domestic product (GPC) -0.101.

4.3. Preliminary Results Using Pooled OLS

Initial activity was piloted using pooled OLS techniques to achieve superior results. The model was resolute in both log and non-log form. The generated results of the non-log form using pooled OLS model is obtainable in Table 3.

Table-3. Preliminary results pooled OLS model

FDI dependent variable	Coefficients	Standard error	T - test	P > (t)	R ²	Adj. R ²	F-test	Prob > F
NR	5.2507	1.0507	4.97	0.000	0.6989	0.6745	28.72	0.000
GPC	21.86725	22.8489	9.57	0.000				
GG	91.97700	2.0607	0.45	0.656				
TOP	-5.7808	5.4508	-1.06	0.291				
INFL	79.6934	71.9304	0.11	0.912				
ER	81.8853	36.4964	0.22	0.823				
PS	5.0809	2.7008	1.88	0.063				
LIB	6.2108	2.9808	2.08	0.040				
Constant	-1.5409	5.2808	-2.91	0.004				

Notes: NR=natural resources; GPC=Gross domestic product per capita, GG=Growth rate; TOP=trade openness; INFL = inflation rate; ER = exchange rate; PS = political stability; LIB = economic liberalization. Significance level 0.01; 0.05 and 0.10.

The valuation of the estimation of the model was carried out using the OLS method. The R^2 value of 0.6989 was significant in amplifying the capacity of goodness of fit of the regression model. The minor p-value (0.0000) associate with F statistic of 28.72 indicates the significant of the regression. The results of the study found natural resources to be significant at 1% level with a coefficient of 5.2507 and p-value of 0.000. GDP per capita is use as a proxy to market size. The coefficient for GDP per capita in the study is given as .0012658 with a p-value of 0.000. This is found to be positive and significant at 1% level. GDP growth (GG), trade openness (TOP) and exchange rate (ER) were found to be insignificant determinant to FDI inflows. However, political stability (PS) and liberalization (LIB) were found to be positive and significant at .1 and .05 levels. The results yield by pooled OLS method showed an inappropriate method for the study. To this effect, this technique was abandoned.

4.4. Fixed Effect Model Results and Interpretation

The results of the fixed effect model using the log form are presented in Table 4.

Table-4. Fixed effect model results in log form and interpretation.

In FDI dependent variable	Coefficients	Standard error	T - test	P > (t)	R ²	Adj. R ²	F-test	Prob > F
NR	.0900165	.0123935	7.26	0.000	0.7547	0.7367	46.21	0.0000
GPC	.0012658	.0001633	7.75	0.000				
GG	-.0093019	.0154996	-0.60	0.550				
TOP	1.03302	.5663887	1.82	0.071				
INFL	-.0067896	.0055042	-1.23	0.220				
ER	.0001395	.0002578	0.54	0.590				
PS	.937697	.2245027	4.18	0.000				
LIB	1.443187	.2207745	6.54	0.000				
Constant	14.57825	.3734821	39.03	0.000				

Notes: NR=natural resources; GPC=Gross domestic product per capita, GG=Growth rate; TOP=trade openness; INFL = inflation rate; ER = exchange rate; PS = political stability; LIB = economic liberalization. Significance level 0.01; 0.05 and 0.10.

The valuation of the model was carried out by the use of OLS method. The R^2 value of 0.754 was significant in elucidation the measurement of goodness of fit of the regression model. The minor p-value (0.000) of the F statistic with 46.21 bore that the regression was significant. The study employed various diagnostic tests viz., Jarque Bera normality test, Autoregressive Conditional Heteroscedasticity (ARCH) and Lagrange Multiplier (LM) test to examine the validity and reliability of the regression model. The availability of natural resources was a perilous element in attracting FDI. This was particularly so in Africa where a large share of FDI has been in countries with abundant natural resources. In some cases, the profusion of natural resources has been combined with a large domestic market. African countries that have been able to attract the most FDI have been those with natural and mineral resources as well as large domestic markets. Conventionally, about 60% of Africa's FDI is apportioned to oil and natural resources (UNCTAD, 1993). The demand and rising prices of commodity for oil and minerals have

