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Abstract

This study analysed the effect of Foreign Direct Investment (FDI) on economic growth of selected Sub-Saharan African countries (Nigeria, Ghana and South Africa) after their adoption of International Financial Reporting Standard (IFRS). The effect of FDI on macro-economic variables—Grass Domestic Product (GDP) and External Reserves were analysed. Ex-post Facto research design was adopted for the study. Secondary data were collected from United Nations Conference on Trade and Development (UNCTAD), World Investment Reports, (2016); United Nations Statistics, national accounts main aggregate data base (2015) and Index Mundi, (2015) and were presented in tables and graphs. Models were formulated while data were analysed using Dummy Variable Regression model. Findings revealed that FDI had positive effect of GDP of Nigeria and Ghana but of negative effect on that of South Africa. However, in post IFRS adoption Nigeria had significant reduction in the effect of FDI on GDP while Ghana and South Africa had no significant difference in the effect of FDI on GDP in those periods. Equally discovered were that FDI inflows had significant effect on external reserve of Ghana but of no significant effect on that of Nigeria. Its effect on External Reserve of South Africa was negative but insignificant. There were no significant difference in the effect of FDI on external reserve of Nigeria, Ghana and South Africa in the pre and post-IFRS adoption era. It was recommended amongst others that nations should look inwards into other factors that would support FDI and economic growth like institutional factors and infrastructure but not relying on IFRS adoption alone, as IFRS alone cannot attract FDI and bring development.

Key words

Foreign Direct Investment, economic growth, IFRS, GDP and external reserve

1. Introduction

Foreign Direct Investment (FDI) entails inflow of foreign fund into a nation targeted towards production of goods for local consumption and export. It is a direct investment in a country by individual(s) or company (ies) of another country, either by buying a company in the target country or by expanding operations of an existing business in that country (Adedeke et al., 2014). It may take the form of building new facility, mergers and acquisitions, reinvesting of profits earned from overseas operations and intra company loans. Nwankwo et al. (2013) opine that FDI can be analyzed with respect to inflow of new equity capital, re-invested earnings, trade and supplier’s credit, net borrowings and other obligations from the parent company or its affiliates. A cursory look at the above assertion of Nwankwo et al. (2013) gives light into the operations of FDI.
Foreign direct investment could generally be seen from one of these two perspectives: foreign branch of an existing firm or a brand new investment. In any case, accounting responsibilities abound. For instance, as a foreign branch, the accountant has the responsibility of treating the organization under principle of international accounting (Nobes and Parker, 2008). As an investment, the accountant is confronted with the responsibilities of appraising the worthwhile or otherwise of the investment; and at national level, the contribution of such investments to the nation’s economy. Nobes and Parker (2008) went further to assert that interpretation of financial statement in international setting could involve the analysis of the operations of a multinational company, where the financial statements result from a process of aggregation of underlying transactions that have been carried out in a number of countries and denominated in various currencies or the geographical spread, not of companies but of the users of corporate reports, where the analysis is carried out by residents of different countries. In any case, these distinct ‘international’ dimensions of financial statement analysis are important, however, the basic process of financial communication remains the same.

As funds were injected into the economy through FDI for the establishment of new companies which can be foreign branches, agencies, associates or subsidiaries, they may be introduced in form of equipment or cash requirement for commencement of operation. The cash has to be converted to the currency of the host country using exchange rate prevailing at the time of the transaction (Ugwu, 2017). At the end of an accounting period, the financial statement is translated into the home/parent company’s currency using appropriate translation method, which depends on whether the subsidiary is an integral part of the parent or a foreign entity (Okwuosa, 2005; Abiola, 2008). Translation is the process whereby financial data expressed in one currency is restated in terms of another currency (Nobes and Parker, 2008; Elliot and Elliot, 2012). The profit made could be reinvested or repatriated to the parent company’s country. Worthy of note is that some of the trans-nationals might be international joint venture owned by two or more companies from different countries (Meigs et al., 1999).

Extant literature have acknowledged that the clamor for FDI inflow in Sub-Saharan African countries have been on the increase as evidenced from the works of Adams (2009), Tomasz (2012), Kabir (2012) and Aveh et al. (2013). The above may not be unconnected with the consideration of FDI as an important source for sustained growth, increasing exports and creating jobs in developing countries.

Aproiri expectation is that FDI would contribute positively to economic growth of the host country. These expected positive changes were described by Caves (1996) in Adeleke et al. (2014) to be in area of productivity gains, technological transfers, introduction of new processes, managerial skills and know-how in the domestic market, employee training, international production networks and access to markets. Negative correlation of FDI with economic growth could be attributable to associated capital flight in the form of repatriation of profits and international tax plan, which includes amongst others, where multinationals try to move taxable profit from operation from high tax countries to operations in low tax countries usually by high transfer price for intra-group goods with final customer in low tax countries (Nobes and Parker, 2008; Rosen and Grayer, 2014).

Regular measure of direct investment trend and developments is an integral part of most macro-economic and cross-border financial analysis, with prime interest to policy analysts to identify the sources and destinations of these investments (OECD, 2008). Accounting for activities of these FDI led-investments have been met with some challenges as different currencies are usually involved and differences in accounting reporting system. For instance disclosure requirements of different countries vary thus requiring broader disclosure to meet the needs of the two nations (Ezejelue, 2011). The adoption of International Financial Reporting Standard (IFRS) is intended to solve most of the challenges encountered in international accounting as it could result in promotion of uniformity and transparency of reporting; harmonization of standards for the purpose of consistency and comparability of annual reports leading to a boost in the investment potential of countries (Jinadu et al., 2016; Adetula and Owolabi, 2014). Also, IFRS and International Accounting Standard (IAS) tell accountants and other preparers of financial statements how to account for transactions and events, and what to disclose within the accounts (Collings, 2012. Ezejelue (2011) and Onyekwelu (2017) stressed that the focus is on achieving harmonization and the need for international accounting harmonization include amongst other factors the increase in FDI and the role
of the multinational companies in nations. Furthermore, adoption of IFRS has increased FDI inflows to many countries (Gordorn et al., 2012) as it brings about better understanding of financial report.

The study of the effect of FDI on economic growth of some selected Sub-Saharan African Countries became imperative because over the years, these nations have attracted to themselves some volume of FDI into their nations economy and to find out its effect. According to New World Encyclopedia, Sub-Saharan Africa is used to describe that part of African continent, which lies south of Sahara Desert consisting of 42 countries. It stretches from the southern edge of Sahara Desert to Atlantic Ocean. It has savanna grasslands with scattered trees, with Kalahari Desert stretching along the southern Atlantic coast. The major source of revenue for the region is from extractive industries with oil generating 20 percent of the combined GDP, mining constituting 43 percent of the region’s export. There exists great inequality among countries in the sub-region with Nigeria and South Africa combined to account for three-quarters of the region’s GDP and their governments acting as sub-imperial powers (Olamosu and Wynne, 2015). The study analyzed the effect of those FDIs in Nigeria, Ghana and South Africa post adoption of IFRS to ascertain the effect FDI on their economic growth indices. To get a holistic view of the effect of FDI on nations’ economic growth, the study took close study of the effect of FDI on GDP and external reserve.

1.1. Statement of Problem

It is expected that FDI would lead to economic growth considering the billions of Dollars involved as could be seen from the above data, but there have been divergent opinions by scholars on the effect of FDI on economic growth of nations. While some were of the view that FDI has positive significant relationship with economic growth, others had different views. The proponents of positive correlation between FDI and economic growth cited Asian tigers like Singapore, Hong Kong and Thailand as having achieved and sustained development through effective use of FDI (Abu and Achegbulu, 2011). These Asian countries were said to have achieved rapid growth of their GDP and the capacities of those economies to sustain their further development through the use of FDI.

Those that were of the view that FDI might not facilitate economic growth and development point to Sub-Saharan African nations where evidences of growth have not been clearly attributable to FDI inflows. The above proposition was supported by the finding of negative effect of FDI on GDP in studies of Africa by Gudiby (2016), and South Africa by Strauss (2015).

There were divergent approaches for instance, while most studies concentrated on the effect of FDI on economic growth (proxied by GDP) like the study of Nigeria by Imoudu (2012), Kabir (2012); Ghana by Insah (2013), Sackey (2012) and South Africa by Tshepo (2014), Adriño (2012); many scholars investigated the determinants of FDI inflow into a country or region like Nigeria by Kazeem (2014), Wafuru and Nurudeen (2010); 53 African countries by Anyanwu (2012), Sub-Saharan –African countries by Ancharaz (2003) and Ghana by Antwi (2013).

There were differences in the methods of analysis for example, while some scholar like Adeleke (2014), Ayanwale (2007) and Eregha (2011) were using Ordinary Least Square others like Amoah, Nyarko and Asare (2015), Abu and Achegbulu (2011) and Olusanya (2013) used Granger Causality test while Olokoyo (2012) and Saibu and Keke (2014) used Error Correction Method.

There were also divergent results and findings which make it imperative for further research on the effect of FDI on economic growth indices of selected Sub-Saharan African countries of Nigeria, Ghana and South Africa. It is in the light of these that the study seeks to examine the effect of FDI on macro-economic variables (GDP, and external reserve) now that they are IFRS compliant, which is a paradigm shift from extant approaches which focused on the effect of FDI on economic growth (proxied by GDP) and determinants of FDI inflows into a nation.

1.2. Objectives of the Study

The main objective of the study is to examine the effect of FDI on economic growth of selected Sub-Saharan African countries. The study, seek to address the following to:

1. Ascertain the effect of FDI on GDP, in pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa.
2. Ascertain the effect of FDI on external reserves, in pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa.

1.3. Research Questions

The following research questions are formulated in the course of the study:
1. What is the effect of FDI on GDP, in pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa?
2. What is the effect of FDI on external reserves, in pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa?

1.4. Research Hypotheses

In pursuance of the above objectives, the following hypotheses were formulated.
1. There is no significant difference in the effect of FDI on RGDP, in pre and post-IFRS adoption periods, of Nigeria, Ghana and South Africa,
2. There is no significant difference in the effect of FDI on external reserve, in pre and post-IFRS adoption periods of Nigeria, Ghana and South Africa.

1.5. Scope of the Study

This work covered the effect of FDI on GDP and External Reserve of selected Sub-Saharan African countries comprising Nigeria, Ghana and South Africa. The study spanned from 1999-2015. This was the period the three countries in focus were in uninterrupted democratic rule. Nigeria’s uninterrupted democracy started in 1999 while that of Ghana was 1992 and South Africa came out of Apartheid rule in 1994. In 2012, 2007 and 2005, Nigeria, Ghana and South Africa respectively adopted IFRS. The pre adoption of IFRS span from 1999 and end at the year before its adoption in each of the countries of study while post adoption start from the year of adoption to 2015.

2. Literature review

2.1. Conceptual Review

Concepts of FDI, economic growth and all the variables (GDP, and external reserve) used in the study were reviewed.

2.1.1. Concept of FDI

International Monetary Fund (IMF, 2004) defines FDI enterprise as an incorporated or unincorporated enterprise in which a foreign investor owns 10 per cent or more of the ordinary shares or voting power of an incorporated enterprise or the equivalent of an unincorporated enterprise. Ownership of 10 per cent of ordinary shares or voting stock determines the existence of a direct investment relationship. It does not require absolute control by the foreign investor before it could be seen as FDI-led enterprise. Foreign direct investment enterprise is an enterprise (institutional unit) in the financial or non-financial corporate sectors of the economy in which a non-resident investor owns 10 per cent or more of the voting power of an incorporated enterprise or has the equivalent ownership in an enterprise operating under another legal structure.

The investor could be a foreign company, group or individual person. Usually, the intent of the investor is to control or run the enterprise with ultimate goal of making profit. According to Balance of Payment Manual (1993), FDI refers to an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. A direct investment enterprise is an incorporated or unincorporated enterprise in which a single foreign investor either owns 10 per cent or more of the ordinary shares or voting power of an enterprise (unless it can be proven that the 10 per cent ownership does not allow the investor an effective voice in the management) or owns less than 10 per cent of the ordinary shares or voting power of an enterprise, yet maintains an effective voice in management (Organisation for Economic Co-operation and Development; OECD, 1996). Control of the firm is the most distinct characteristic of FDI as opposed to foreign portfolio investment.
From the afore-mentioned, FDI could be defined as cross-border investment by individuals, group, company or government in another country with intent to get control of the firm and make profit. In some cases, there may international joint venture investments. In any case, there are at least two nations involved-the investing nation and the recipient nation. Using the direction of flow, the popular classification of FDI into FDI inflow and FDI outflow emerges. FDI inflow occurs when foreign capital is invested in a nation while FDI outflow results from investment of local capital in another country.

2.1.2. Concept of Economic Growth

Economic growth could be defined as steady increase in output of goods and services and is usually measured in terms of Gross National Product (GNP) or GNP per person also called income per capita (Nwaimo, 2009). He went further to re-express the opinion of Malthus’ (1798) that economic growth is very important in nations else the population growth might out-stretch the economy causing starvation and an end to population growth. This formed the origin of the notion of economics as ‘the dismal science’. In view of the above, do we now care for GDP or GDP per capita? While total GDP shows the size of the economy, if we care about the happiness of a typical individual in an economy we should look at GDP per capita. If the per capita income is evenly distributed, this might reflect the true happiness of the people but countries usually have unequal income distribution.

Economic growth is the achievement of annual increase in the output of goods and services. It is said to have occurred in a nation when its GNP becomes larger than what it was. Gross Domestic Product (GDP) and GNP measure the total output and total income of an economy at a given period (Begg et al., 2008).

Business Dictionary describes economic growth as increase in a country’s productive capacity, as measured by comparing GNP in a year with the GNP in the previous year. Increase in the capital stock, advances in technology, and improvement in the quality and level of literacy are considered to be the principal causes of economic growth. It added that in recent years, the concept of sustainable development has brought in additional factor like environmentally sound processes that must be taken into account. Furthermore, Economies Online defines economic growth as increase in output that an economy produces over a period of time, the minimum being two consecutive quarters. It added that growth occurs when the economy have some or all the following: employ new technology, employs division of labour, allowing specialization, employs new production methods, increases it labour force and discovers new raw materials. Economies have a second definition of growth as an increase in what an economy can produce if it is using all its scarce resources. An increase in an economy’s productive potential can be shown by an outward shift in the economy’s production possibility frontier (PPF). This implies that an economy has increased its capacity to produce all goods. The study focuses on the first definition of growth as given by the economies online which is interdem with other definitions.

A close look at the above shows that FDI makes use of all factors that might precipitate economic growth. This is because the investors in FDI considers (depending on the type of firm) raw materials and labour and usually come in with advanced technology, and skills such that output increases culminating to economic growth on aggregate consideration. However, Begg et al. (2008) were of the opinion that there are some costs associated with growth such as pollution, climate change, congestion and a hectic-life style. These are the price to pay for more cars and other technological developments.