boomed since the beginning of 2000, energized by resource-seeking FDI (United Nations Conference on Trade and Development (UNCTAD), 2008). Thus, the rising profits in the sector have induced a flow of investment. Asiedu (2006) concludes that, besides market size, natural resources are the key determinants for FDI in Africa. The results of the current study show natural resources with the coefficient of 0.900 and p-value of 0.000 to be significant at 1% level. This suggested that natural resources profusion boosts resource FDI. The results of the study is consistent with the results obtained by Ilomo (2007) who found mineral resources to be positively related to economic performance in the United Arabs Emirates. Zeng *et al.* (2002) however, made an argument that the determinants of FDI inflows in SSA countries primarily differed from other regions and that those policies that have proven successful in other countries may not be as successful in SSA. Resource endowment as a motive for FDI has also been assessed in a number of studies; however, the results are ambiguous. For example, (Asiedu, 2002); Onyeiwu and Shrestha (2004) found that natural resource-endowed SSA countries receive more extractive FDI, however, Asiedu (2013) contradicted this finding and suggested that natural resource curse in oil-rich SSA countries magnifies political instability and corruption and thus dissuades increased FDI inflows. The empirical estimates of this paper yielded the main conclusion of the study which showed a significant positive relationship between natural resources and FDI inflows into the countries under review; Ghana, Nigeria, and Togo. The results suggested that the net effect of resources endowments on total FDI inflows will impact on other factors which might enhance the inflows of FDI

According to Dunning's ownership, location, and internalization paradigm, market size has been considered as a key determinant of FDI flows (Dunning, 1993a). In countries with large markets, such as Nigeria, the stock of FDI was expected to be large, since it was a measure of the market demand in that country (Ajayi, 2006). In the current study, GDP per capita is utilized as a representation of market size. GDP per capita could be thought as a rough gauge of a country's financial wellbeing. As noted by Callen (2008) GDP per capita is vital since it provides information concerning the size of an economy in a given country and how sound the economy is performing. Callen (2008) further elaborated that the growth rate of real GDP is generally used as an indicator of the general health of the economy. To this end, an improved economic climate will help aggregate FDI inflow in the region. By way of the association regarding GDP per capita and FDI, Callen (2008) claimed that changes in the output of goods and services per person (GDP per capita income) are normally adopted as a gauge or a signal of whether the normal citizen in a given economy is better or worse off. This is extremely vital for investors as it could be taken as a sign of the purchasing power of the populace and would, in turn, promote such investors to go for a certain country over another. The coefficient for GDP per capita in the study is .0012658 with a p-value of 0.000. The coefficient is positively significant at 1% level. This result is consistent with result yielded by Hakizimana (2015) who investigated the relationship between the attracted FDI and the GDP per capita in Rwanda and found a strong positive relationship between the FDI inflows and GDP per capita in Rwanda. Asiedu (2002) also found a positive relationship between the two variables. The present study argued that a higher GDP per capita meant better forecasts for FDI in the host country. The positive of the GDP per capita and FDI inflows provide a good signal indicator for economic growth. The coefficient associated with GDP growth is -0.0093019 with a given p-value of 0.550. The coefficient is insignificant and negative. Relative to numerous regions of the globe, growth rates of real per capita output in Africa are small with a fairly small local market. This made it problematic for global corporations to exploit economies of scale and so discourage entry into that market. Elbadawi and Mwega (1997) showed that economic growth as of important determinant of FDI flows to the SSA region.

The result of the study shows the average GDP growth rate to be 3.644% and provide an inverse relationship between GDP growth rate and FDI inflows. This implies that a high GDP growth rate will attract FDI in flows and verse versa. Abdullahi (2013) examined investigated the relationship between FDI and per capita GDP in Nigeria using a (vector error correction model) VECM structure. Their outcome naked the dearth of a short runs causal relationship amid FDI and per capita GDP. The study however found FDI to be negatively affected GDP per

capita in the long run. They explained that the dearth of a short run causal relationship between FDI and economic growth was not astounding, as the effect of FDI on growth could take a longer time period to patent. Their verdict was consistent with the work of [Akinlo \(2004\)](#).