2.1.3. FDI and GDP

GDP is the basic social accounting measure and is defined as the market value of total goods and services produced in a given year. Market value concept of goods and services implies that it is measured with money which is the only yard stick in market measurement; making it possible for goods and services produce in an economy to be subjected to arithmetical or mathematical operation (Umo, 2007). The concept of actual GDP, potential GDP and GDP gap or output gap were described by Lipsey and Chrystal (2011) thus: Actual GDP is what the economy actually produces while potential GDP is what the economy would produce if all the resources-land, labour and productive capacity were fully employed at their normal level of utilization. This is also referred to as potential income and is sometimes called full-employment income (high-employment income).
Begg et al. (2008) were of the view that GDP measures the net output or value added in an economy by measuring goods and services bought with money. They argued that it did not include output not bought or sold, as such unmeasured, like leisure and externalities such as pollution and congestion. This brings in the costs of growth mentioned earlier which should be managed such that society should undertake activities accompanied by pollution up to the point at which the net marginal benefit of the goods produced equals the net marginal pollution cost imposed on the society. Government intervention through pollution taxes or regulation of environmental standards, according to them can move the economy towards an efficient allocation of resources in which marginal social costs and benefits are equalized.

Many scholars have carried out studies on the effect of FDI on economic growth (proxy by GDP). There seems to be consensus that FDI affect economic growth but the magnitude and direction of the effect has been subject of debate as there have been varied results from different studies. For instance, scholars like Abdullah, Asad and Waseem (2015), Onu (2012), Otto and Ukpere (2014), Edoumiekumo (2009) and Rahman (2014) carried out research on the effect FDI on economic growth of some countries and found a positive relationship between FDI and GDP. On the other hand, Saqib, Masnoon and Rafique (2013), Strauss (2015) and Adigwe, Ezeagba and Udeh (2015) in their studies found a negative relationship between FDI and GDP.

2.1.4. **FDI and External Reserve (Foreign Exchange Reserve)**

Foreign exchange reserves are the external assets including a country’s gold holdings and convertible foreign currencies held in its banks along with special drawing rights (SDR) and exchange reserve balances with the International Monetary Fund (Rahman and Bristy, 2015). International Monetary Fund (IMF) in Abdullah and Waheed (2010) said that external reserve consist of official public sector foreign assets that are readily available to and controlled by the monetary authorities for direct financing of payment imbalances and directly regulating the magnitude of such imbalances through intervention in the exchange markets to affect the currency exchange rate and/or for other purposes. It follows from the above that the apex bank of any nation is responsible for control of external reserve of the country.

Reserves are held for transactionary and precautionary motives and the holding is expected to increase with economic size and volume of international transactions (Mendoza, 2004). This suggests that increase in current and capital account vulnerability should motivate the apex banks to hold more reserve. This would enable them absorb the shocks associated with such changes.

It has been speculated that superior technological, marketing and managerial ability of FDI create high possibilities of increased foreign exchange reserves in the recipient country. Chopra (2002) argues that it is because multinationals have greater capabilities to tap international market than domestic firms with extended information access and marketing networks that allow them to contribute more to increase foreign exchange reserves in the host country.

It is in continuation of the establishment of effect of FDI on external reserve that, Wenkai and Song (2009) classify channels of which FDI may affect foreign exchange reserve into two: namely, direct and indirect channels. In direct channel, some of the FDI currencies are transformed into foreign exchange reserve in the central bank via settlement of exchange. Indirect effect occurs when balance of payment is formed through production, export and import in the FDI process so that foreign exchange reserves are indirectly affected.

2.1.5. **FDI and IFRS**

IFRS came into existence in 1973, with the birth of International Accounting Standard Committee (IASC), which issued various accounting standards known as International Accounting Standards (IAS). In 2001, a board known as International Accounting Standard Board (IASB) took over the functions of IASC and adopted the IAS issued by them and issues new ones known as IFRS (Collings, 2012). The objectives of setting up the standards is that companies reporting under the standards would produce general purpose financial statements that are of high quality, clear and transparent nature that allow the financial statements to be comparable thus users can make rational economic decisions about the companies. From the above, it became clear that IFRS adoption helps in satisfying the information needs of stakeholders, as a result, encourages international branches, subsidiaries, agents and associates. This is achieved because,
International Financial Reporting Standards (IFRSs) set out recognition, measurement, presentation and disclosure requirements in dealing with transactions and events that are important in general purpose financial statements, which provide information about financial position, performance and cash flows of an entity, which are useful to users in making economic decisions (IFRS Explained, 2012).

The adoption of IFRS provides quality financial information, thus encouraging FDI (Gordorn et al., 2012). The information provided while using IFRS are clear thus reducing business risk. Chen et al. (2014) contended that though adopting IFRS is expected to facilitate growth in bilateral activities, the benefits may not be evenly distributed across all bilateral relations as the pre-adoptive conformity of national Generally Accepted Accounting Principles (GAAP) to IFRS determines the significance and therefore the benefits of IFRS adoption. However, it has been argued that by adopting IFRS with its associated high cost of training and re-training of staff and its other obstacles, it’s attending benefits of attracting more FDI becomes questionable, as such, African countries may have misplaced priority (Jayeoba et al., 2016). The positive relationship between FDI and IFRS adoption were in agreement with the findings of Jinadu et al. (2016) and Henock and Okay (2012), while some scholars like Efobi et al. (2014) and Jayeoba et al. (2016) discovered that IFRS adoption cannot attract FDI.

2.2. Theoretical Review: Endogenous Growth Theory

The work of Uzawa (1965) formed the basis for endogenous growth theory. Endogenous growth theory posits that economic growth is generated from within a system as a direct result of internal processes. It added that human capital enhancement, innovation and knowledge will lead to growth by means of development of new forms of technology and effective and efficient means of production. The theory also focuses on positive externalities and spillover effect of knowledge based economy which will lead to economic growth. Endogenous growth is long run economic growth propelled by internal forces to the economic system particularly those governing innovation and technological knowledge. The long run economic growth with respect to output per person depends on the growth of total factor productivity (TFP) which is determined by rate of progress in technology. Unlike the neoclassical theory which posits that economic growth is due to exogenous factors, the endogenous growth theory is on the contrary. The main idea of endogenous theory referred to as ‘the advantage of backwardness’ that is the more a country falls behind technologically, the larger the average size of innovations because the larger is the gap between the frontier idea incorporated in the country’s innovations and the ideas incorporated in the old technologies being replaced by innovation. As technological advancement of a country lagging behind technological frontier, growth rate increases until the gap separating it from the frontier finally stabilizes (Gerschenkron, 1952). This is true as supporters of endogenous growth theory argue that productivity and economy of today’s industrialized nation compare to the same country in pre-industrialized eras are evidence that economic growth is created and sustained from within the country and not by trade.

The research was anchored on this because endogenous growth theory, which sees growth as a function of technological progress which is in FDI. It is supportive of FDI as FDI can permanently increase the rate of growth through technology transfer, diffusion and spillover effects, which are seen in endogenous arena as catalysts for economic growth.