The coefficient associated with trade openness is positive and significant at the 5% level and it was reported as 1.03302 with a p-value of 0.071. According to the results, a 10 percentage point increase in trade openness will increase the ratio of FDI to GDP by 0.01 points. The result of the paper advocates trade openness as a contributing factor to improve FDI attractiveness. The obtainable result is consistent with the FDI theory that explains openness as an indicative of the host country's ease to the world market for material inputs at a lower price. Essentially, the implementation of more liberal economic policies would certainly entice more foreign investments. The result harmonized with the work of [Blomstrom and Kokko \(2003\)](#) who found open economies to embolden more FDI. In the analysis of [Blomstrom and Kokko \(2003\)](#) Nigeria has strived to achieve this objective by granting concessions to MNCs and private foreign companies that were willing to invest in the country. Studies such as [Trevino et al. \(2008\)](#) and [Boyrie \(2010\)](#) found openness of the host country to be an important factor in explaining FDI inflows.

Inflation is a persistent increase in prices. Economic theory shows that increases in inflation will affect the purchasing power and will affect both consumers and suppliers thereby affecting investments as well as causing distortions in the economy. Volatilities' of inflation increases, can led to uncertainties in investments Consequently, FDI will be discouraged by such conditions. The coefficient associated with inflation (INFL) is reported as -0.0067896 with associated p-value as 0.220. Inflation is found to be negative and insignificant, implying no effect on FDI inflows taking natural resources as a focus. [Boyd et al. \(2001\)](#) lectured on the flora of relationship between inflation and economic growth, through FDI, which acted as a channel through which the effect of inflation was indirectly transmitted in economic growth for the benefit of countries. In this state, [Andinuur \(2013\)](#) piloted a research that strived to study the relationships between FDI, inflation, and economic growth in Ghana. He quantified that the low rate of inflation was taken as a symbol of internal economic strength in the host country which in turns, gush the return on FDI. He explained further that, a low inflation rate in a country entices FDI inflows. The insignificant coefficient for inflation might be due to the resource-seeking motives of inflows into Ghana, Nigeria, and Togo. It has been suggested that foreign investors operating in the extractive industry such as the mining sector generally exported their products and are therefore not particularly concerned with the inflation of the host country's market.

The coefficient for the exchange rate is insignificant, with a negative sign reported as -0.0001395 with a p-value of 0.590. A negative change in the variable meant a depreciation of the local currencies, vis-à-vis the US dollar. The result ran against expectations that an appreciation of the host currency made FDI unattractive. However, if an appreciation of the domestic currency was perceived as a signal for further appreciation, perhaps due to better management of the economy or improved political/social stability, then this could lead to an increase in FDI inflows. The results were in line with evidence from Uganda ([Bende-Nabende, 2002](#)) where the exchange rate significantly affected the inward flow of FDI into the mining industry. The yielded results are inconsistent with the results obtained by [Asiedu \(2006\)](#) who found a positive and significant relationship between the exchange rate and the level of FDI inflows. The regression coefficient for the dummy variable (LIB) captured the effect of economic restructuring during the pre- and post-liberalization period and was found to be a significant determinant of FDI inflows with the estimated coefficient of 1.443187 with a p-value of 0.000. This result suggests that liberalization of these countries under study had stimulated many FDI inflows, and also supported the proposition that foreign investors are more likely to invest in countries that have opened up to the outside world for trade. It can be deduced that investment requirement to these countries has much relaxed. The current study is consistent with the results obtained by [Owusu-Antwi et al. \(2013\)](#).

Political instability is considered by economists as a serious disease harmful to economic performance. The widespread occurrence of political instability in several countries across time and its negative effects on their economic performance has spurred the interest of several economists. Political instability is likely to shorten policymakers' horizons leading to suboptimal short-term macroeconomic policies. It may also lead to a more frequent switch of policies, creating volatility and thus, negatively affecting macroeconomic performance (Aisen and Veiga, 2013). Political stability (PS) is found to be positively significant at 1% level with the coefficient established at 0.937697 and a p-value of 0.000. This implied that political stability is considered as an important driver to FDI inflows. The ranking of political risk among FDI determinant remained somewhat unclear. Where the host country possessed abundant natural resources, no further incentive may be required, as was seen in politically unstable countries such as Nigeria and Angola, where high returns in the extractive industries seemed to compensate for political instability. In general, so long as the foreign company is confident of being able to operate profitably without undue risk to its capital and personnel, it will continue to invest. The result of this study is consistent with the results obtained by Nazeer and Masih (2017) who found a positive significant relationship between political stability and FDI inflows in Malaysia.

5. CONCLUSION AND RECOMMENDATION

This study examined the impact of natural resources on FDI inflows in Ghana, Nigeria, and Togo. The basis of the paper estimation was the application of the fixed effect model. By applying the fixed effect methodology for the period 1982–2017, we found natural resources to be a driven factor to FDI inflows into Ghana, Nigeria, and Togo. This was consistent with the results obtained by Asiedu (2006). Surprisingly, a study by Dinda (2014) established a positive connection between natural resources and FDI in Nigeria. Dinda (2014) described that the positive position of natural resource-seeking FDI endorse for establishing a more favorable investment atmosphere through economic stability and socio-political in the country. In this sense, the leaders of the countries could intensify policies of trade liberalization that could entice FDI to the country and technological spillovers to expand economic situation at the cost of natural resources. The study also found other factors such as GDP per capita, trade openness, political stability, and economic liberalization to be significant in attracting FDI inflows. The results showed an increasing trend in FDI after 1997, revealing the inevitable impact of natural resources and liberalization on FDI inflows. This study has extended and strengthened some earlier results on FDI inflows in Ghana, Nigeria, and Togo. Three innovations of the current study are the use of a comprehensive data source, the consideration of a longer period of time covering over three decades (1982–2017), and the incorporation of the liberalization factor.

From the finding, it was found that a country which is open for trade attracts more FDI inflow than other countries. So, in order to attract more FDI inflow, the governments need to attend to policies related to trade openness. To this effect, the governments should intensify efforts to reduce bureaucratic bottlenecks in foreign trade transactions which are characterized by stringent customs duties and port-authorities regulations. Currency volatility in the domestic market is one of the most important risks of FDI. In recent years the governments of these countries have introduced many monetary reforms. For instance Ghana and Nigeria have instituted a floatable exchange rate of the cedi and naira per dollar policy, however, these countries need better currency management systems. Most of the countries in SSA have embraced the floating exchange rate scheme following the collapse of the Bretton Woods system, and the majority of them experienced fluctuating and volatile exchange rates (Meniago and Eita, 2017). Evidence from other researchers suggested that foreign exchange rates of SSA countries have been extremely volatile after the institution of the structural adjustment reforms since the early 1980s (Meniago and Eita, 2017). In the light of this, governments of these countries under study should adopt macroeconomic policies that will sustain their economies for a longer period of time. Policymakers should focus more on attracting FDI in various non-oil sectors of the economy and need to formulate policies where foreign investments can be utilized as means of enhancing domestic production exports, employment, and access to foreign markets. In addition the

governments need to liberalize the foreign sector so that all barriers to trade such as arbitrary tariffs, import and export duties and other levies are business friendly and are in tandem with the economy which, would stabilize their economies, for example, improve the financial position, facilitates export, stabilize the exchange rates, supplement domestic savings and foreign reserves, stimulate research and development activities and decrease interest rates and inflation, while providing investors a sound and reliable macroeconomic environment.

6. POLICY IMPLICATION

The results of the study have some policy implications. First, it suggested that FDI into these countries is not solely driven by natural resources and those countries that lack natural resources can obtain FDI by improving their institutions and policy environment. Secondly, multilateral organizations such as the international monetary fund (IMF) and the World Bank can play an important role in facilitating FDI by promoting good institutions in such countries. Asiedu (2006) argued that most countries within the SSA have taken heed to improve their policy environment for global FDI position. Yet, FDI continues to decline. Asiedu (2006) again argued that although SSA improved their infrastructure, liberalized its investment framework and reformed their institutions, the degree of reform, however, has been mediocre compared with the reform implemented in other developing countries and emerging countries such as Malaysia, Brazil, etc. As a consequence, relative to other regions, SSA has become less attractive to FDI over time. UNCTAD (2000) asserted that developing nations must understand the need to not only liberalize their FDI policies which many governments have already done but also to actively market their countries by articulating their corporate strategy in an age of globalization. While it is essential that governments in developing nations create policies to compensate for weak financial markets and institutions, there are no "readymade prescriptions" for attracting investors. In order for these countries to benefit from FDI inflows, they need to construct policies that are often highly context-specific and need to be adapted to the specific circumstances prevailing in each country. We believe that Ghana, Nigeria, and Togo continue to receive a great deal of attention, particularly because of a number of interesting questions that have been suggested by the examination of FDI inflows. It will be interesting for future studies to inquire; how did FDI inflows react to the discovery of natural resources such as oil and gas, and reforms or liberalization in anticipation of increased FDI inflows? These are some of the interesting questions on FDI inflows in which these countries under study need to be answered by future researchers. Future research also should direct attention towards quality institution factors that can enhance FDI inflows.