2.3. Empirical Review

2.3.1. Effect of FDI on GDP

Adewumi (2006) examined the contribution of FDI to economic growth in Africa. Data were collected for the entire continent and for 11 selected countries within the continent for the period 1970 to 2003. The separate study of individual countries is to have a closer look at the impact of FDI at country level and to ascertain whether there is wide variation in the regression result when studied at country level. Data were collected for GDP growth rate, gross capital formation and net export. Analyses were done using graphical and regression analysis. The result revealed a positive but insignificant relationship between FDI and economic growth of Africa. FDI was found to have highest positive effect on GDP with net export having the least positive effect on GDP. Of the 11 countries, 8 countries showed positive coefficient for FDI but only one country revealed significant effect of FDI while using t test. The other three countries had negative coefficient to FDI.
Similarly, Aveh et al. (2013) sought to account for the effect of FDI on economic growth using a two stage least square econometric analysis. They used a quarterly time series data spanning from 2004-2011. The study showed a positive but insignificant effect of FDI on economic growth but exports and financial development had negative effect. Insah (2013) investigated the relationship between economic growth and FDI in a dynamic framework using Dynamic Ordinary Least Square (DOLS) technique. The data were for the period covering 1980-2010. It showed a positive and significant relationship between FDI and GDP. Furthermore, Andinuur (2013) sort to explore the linkages between inflation, FDI and economic growth in Ghana using annual time series data covering the period 1980-2011. Cointegration test and Granger causality test were employed in the study. Findings indicated economic growth relates positively and negatively with FDI and inflation respectively both in long-run and short-run. Positive relationship between inflation and FDI was established while bi-directional causality was established between GDP growth and FDI. Also found was a unidirectional causal links from GDP and FDI to inflation but no directional causal relationship from inflation to GDP and FDI. However, a unidirectional causal link running from GDP to inflation was established.

Adrino (2012) investigated the effect of FDI on economic growth of South Africa for the period 1980-2010. Variables in the study included real GDP, FDI, domestic investment, real exchange rate and foreign marketable debt. Analysis was done using Johansen co-integration and VECM framework. It was discovered that FDI, real exchange rate, and debt have a negative impact on growth in the long-run while domestic investment has a positive impact on growth. In the same vein, Ukwuegbue et al. (2013) investigated empirically the relationship between FDI and economic growth in Nigeria for the period 1981-2009. Dependent variable was GDP whereas the independent variables were FDI, Gross Fixed Capital Formation, Interest Rate and Exchange Rate. OLS and Granger Causality test were employed in the study. The result indicates that FDI and Interest Rate had positive but insignificant impact on the growth of Nigerian economy while GFCF and Exchange Rate had positive and significant impact on economy.

Olokoyo (2012) examined the effect of FDI on the development of Nigerian economy for the period 1970-2007. The researcher sort to ascertain the FDI determinants in Nigeria and the effect of FDI on the economy. OLS and Cochrane-Orccutt iterative method of error correction were used for the analysis. The dependent variable was Real GDP while the explanatory variables were FDI, balance of payment, and official exchange rate. The result of the analysis did not support a robust link between FDI and economic growth that is; it showed positive but insignificant effect of FDI on GDP.

Abdullah et al. (2015) examined the effect of FDI on economic growth of Pakistan using time series data of 1980-2013 and OLS for the analysis. GDP was the independent variable while FDI, trade and inflation were the explanatory variables. The result showed a positive and significant relationship between FDI and GDP but a positive but insignificant relationship between inflation and GDP. Trade had negative and significant impact on GDP. Similarly, Adigwe et al. (2015) sort to establish the relationship among FDI exchange rate and GDP. Data were collected for the period 2008-2013 whereas Pearson’s coefficient was used for the analysis. The result indicated a negative correlation between FDI and GDP but appositive correlation with exchange rate. However, there were positive correlation between exchange rate and FDI and exchange rate and GDP.

Okeke et al. (2014) examined the impact of FDI inflows on the growth in Nigerian economy for the period 1977-2011. Real GDP was the independent variable while the explanatory variables were FDI, Inflation rate, Infrastructure (government on provision of infrastructure), Total trade in the economy, Total export and Total government expenditure. ADF, Johansens co integration and OLS regression were used for data analysis. The result indicated positive relationship between export, inflation rate and provision of infrastructure and economic growth in Nigeria. Also revealed were negative relationship between government expenditure, FDI, and total trade and economic growth. Similarly, Antwi et al. (2013) studied the relationship between FDI and economic growth in Ghana for the period 1980-2010. The data for the study were the GDP, GDP growth rate, Gross National Income (GNI), manufacturing value added, External debt stock, Inflation, Trade, Industry value added and FDI net inflows as percentage of GDP (FDI ratio). OLS was used for the analysis of data. FDI was the dependent variable while others were the explanatory variables. It was found that FDI had positive correlation with GDP, GDP growth rate and trade but had negative correlation inflation and external debt stock.
2.3.2 External Reserves

Wenkai and Song (2009) carried out a study to find out the real effect of FDI on foreign exchange reserve with evidence from China for time series of 1986-2007. In the study, they separated FDI that has direct link with foreign reserve from nominal FDI. FDI in the form of imported equipment investment, FDI repatriation and profit reinvestments are considered as not having direct link with foreign exchange reserve were separated as having indirect effect while others were considered as direct effect. The effects of direct and indirect FDIs sum up to give real effect of FDI on foreign reserves were estimated. Results showed that from 1986 to 2007, FDI contributed 50 percent of foreign exchange reserve and the direct effect dominant before 2003 was surpassed by indirect effect after 2004 as major source of contribution.

Abdullateef and Waheed (2010) investigated the impact of changes in external reserve position of Nigeria on domestic investment, inflation rate and exchange rate. The study covered from 1986-2006. OLS and vector error correction models were used for data analysis. The study was divided into three sections: first was concerned with determinants of external reserves while the second focused on linkages between the changes in external reserves and certain economic variables in which in specific terms wanted to confirm the effect of external reserve on FDI. The third used analysis of simple quantity constraint on public investment which is assumed to depend on real GDP growth and domestic credit to the public sector and foreign exchange reserve. In the second section, real FDI was the dependent variable while the independent variables includes; real external reserve, openness of the economy, real exchange rate and Niger delta dummy. Findings revealed amongst others a positive and significant effect of external reserve, openness of the economy and exchange rate on FDI. This implies that they have positive effect in determination of FDI.

Osigwe and Uzonwanne (2015) which had been review under exchange rate showed bidirectional Granger causality between foreign reserve and FDI at lag three. Furthermore, Rahman and Bristy (2015) verified the macroeconomic impact of FDI on South Asian Association for Regional Cooperation (SAARC) comprising Bangladesh, Pakistan, Bhutan, India, Maldives, Nepal, and Sri Lanka and recently Afghanistan. It covered the period 2002-2012. Due to unavailability of data Afghanistan was excluded from the study. Correlation and Simple Regression methods were used to identify the direction and extent of impact of FDI on particular variable. FDI was found to have very strong positive correlation with foreign reserves hence external reserves are expected to rise as soon as FDI increases.

Mummtaz and Pirzada (2014) investigated the role and impact of FDI on the economic growth of Pakistan from 1975-2010. Dependent variable was economic performance proxy by FDI and the explanatory variables were; Total Reserve, Gross Domestic Savings and Inflation. OLS was adopted for data analysis. Result showed that all the explanatory variables were positively correlated with the dependent variable. This implies that an increase in FDI will lead to increase in total reserve of Pakistan.

Scanty literatures exist with respect to effect of FDI on nation’s external reserve. Some that studied the effect of FDI on external reserve found positive correlation between them (Wenkai and Song, 2009, Mummtaz and Pirzada 2014, and Rahman and Bristy, 2015). Abdullateef and Waheed (2010) found that the amount of a nation external reserve is one of the factors that determine the volume of FDI attraction. Osigwe and Uzonwanne (2015) in their study found bidirectional granger causality between FDI and external reserve. Although the results seemed consistent, the studies were carried out mostly outside Africa as regards the effect of FDI on External reserve one need to carry out African studies and compare its effect in different countries for better understanding.