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REFERENCES

- Abdullahi, A., 2013. Relationship between foreign direct investment and per capita GDP in Nigeria- an empirical analysis (1980-2009). *International Journal of Business, Humanities, and Technology*, 6(1): 4-25.
- Addison, T. and A. Heshmati, 2003. The new global determinants of FDI flows to developing countries – the importance of ICT and democratization. Discussion Paper No. 2003/45. UNU/WIDER, Helsinki.
- Aisen, A. and F.J. Veiga, 2013. How does political instability affect economic growth? *European Journal of Political Economy*, 29: 151-167. Available at: <https://doi.org/10.1016/j.ejpoleco.2012.11.001>.
- Ajayi, S.I., 2006. The determinants of foreign direct investment in Africa: A survey of evidence. In *foreign direct investment in Sub-Saharan Africa: Origins, targets, impacts and potentials*, AERC Nairobi, Ibi Ajayi's (ed).

- Akingube, O., 2003. Flow and foreign direct investment to hitherto neglected developing countries. WIDER Discussion Papers//World Institute for Development Economics (UNU-WIDER) No. 2003/02.
- Akinlo, A., 2004. Foreign direct investment and growth in Nigeria: An empirical investigation. *Journal of Policy Modeling*, 26(5): 627–639.
- Andinuur, J., 2013. Inflation, foreign direct investment and economic growth in Ghana. University of Ghana.
- Anyanvuu, J.C., 1998. An econometric investigation of determinants of foreign direct investment in Nigeria. In *Investment in the growth process. Proceedings of the Nigerian Economic Society Conference. Ibadan Nigeria*. pp: 219–40.
- Anyanwu, J.C., 2012. Why does foreign direct investment go where it goes? New evidence from African countries. *Annals of Economics and Finance*, 13(2): 433–470.
- Asiedu, E., 2002. On the determinants of foreign direct investment to developing countries: Is Africa different? *World Development*, 30(1): 107–119. Available at: [https://doi.org/10.1016/s0305-750x\(01\)00100-0](https://doi.org/10.1016/s0305-750x(01)00100-0).
- Asiedu, E., 2004. The determinants of employment of affiliates of US multinational enterprises in Africa. *Development Policy Review*, 22(4): 371–379. Available at: <https://doi.org/10.1111/j.1467-7679.2004.00255.x>.
- Asiedu, E., 2006. Foreign direct investment in Africa: The role of natural resources, market size, government policy, institutions and political instability. *World Economy*, 29(1): 63–77. Available at: <https://doi.org/10.1111/j.1467-9701.2006.00758.x>.
- Asiedu, E., 2013. Foreign direct investment, natural resources and institutions. *International Growth Center. American Economic Review*, 103(3): 293–297.
- Barro, R.J., 1976. Rational expectations and the role of monetary policy. *Journal of Monetary Economics*, 2(1): 1–32. Available at: [https://doi.org/10.1016/0304-3932\(76\)90002-7](https://doi.org/10.1016/0304-3932(76)90002-7).
- Barro, R.J., 1980. A capital market in an equilibrium business cycle model. *Econometrica*, 48(6): 1393–1417. Available at: <https://doi.org/10.2307/1912814>.
- Basu, A. and K. Srinivasan, 2002. Foreign direct investment in Africa – Some case studies. IMF Working Paper, wp/02/61.
- Bende-Nabende, A., 2002. Foreign direct investment determinants in Sub-Saharan Africa: A co-integration analysis. *Economics Bulletin*, 6(4): 1–19.
- Blomstrom, M. and A. Kokko, 2003. The economics of foreign direct investment incentives. The National Bureau of Economic research NBER Working Paper No. 9489. Available from <http://www.nber.org/papers/w9489>. Available at: 10.3386/w9489
- Boyd, J.H., R. Levine and B.D. Smith, 2001. The impact of inflation on financial sector performance. *Journal of Monetary Economics*, 47(2): 221–248. Available at: [https://doi.org/10.1016/s0304-3932\(01\)00049-6](https://doi.org/10.1016/s0304-3932(01)00049-6).
- Boyrie, D.M.E., 2010. Structural changes, causality, and foreign direct investments: Evidence from the Asian crises of 1997. *Global Economy Journal*, 9(4): 1–40. Available at: <https://doi.org/10.2202/1524-5861.1529>.
- Brahmasrene, T. and K. Jiranyakul, 2001. Foreign direct investment in Thailand, What factors matter? *Proceedings of the Academy for International Business*, 1(2): 13.
- Callen, T., 2008. What is gross domestic product. *Finance & Development*, 45(4): 48–49.
- Campa, J.M., 1993. Entry by foreign firms in the U.S. under exchange rate uncertainty. *Review of Economics and Statistics*, 75(4): 614 – 622. Available at: <https://doi.org/10.2307/2110014>.
- Chakrabarti, A., 2001. The determinants of foreign direct investments: Sensitivity analyses of cross-country regressions. *Kyklos*, 54(1): 89–114. Available at: <https://doi.org/10.1111/1467-6435.00142>.
- Chowdhury, A. and Mavrotas, 2003. FDI and growth: What cause what? WIDER Conference on Sharing Global Prosperity.
- Chuhan, P., G. Perez-Quiros and H. Popper, 1996. International capital flows: Do short-term investment and direct investment differ? World Bank Policy Research Working Paper, No. 1669.
- Cleeve, E., 2008. How effective are fiscal incentives to attract FDI to Sub-Saharan Africa? *The Journal of Developing Areas*, 42(1): 135–153. Available at: <https://doi.org/10.1353/jda.0.0015>.