2.3.3 Effect of IFRS on FDI

It has been established that IFRS adoption has effect of FDI as evidenced by the following works reviewed:

Henock and Oktay (2012) examined the effect of IFRS on FDIs, by analyzing whether the mandatory adoption of IFRS leads to an increase in cross-border acquisitions in the adopting countries in European Union (EU). They standardized the number of acquisitions from overseas by the number of local acquisitions to obtain a measure of the probability of a cross-border acquisition. Logistic Regression was used for the analysis. Results revealed that the average proportion of cross-border acquisition of listed
companies in the adopting countries were significantly larger after adoption of IFRS than before the adoption.

Jinadu et al. (2016) examined whether IFRS adoption has impacted significantly on FDI in Nigeria. 165 questionnaires were administered while regression method was used for data analysis. The findings revealed that IFRS adoption is positively and significantly related to FDI. Similarly, Jayeoba et al. (2016) studied the consequences of adoption of IFRS on FDI of selected African countries (Egypt, Nigeria, Kenya, Morocco, Tunisia and South Africa) for the period 1980-2015. Other control variable introduced includes Exchange rate, inflation rate and GDP. Descriptive analysis and inferential statistics (Granger Casualty Test, Hausman Test and Regression Analysis were adopted for data analysis. The results showed that adoption of IFRS had significant positive effect on FDI inflows.

Efobi et al. (2014) studied the effect of IFRS adoption on FDI and the role institutions play in the relationship. A total sample of 92 countries from developed and developing nations were selected for the study for the period spanning from 2002-2010. General Method of Moments estimate technique was used for the estimation. The result showed that IFRS was not able to attract much FDI and that, institutional development play a substitutive role in that regard. Adeula et al. (2014) in their study evaluated the impact of IFRS on FDI as it affects the Nigerian economy. Primary data were collected from managers and preparers of financial statements of companies that have adopted IFRS while secondary data were collected from World Development Indicators. One sample t-test was used to test the primary data while secondary data were analyzed using correlation and regression analysis. Findings showed that there is positive but insignificant relationship between FDI inflow and IFRS adoption. Also found was that the longer a country uses IFRS the higher the FDI.

Pricope (2017) investigated the impact of IFRS adoption on FDI inflow of poor countries. Propensity Score Matching Method was applied on samples of 38 poor countries, between 2008-2014, in which probit model was used to compute the propensity scores. The result showed that IFRS had a positive impact on FDI flows in poor countries. Sherman and de Klerk (2015) explored IFRS and Foreign ownership in South African companies. The study used foreign ownership level in South African listed companies during the period 2003-2007. Top 40 South African countries that mandatorily adopted IFRS were studied. The result indicated that IFRS adoption did not have significant positive association with foreign ownership levels during the sample period.

Akpomi and Nnadi (2017) evaluated the effect of IFRS on FDI: evidence from African countries. Unbalanced panel data from 45 countries spanning from 1996-2011 were used for the study. OLS regression was used for analysis of data. Result revealed that IFRS had positive effect on FDI inflows.

3. Methodology of research

The design for this study is ex-post facto research design or causal comparative research design. Three countries were selected for the study, which include Nigeria, Ghana and South Africa from 42 countries. Judgemental or purposive sampling was adopted in arriving at the sample. This is appropriate because the selected countries were the highest FDI recipients for the sub-region for the period under review(1999-2015) with Nigeria receiving at total of US$ 78,472.1 million, followed by South Africa with a total of US$ 70,763.5 million and Ghana receiving US$ 25,343.8 million (World Investment Report, 2016). Furthermore, Nigeria is leading country in West-Africa while South Africa is also leading country in Southern Africa. Both are leading in the GDP of their regions and equally command political and economic respect in those regions.

Nigeria and Ghana are West-African countries that share similar historical, political and economic antecedents. Both countries had their political independence in 1960s and in 1983 (Ghana) and 1986 (Nigeria) adopted IMF/World bank Structural Adjustment Programme (SAP) aimed at liberalization of their economies in an attempt to solve their economic problems they faced in late 1970s or early 1980s.

The three countries started uninterrupted democracy in 1992, 1994 and 1999-(Ghana, South Africa and Nigeria respectively) and adopted IFRS in 2012, 2007 and 2005 for Nigeria, Ghana and South Africa respectively. Studies of countries of similar characteristics will reduce the incidence of hetrogenity that might lead to spurious results.
3.1. Sources and Methods of Data Collection


3.2. Theoretical Framework and Model Specification

Data were analyzed using inferential statistics (dummy variable regression). The theoretical relationship between Foreign Direct Investment (FDI) and economic growth (GDP) according to this study is hinged on the endogenous growth model. The model emerged as a result of the deficiency in the neoclassical growth model (traditional growth theory) in explaining the long-term source of economic growth. The traditional growth theory used the aggregate production function to explain the relationship between an economy’s output and inputs of labour and capital as expressed in the equation below:

\[ Y = A^* f(K, L) \]  

Where: \( Y = \) output, \( L = \) labour input, \( K = \) capital input and \( A = \) technology.

Based on the above equation, FDI directly impact on the output through the amassment of tangible assets through increase in \( K \). The technology term \( A \) is assumed to be exogenous and hence FDI does not affect the rate of technological growth in the long run. Thus, \( A \) is specified as below:

\[ A = A_0 e^{g_e} \]  

Where: \( A_0 \) denotes the initial value of \( A \) at time zero while \( e^{g_e} \) is the growth rate of \( A \).

However, the endogenous growth models considered long run growth as a function of technological progress in which FDI can permanently increase the rate of growth through technology transfer, diffusion and spillover effects. Based on this and from the basic augmented production function, the endogenous growth model is specified as below.

\[ Y = f(A, L, K, H) \]  

Where: \( Y = \) the GDP, \( L = \) employed labour force, \( K = \) the physical capital stock, \( H = \) the capital index and \( A \) enters as a factor input and captures the effect of technology on economic growth. This study assumes that the effect of FDI on economic growth operates through \( A \). Hence, \( A \) is a function of FDI as specified below.

\[ A = g(FDI) \]  

Putting equation (4) into equation (3), we have the equation below:

\[ Y = f(FDI, L, K, H) \]  

3.2.1. Model specification

Following from the above theoretical framework, the following models were used to estimate the effect of FDI on the economies of selected African countries. Note that since the work intended to determine whether the impact of FDI on the selected macroeconomic variable differ between the pre and post-IFRS adoption, the two basic approaches to testing for structural stability are the Chow test and the dummy variable regression. Dummy Variable Model has been considered to have several advantages over the Chow test which among them is the fact that all the observations are pooled in one regression model, and this increases the degree of freedom and hence improves the relative precision of the estimated parameters. However, in Chow test the observations are divided into two (pre and post) and this reduces the degree of freedom and hence introduces bias in the estimated parameters (Gujarati, Porter and Gunasekar, 2009). The consequence of using Chow test is much more severe in this work because of its small sample size. For instance, the pre and post IFRS in Nigeria are 1999-2011 and 2012-2015 respectively.
This means that a regression model for post IFRS adoption will be estimated using only 4 observations and this will definitely introduce small sample bias. To avoid this, the study adopted dummy variable technique.

**Model 1** The effect of FDI on GDP of Nigeria, Ghana and South Africa
To model the effect of FDI on GDP, the study used the model below.

\[ GDP = f (FDI, INF, TOP, Dummy) \] (6)

Where: GDP=gross domestic product which is represented by Y in equation (5), FDI= Foreign direct investment, INF= inflation rate, TOP= trade openness. N:B TOP and INF were introduced to represent extraneous variables.

Dummy (dummy variable) =1 for observation in pre-IFRS
Dummy (dummy variable) = 0, otherwise (i.e. observation in post-IFRS)

To make the model estimable, equation 6 was transformed as shown below:

\[ \log gdp_{it} = \beta_{0i} + \beta_{1i}D_{it} + \beta_{2i} \log fdi_{it} + \beta_{3i}(Dummy_{it} \ast fdi_{it}) + \beta_{4i}inf_{it} + \beta_{5i}top_{it} + \mu_{it} \] (7)

The essence of putting equation (7) into log form is to scale the data down and hence reduce the heteroscedasticity (Gujarati and Porter, 2009).

Where: (i=1,2,3) and hence represent Nigeria, Ghana and South Africa respectively.

**Model 11**. The effect of FDI on External Reserve (EXTR) of Nigeria, Ghana and South Africa
The model as shown below was used to estimate effect of FDI on the EXP for Nigeria, Ghana and South Africa

\[ EXTR = f (FDI, INF, TOP, Dummy) \] (8)

Where: EXTR = External reserve.

The above model can be transformed as shown below for estimation

\[ \log extr_{it} = \phi_{0i} + \phi_{1i}D_{it} + \phi_{2i} \log fdi_{it} + \phi_{3i}(Dummy_{it} \ast fdi_{it}) + \phi_{4i}inf_{it} + \phi_{5i}top_{it} + \mu_{it} \] (9)

4. Data presentation and analysis
4.1. Data Presentation
Data on the macro-economic variables collected for analysis for the three countries of study were presented in tables and graphs. They contain data of GDP, External Reserve, Inflation and Trade Openness.
Figure 1. Graph showing trend in FDI inflows to Nigeria, Ghana and South Africa

From the figure 1, it could be observed that Nigeria had a relative progressive increase in FDI inflow from 1999 to 2009. She had a sharp drop in 2010 but rose quickly to reach its peak for the period in 2011. Since the adoption of IFRS in 2012, there has been a steady decline. In contrast, Ghana had relatively smaller FDI inflow but had a progressive increase over the years with minor drop in 2010 and 2015. Post-IFRS adoption period (2007-2015) had remained consistently higher than the pre adoption period. However, South Africa had highly unstable FDI inflow which has been characterized by sharp rise and crash as such is unpredictable in both pre and post-IFRS adoption periods with post period (2005-2015) being consistently higher.

Figure 2. Graph of trend of the RGDP of Nigeria, Ghana and South Africa in US$

In Figure 2 a pictorial trend of RGDP of the three countries were exhibited, with South Africa having the highest RGDP until 2014 when Nigeria had a sudden rise in 2015. The above could be traced to re-basin exercise. The graph showed clearly that all the countries had maintained a steady increase in their annual RGDP.

Figure 3. Graph showing trend of External Reserve of Nigeria, Ghana and South Africa in US$

4.2. Data Analysis

Inferential statistics (Dummy Variable Regression) were adopted for data analysis. This is appropriate in that in dummy variable regression it bring out the effect of structural brake.
4.2.1. Unit Root Test

Ordinary regression estimates from non-stationary time series are usually unacceptable. This is study undertakes to check for the time series properties of the data as shown below in table.

Because time series data are basically used for forecasting purposes and in the event of non-stationarity, such estimates become of no use as it generates spurious regression (Gujarati, 2004).

Following this, the Table 1. Unit root test on the variables

<table>
<thead>
<tr>
<th></th>
<th>Nigeria ADF at Level</th>
<th>Nigeria ADF 1st DIFF</th>
<th>Ghana ADF at Level</th>
<th>Ghana ADF 1st DIFF</th>
<th>South Africa ADF at Level</th>
<th>South Africa ADF 1st DIFF</th>
</tr>
</thead>
<tbody>
<tr>
<td>LogrGDP</td>
<td>-1.6906 (0.7076)</td>
<td>-3.3964*** (0.03556)</td>
<td>-0.5597 (0.9669)</td>
<td>-3.3849*** (0.0116)</td>
<td>-2.3877 (0.1600)</td>
<td>-3.8248** (0.0419)</td>
</tr>
<tr>
<td>LogFDI</td>
<td>-1.6392 (0.4362)</td>
<td>-3.5179*** (0.0227)</td>
<td>-0.8149 (0.7853)</td>
<td>-4.1255*** (0.0161)</td>
<td>-1.9091 (0.3196)</td>
<td>-4.5463*** (0.0044)</td>
</tr>
<tr>
<td>LogTOP</td>
<td>-1.4685 (0.5230)</td>
<td>-3.8509** (0.0122)</td>
<td>-2.5969 (0.1182)</td>
<td>-3.7019** (0.0073)</td>
<td>-1.9269 (0.3127)</td>
<td>-3.6638** (0.0173)</td>
</tr>
<tr>
<td>INF</td>
<td>-2.1439 (0.2321)</td>
<td>-5.9945*** (0.0003)</td>
<td>-2.9580 (0.0607)</td>
<td>-3.6185** (0.00229)</td>
<td>-2.8178 (0.0827)</td>
<td>-4.0153*** (0.0090)</td>
</tr>
<tr>
<td>LOGEXTR</td>
<td>-1.4008 (0.5535)</td>
<td>-3.0988** (0.0465)</td>
<td>-0.9274 (0.7517)</td>
<td>-3.5774*** (0.0203)</td>
<td>-1.2901 (0.6071)</td>
<td>-3.9752*** (0.02931)</td>
</tr>
</tbody>
</table>

Following this, the

Table 1. Unit root test on the variables

Source: Researcher’s Computation using Eviews 9. P values are in parenthesis
“***” and “****” Represent that the variable is integrated at 5% and 1% respectively

The table 1 presented the unit root property of the variables for each of the countries studied. The unit root test on the variables (ADF result) show that all the variables in each country are integrated at their first difference. The evidence is that all the variables used for study have unit root as evidenced from their probability which were above 0.05. For instance when the variables are considered at their level form for the case of Nigeria, evidence is that at both 5% and 1% each of the variables has unit root. The same applies for Ghana and South Africa. In other words, the null hypothesis of unit root is accepted for all the variables at their level form from the three countries. On the other hand, each of the variables when differenced appeared stationary at either 5 per cent or 1 per cent or both. This implies that the null hypothesis of unit root is rejected for all the variables at their first difference as seen in their probability figure which were significant (< 0.05). Furthermore, the equations were subjected to co-integration using Engel and Granger approach. Evidence in the table 2 from the Engel and Granger approach test proved that all the five equations for Nigeria and Ghana co-integrating equations while South Africa has three co-integrating and two non-co-integrating equations.

4.2.2. Cointegration Test

Table 2. Unit root test on the error term

<table>
<thead>
<tr>
<th></th>
<th>Nigeria ADF at level for error term</th>
<th>Ghana ADF at level for error term</th>
<th>South Africa ADF at level for error term</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOGRGDP</td>
<td>-4.44768*** (0.0005)</td>
<td>-2.4591** (0.0177)</td>
<td>-2.7954*** (0.0244)</td>
</tr>
<tr>
<td>LOGEXTR</td>
<td>-4.8414*** (0.0001)</td>
<td>-3.4166*** (0.0021)</td>
<td>-3.9377*** (0.0006)</td>
</tr>
</tbody>
</table>

Source: Researcher’s Computation using Eviews 9. P values are in parenthesis
“***” and “****” Represent that the variable is integrated at 5% and 1% respectively.