- Dinda, S., 2014. Climate change and trade opportunity in climate smart goods in Asia: Application of gravity model. *The International Trade Journal*, 28(3): 264-280. Available at: <https://doi.org/10.1080/08853908.2013.877361>.
- Djokoto, J.G. and G.C. Dzaha, 2012. Determinants and effects of foreign direct investment in Ghana—review of literature. *Developing Country Studies*, 2(11/12): 25-35.
- Dunning, J.H., 1977. Trade, location of economic activity and the MNE: A search for an eclectic approach. In *the international allocation of economic activity*. London: Palgrave Macmillan. pp: 395-418.
- Dunning, J.H., 1993a. *Multinational enterprises and the global economy*. Wokingham, Berks: Addison-Wesley.
- Dupasquier, C. and P.N. Osakwe, 2006. Foreign direct investment in Africa: Performance, challenges, and responsibilities. *Journal of Asian Economics*, 7(2): 241-260. Available at: <http://doi.org/10.1016/j.asieco.2005.07.002>.
- Elbadawi, I. and F. Mwega, 1997. Regional integration, trade, and foreign direct investment in Sub-Saharan Africa. In: Iqbal, Z. and Khan, M. (Eds.), *Trade Reform and Regional Integration in Africa*. Washington DC: IMF.
- Enu, P., E.D.K. Havi and P. Attah-Obeng, 2013. Impact of macroeconomic factors on foreign direct investment in Ghana: A cointegration analysis. *European Scientific Journal*, 9(28).
- Frimpong, J.M. and E.F. Oteng-Abayie, 2006. Bivariate causality analysis between FDI inflows and economic growth in Ghana.
- Froot, K.A. and J.C. Stein, 1991. Exchange rates and foreign direct investment: An imperfect capital markets approach. *The Quarterly Journal of Economics*, 106(4): 1191-1217. Available at: <https://doi.org/10.2307/2937961>.
- Goldfrank, B., 2012. The world bank and the globalization of participatory budgeting. *Journal of Public Deliberation*, 8(2): 7.
- Haile, G. and H. Assefa, 2005. Determinant of foreign direct investment in Ethiopia. A time series analysis. Paper Presented at the 4th, International Conference on the Ethiopian Economy.
- Hailu, Z.A., 2010. Demand side factors affecting the inflow of foreign direct investment to African countries: Does capital market matter? *International Journal of Business and Management*, 5(5): 104-116. Available at: <https://doi.org/10.5539/ijbm.v5n5p104>.
- Hakizimana, J., 2015. The relationship between foreign direct investment (FDI) and GDP Per Capita in Rwanda. Available from <https://ssrn.com/abstract=2598413> or <http://dx.doi.org/10.2139/ssrn.2598413> [Accessed April 24, 2015].
- Har, W.-M., K.-L. Teo and K.-M. Yee, 2008. FDI and economic growth relationship: An empirical study on Malaysia. *International Business Research*, 1(2): 11-18. Available at: <https://doi.org/10.5539/ibr.v1n2p11>.
- Harms, P. and M. Lutz, 2006. Aid, governance and private foreign investment: Some puzzling findings for the 1990s. *Economic Journal*, 116(513): 773-790.
- Heshmati, A., 2003. Productivity growth, efficiency and outsourcing in manufacturing and service industries. *Journal of Economic Surveys*, 17(1): 79-112. Available at: <https://doi.org/10.1111/1467-6419.00189>.
- Ibrahim, W.O. and O. Saidat, 2008. Determinants of foreign direct investment in Nigeria: Political factor effect revisited. *Social Science Research Network (SSRN)*. Available from <http://dx.doi.org/10.2139/ssrn.1136083>.
- Ilomo, D., 2007. Dar set to attract mining investors. *East African Business Week*, (Kampala) Dar Es Salaam, 34(3): 24.
- Insah, B., 2013. Foreign direct investment inflows and economic growth in Ghana. *International Journal of Economic Practices and Theories*, 3(2): 115-121.
- Iyoha, M.A., 2001. An econometric study of the main determinants of foreign investment in Nigeria. *The Nigerian Economic and Financial Review*, 6(2): 15-27.
- Kimura, H. and Y. Todo, 2010. Is foreign aid a vanguard of foreign direct investment? A gravity-equation approach. *World Development*, 38(4): 482-497. Available at: <https://doi.org/10.1016/j.worlddev.2009.10.005>.
- Kyereboah-Coleman, A. and K.F. Agyire-Tettey, 2008. Effect of exchange-rate volatility on foreign direct investment in Sub-Saharan Africa: The case of Ghana. *The Journal of Risk Finance*, 9(1): 52-70. Available at: <https://doi.org/10.1108/15265940810842410>.
- Li, Q. and A. Resnick, 2003. Reversal of fortunes: Democratic institutions and foreign direct investment inflows to developing countries. *International Organization*, 57(1): 175-211. Available at: <https://doi.org/10.1017/s0020818303571077>.