This test was conducted to determine whether each of equations representing each of the two objectives will have equilibrium relationship or not. The test involves subjecting the estimated error term from each of the equations to unit root test as shown in the table 2. For all the countries of study, the result shows that all the two equations representing the two objectives are co-integrated at either 5% or 1% or
both. All the variables had probability figure less than 0.05. This implies that the null hypothesis for no co-integration was being rejected for all the equations. Since it has been established all the variables used in the equations are integrated of order one I(1), the OLS t-values are no longer reliable and cannot be used (Brooks, 2008). Thus the study estimated the short-run dynamic model with error correction as shown in the following tables below.

### 4.2.2.3. Interpretation of Error Correction Estimates Result

**Table 3. Error Correction Estimates of the effect of FDI on Real Gross Domestic Product (RGDP) of Nigeria, Ghana and South Africa**

<table>
<thead>
<tr>
<th>Countries</th>
<th>NIGERIA</th>
<th>GHANA</th>
<th>SOUTH AFRICA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Variable</td>
<td>Coefficients</td>
<td>P-value</td>
<td>Coefficients</td>
</tr>
<tr>
<td>Constant</td>
<td>0.06295</td>
<td>0.0544</td>
<td>0.046433</td>
</tr>
<tr>
<td>Dlogfdi</td>
<td>0.1710</td>
<td>0.0911</td>
<td>0.009307</td>
</tr>
<tr>
<td>Dinf</td>
<td>-0.000467</td>
<td>0.9210</td>
<td>0.000264</td>
</tr>
<tr>
<td>Dlogtop</td>
<td>-0.363330</td>
<td>0.0025</td>
<td>-0.041933</td>
</tr>
<tr>
<td>Dummy</td>
<td>-0.04165</td>
<td>0.3368</td>
<td>0.039472</td>
</tr>
<tr>
<td>Dummy*dlnfdi</td>
<td>-0.41526</td>
<td>0.0141</td>
<td>-0.040814</td>
</tr>
<tr>
<td>Error(-1)</td>
<td>-0.90774</td>
<td>0.0080</td>
<td>-0.081078</td>
</tr>
</tbody>
</table>

\[ R^2=0.768. \]

\[ \text{Adjusted } R^2 = 0.6141 \]

\[ F\text{-Stat} = 4.9787; \]

\[ \text{Prob}(F\text{-stat})=0.01627 \]

\[ R^2=0.888692. \]

\[ \text{Adjusted } R^2=0.814487 \]

\[ F\text{-Stat}=11.97612 \]

\[ \text{Prob}(F\text{-stat})=0.0023 \]

\[ R^2=0.726147. \]

\[ \text{Adjusted } R^2=0.543578 \]

\[ F\text{-Stat}=3.977387; \]

\[ \text{Prob}(F\text{-stat})=0.031766 \]

**Source:** Researcher’s computation, 2017

The results in table 3 show that the effect of foreign direct investment (FDI) on economic growth (GDP) was positive for all the countries studied except South Africa which was negative. For all the countries, FDI appeared not have significant effect on economic growth at 5 percent level of significance as their p-values are 0.0911 > 0.05, 0.6812 < 0.05 and 0.4203>0.05 for Nigeria, Ghana and South Africa respectively. The positive sign for the FDI in Nigeria and Ghana suggests that FDI is growth-enhancing. For Nigeria, Ghana and South Africa the coefficients of FDI were 0.1710, 0.0093 and -0.004046 respectively and these represent the magnitude of the growth in the economy for one per cent increase in the FDI. As the result shows, FDI exert a very small effect on the growth of the three countries but has more explanatory power on the economic growth in Nigeria than Ghana. For the case of South Africa, not only that the FDI does not have the positive sign, the effect appeared to be the smallest.

The coefficient of inflation was negative for Nigeria and South Africa but positive for Ghana that is -0.000646, 0.002643 and -0.000407 for Nigeria, Ghana and South Africa respectively. This suggested that inflation is detrimental to the growth of each country accept Ghana. However, none of the results appeared to be significant (Nigeria, p-value 0.9210, Ghana, 0.8505 and South Africa 0.4203 all > 0.05) but it appears that inflation has the tendency to hurt economic growth more in Nigeria than in South Africa as shown by its explanatory power while it appeared to enhance growth in Ghana, and hence not in accordance with economic theory.

The coefficient of the degree of Trade Openness (TOP) appeared negative for Nigeria and Ghana (-0.3633 and -0.04933 respectively) while it is positive for South Africa (0.2547). The implication of this is that openness of the economy does not encourage economic growth in both Nigeria and Ghana while it enhances growth in South Africa. This scenario is possible and depends on the volume and nature of export relative to import. If the import is high than export and is biased towards consumption goods, then openness will possibly hurt growth as the case of Nigeria and Ghana but if export is greater than import or import is more on capital goods of both, the scenario in South Africa becomes applicable.

The study used dummy in interactive form (dummy multiplied by FDI) to compared the impact of FDI before and after adoption of IFRS in Nigeria, Ghana and South Africa. For the case of Nigeria and South Africa, the coefficient of interactive dummy (-0.41526 and 0.013682) is statistically different from zero (p-value =0.0141< 0.05) at 5 percent level of significance, strongly suggesting that FDI-Growth equation for the
two time periods (pre and post IFRS) are different. The implies that Nigeria economic growth was less by 0.41 percent in the post IFRS adoption compared to the pre IFRS adoption and for South Africa, economic growth was higher by 0.014 percent in the post IFRS adoption compared to the pre IFRS adoption but p-value was 0.0738 which is > 0.05. However, for Ghana, the coefficient of interactive dummy (-0.041) is statistically equal to zero (p-value= 0.3765>0.05) and this suggest that the effect of FDI on growth were the same in both the pre and post IFRS adoption. Thus IFRS adoption did not affect have FDI effect on economic growth in Ghana.

The coefficient of the first lag of the error term which is the adjustment coefficient indicates the rate of convergence to the equilibrium when disturbed. For instance, for Nigeria, Ghana and South Africa, the coefficients were -0.9077, -0.0818 and -0.2245 respectively. This implies that about 91 per cent, 8 per cent and 22 percent discrepancies between the long-run and short-run is being corrected in Nigeria, Ghana and South Africa in the subsequent period.

R² indicates the changes attributable to the explanatory variables including extraneous variables while adjusted R² is when the extraneous variable must have been removed. The adjusted R² for Nigeria, Ghana and South Africa were 0.6141, 0.8144 and 0.5436 respectively showing that the explanatory variables account for 61.4 percent, 81.4 percent and 54.4 percent changes in the RGDP of Nigeria, Ghana and South Africa respectively. Other variables not captured in the regression model account for the outstanding balance in each country’s change in RGDP.

The F-statistic, which indicates the joint effect of the explanatory variables was significant in all the countries of study with the p-values of 0.01627, 0.0023 and 0.0318 for Nigeria, Ghana and South Africa respectively which were less than 0.05 at 5 percent level of significance.

The p-values calculated for coefficient interactive dummy (dummy multiplied by FDI) for Nigeria was 0.0141 < 0.05 at 5 significance level. Since they are less than 0.05, the study reject the null hypotheses that there is no significant different in the effect of FDI in the pre and post-IFRS adoption in Nigeria. For the case of Nigeria, the growth effect of FDI was about 42 percent less in the post-IFRS adoption compared to the pre-IFRS adoption. For Ghana, and South Africa the FDI p-value for the coefficient of interactive dummy were 0.3765 and 0.0738 which were greater than the 0.05. Thus the study did not reject the null hypothesis.