- Loree, D.W. and S.E. Guisinger, 1995. Policy and non-policy determinants of US equity foreign direct investment. *Journal of International Business Studies*, 26(2): 281-299. Available at: <https://doi.org/10.1057/palgrave.jibs.8490174>.
- Love, J.H. and F. Lage-Hidalgo, 2000. Analysing the determinants of US direct investment in Mexico. *Applied Economics*, 32(10): 1259-1267. Available at: <https://doi.org/10.1080/000368400404416>.
- Mello, D.J.L.R., 1997. Foreign direct investment in developing countries and growth: A selective survey. *The Journal of Development Studies*, 34(1): 1-34. Available at: <https://doi.org/10.1080/00220389708422501>.
- Meniago, C. and J.H. Eita, 2017. Does exchange rate volatility deter trade in Sub-Saharan Africa? *International Journal of Economics and Financial Issues*, 7(4): 62-69.
- Mohamed, S.E. and M.G. Sidiropoulos, 2010. Another look at the determinants of foreign direct investment in MENA countries: An empirical investigation. *Journal of Economic Development*, 35(2): 75-95.
- Morisset, J., 2000. Foreign direct investment in Africa: Policies also matter. *Transnational Corporations*, 9(2): 107-125.
- Nazeer, A. and M. Masih, 2017. Impact of political instability on foreign direct investment and economic growth: Evidence from Malaysia. MPRA Paper No. 79418.
- Ndem, S.E., O. Okoronkwo and C. Nwamuo, 2014. The determinants of foreign direct investment and their impacts on Nigerian economy (1975-2010). *Journal of Integrative Humanism*, 3(2): 74-84.
- Ogunkola, E.O. and A. Jerome, 2006. Foreign direct investment in Nigeria: Magnitude, direction and prospects. In S.I. Ajayi (Ed.), *Foreign direct investment in Sub-Saharan Africa: Origins, targets, impact and potential*. Nairobi: African Economic Research Consortium. pp: 144-176.
- Okafor, G., 2015. Locational determinants of US outward FDI into Sub-Saharan Africa. *The Journal of Developing Areas*, 49(1): 187-205. Available at: <https://doi.org/10.1353/jda.2015.0000>.
- Okafor, O.H., 2004. The impact of domestic macroeconomic variables on FDI. A Project Submitted to the Department of Economics, Delta State University, Abraka.
- Oladipo, O.S., 2008. Foreign direct investment flow: Determinants and growth effect in a small open economy. *Proceedings of the Northeast Business & Economics Association*. pp: 87-95.
- Onu, A.J.C., 2012. Impact of foreign direct investment on economic growth in Nigeria. *Institute of Interdisciplinary Business Research*, 4(5): 64.
- Onyeiwu, S. and H. Shrestha, 2004. Determinants of foreign direct investment in Africa. *Journal of Developing Societies*, 20(1-2): 89-106.
- Oseghale, B.D. and F. Amenkhienan, 1987. Foreign debt, oil exports, direct foreign investment and economic performance in Nigeria (1960-1984). *The Nigerian Journal of Economic and Social Studies*, 29(3): 359-379.
- Owusu-Antwi, G., J. Antwi and P.K. Poku, 2013. Foreign direct investment: A journey to economic growth in Ghana-empirical evidence. *International Business & Economics Research Journal*, 12(5): 573-584. Available at: <https://doi.org/10.19030/iber.v12i5.7832>.
- Poelhekke, S. and V.D.F. Ploeg, 2010. Do natural resources attract FDI? Evidence from nonstationary sector level data. *The Dutch Bank Working Paper No. 266/2010*.
- Qiang, 2009. The relationship between foreign direct investment and economic growth in Togo [1991-2009]. *Proceedings of the 8th International Conference on Innovation & Management*.
- Reinhart, M.C. and M.K. Rogoff, 2003. FDI to Africa: The role of price stability and currency instability (No. 3-10). *International Monetary Fund*.
- Sachs, J. and S. Sievers, 1998. FDI in Africa. *Africa Competitiveness Report*, World Economic Forum, Geneva.
- Sachs, J.D. and A. Warner, 1995. Economic reform and the process of global integration. *Brookings Papers on Economic Activity*, 1: 1-95. Available at: <https://doi.org/10.2307/2534573>.
- Sachs, J.D. and A.M. Warner, 1997. Sources of slow growth in African economies. *Journal of African Economies*, 6(3): 335-376.
- Schneider, F. and B.S. Frey, 1985. Economic and political determinants of foreign direct investment. *World Development*, 13(2): 161-175. Available at: [https://doi.org/10.1016/0305-750x\(85\)90002-6](https://doi.org/10.1016/0305-750x(85)90002-6).

- Sghaier, I.M. and Z. Abida, 2013. Foreign direct investment, financial development and economic growth: Empirical evidence from North African countries. *Journal of International and Global Economic Studies*, 6(1): 1-13.
- Trevino, L.J., D.E. Thomas and J. Cullen, 2008. The three pillars of institutional theory and FDI in Latin America: An institutionalization process. *International Business Review*, 17(1): 118-133. Available at: <https://doi.org/10.1016/j.ibusrev.2007.10.002>.
- UNCTAD, 1993. Small and medium-sized transnational corporations: Role, impact and policy implications. New York: United Nations, United Nations Publication, Sales No.E.93.IIA.5.
- UNCTAD, 2000. World Investment Report 2000: Cross-border Mergers and Acquisitions and Development. New York and Geneva: United Nations, United Nations Publication, Sales No. E.00.II.D.20.
- United Nations, 1998. Africa recovery. New York: United Nations Office for Communications and Public Relations, 11 (3).
- United Nations Conference on Trade and Development (UNCTAD), 2008. World investment report: Transnational corporations and the infrastructure challenge. Geneva, Switzerland: UNCTAD.
- Woodward, D.P. and R.J. Rolfe, 1993. The location of export-oriented foreign direct investment in the Caribbean Basin. *Journal of International Business Studies*, 24(1): 121-144. Available at: <https://doi.org/10.1057/palgrave.jibs.8490228>.
- World Bank, 2008a. Doing business 2008 Ghana. Washington, DC: World Bank.
- Yasin, M., 2005. Official development assistance and foreign direct investment flows to Sub-Saharan Africa. *African Development Review*, 17(1): 23-40. Available at: <https://doi.org/10.1111/j.1017-6772.2005.00105.x>.
- Zeng, L.D., Q.S. Tong, L. Wnag and W. Qian, 2002. On the determinants of foreign direct investment to developing countries: Is Africa different? *World Development*, 30(1): 107-119. Available at: [https://doi.org/10.1016/s0305-750x\(01\)00100-0](https://doi.org/10.1016/s0305-750x(01)00100-0).

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