<table>
<thead>
<tr>
<th>Countries</th>
<th>NIGERIA</th>
<th></th>
<th></th>
<th>GHANA</th>
<th></th>
<th>SOUTH AFRICA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficients</td>
<td>P-value</td>
<td>Coefficients</td>
<td>P-value</td>
<td>Coefficients</td>
<td>P-value</td>
</tr>
<tr>
<td>Constant</td>
<td>0.168954</td>
<td>0.2763</td>
<td>0.123234</td>
<td>0.2750</td>
<td>0.078198</td>
<td>0.3935</td>
</tr>
<tr>
<td>Dlogfdi</td>
<td>0.410688</td>
<td>0.4341</td>
<td>0.485827</td>
<td>0.0329</td>
<td>-0.043758</td>
<td>0.4071</td>
</tr>
<tr>
<td>Dinf</td>
<td>-0.023424</td>
<td>0.2869</td>
<td>-0.016177</td>
<td>0.1925</td>
<td>-0.038696</td>
<td>0.1638</td>
</tr>
<tr>
<td>Dlogtop</td>
<td>0.2869</td>
<td>0.6938</td>
<td>-0.636190</td>
<td>0.0617</td>
<td>1.017617</td>
<td>0.2933</td>
</tr>
<tr>
<td>Dummy</td>
<td>-0.264574</td>
<td>0.2215</td>
<td>-0.080595</td>
<td>0.6064</td>
<td>0.013160</td>
<td>0.9020</td>
</tr>
<tr>
<td>Dummy*dlnfdi</td>
<td>-0.361428</td>
<td>0.6070</td>
<td>0.035921</td>
<td>0.9231</td>
<td>0.127232</td>
<td>0.1279</td>
</tr>
<tr>
<td>Error(-1)</td>
<td>-0.806089</td>
<td>0.0738</td>
<td>-0.547124</td>
<td>0.0650</td>
<td>-0.391497</td>
<td>0.1292</td>
</tr>
</tbody>
</table>

Table 4. Error Correction Estimates the effect of FDI on External Reserve (EXTR) of Nigeria, Ghana and South Africa
External reserve as shown in table 4 except for South Africa was positively related to FDI for all the countries studied with coefficient of 0.41068, 0.4858 and -0.0437 for Nigeria, Ghana and South Africa respectively. This implies that an increase in FDI raises the external reserve of Nigeria and Ghana but depresses that of South Africa. However, external reserve did not significantly explain the change in reserve in any of the countries because their p-values for the coefficient of FDI are each >0.05 at 5 percent level of significance except Ghana which was <0.05.

Inflation is negatively related to external reserve in all the countries with coefficients of -0.0234, -0.016177 and -0.0386 for Nigeria, Ghana and South Africa respectively. This implies that inflation is detrimental to the accumulation of reserve. Despite that inflation is correctly signed it appeared it does not impact significantly to external reserve of any of the countries.

The coefficient of interactive dummy (dummy multiplied by FDI) is not significant in any of the countries (p-values of 0.8231, 0.4057 and 0.5699> 0.05). This means that for all the countries, the effect of FDI on export remained the same in both the pre-IFRS and post-IFRS.

The coefficient of the first lag of the error term which is the adjustment coefficient indicates the rate of convergence to the equilibrium when disturbed. For instance, for Nigeria, Ghana and South Africa, the coefficients are -0.8060, -0.5471 and -0.3915 respectively. This implies that about 81 per cent, 55 per cent and 39 per cent discrepancies between the long-run and short-run is being corrected in Nigeria, Ghana and South Africa in the subsequent period.

$R^2$ which measures the effect of extraneous and the explanatory variables in the model were 0.8488, 0.779 and 0.9617 for Nigeria, Ghana and South Africa respectively. Adjusted $R^2$ values were 0.7480, 0.6317 and 0.9361 for Nigeria, Ghana and South Africa respectively. This suggests that 74.8, 63.2 and 93.6 percent change in the external reserves of Nigeria, Ghana and South Africa respectively were attributable to the explanatory variables in the model while other variables not in the model account for the balance in each of the countries of study.

The joint effect of the explanatory variables as contained in the F-statistics were significant with probability values of 0.031, 0.011116 and 0.00343 for Nigeria, Ghana and South Africa respectively which were <0.05.

Nigeria, Ghana and South Africa, the p-values for the coefficients of multiplicative dummy were 0.6070, 0.9231 and 0.1279 and were significantly above 0.05 at 5 percent level of significance. This implies that the study did not reject the null hypothesis that the effect of foreign direct investment on exchange rate did not differ in the pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa.

### 4.3. Discussion of Findings

Discussions of findings were done in relation to the objective of the study.

**Objective 1:** To ascertain the effect of FDI on GDP, in pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa.

It was found that FDI had positive effect of GDP of Nigeria and Ghana but had negative effect on that of South Africa. However, the effect of FDI on the nation’s GDP were insignificant as their p-values were >0.05 at 5 percent significant level (p-values are 0.0911, 0.6812 and 0.4203 for Nigeria, Ghana and South Africa respectively. However, in post IFRS adoption Nigeria had significant reduction in the effect of FDI on GDP while Ghana and South Africa had no significant difference in the effect of FDI on GDP in those periods. The FDI effect on the GDP of Nigeria and Ghana were in line with expectation as FDI is expected to bring about economic growth. The coefficients of FDI were 0.1710, 0.0093 for Nigeria and Ghana which was very small hence the insignificant effect. The above findings were in agreement with findings of Adewumi (2006) who studied 11 countries and obtained similar result and in Ghana by Aveh et al. (2013) and in
Nigeria by Ugwuegbe et al. (2013) and Olokoye (2012). This could be attributable to low level in flow or low level human development, which has been linked to FDI absorption. Nigeria in low human development scored 0.527 and was in 152nd position while Ghana in human development scored 0.579 and was in 139th position out of 188 countries (Human Development Report, 2016). Human capital could be linked to innovation, creativity that might lead to increase in productivity. FDI into mining sectors also associated with very little backward and forward linkages and spill-over effect due to high level of technology involved (UNCTAD, 2005). As a result of the above, there may not be appreciable increase in the affected nations GDP.

South Africa though having negative sign was insignificant. The highly volatility in FDI inflows might account for such result. Similar findings were made by Okeke et al. (2014) and Adigwe et al. (2015) who carried out their study in Nigeria and found negative effect of FDI on economic growth. Negative effect of FDI on the GDP could be attributed to low human capital as South Africa scored 0.666 and occupied 119th position out of 188 countries (Human Development Report, 2016) and the crowding out effect, which occur when FDI happens to be in industry where there have been local investors such that the FDI-led company might force them out of business through stiff competition.

Nigeria had significant difference in the effect of FDI on the GDP in the pre and post-IFRS adoption periods with coefficient of interactive dummy of 0.0141, which is <0.05. It had 42 percent less effect in post-IFRS adoption period. This is in contrast to the expectation, that with adoption of IFRS, FDI inflows would increase, thus resulting in economic growth. This implies that IFRS adoption cannot attract FDI which is in line with the findings of Jayeoba et al. (2016) and Efobi et al. (2014). In any case, some scholars like Jinadu et al. (2016), Pricope (2017) and Henock and Okay (2012) found positive relationship between FDI and IFRS adoption. The above could be attributed to security challenges Nigeria has been facing in the recent past- kidnapping in the South East, vandalism of company equipment in the South and terrorist activities in the North. However, the condition might change as the number of years of adoption of IFRS increases FDI increase as supported by the findings of Nwobe and Owolabi (2014) which states that the longer a country adopt IFRS the higher the FDI.

Ghana and South Africa the FDI p-value for the coefficient of interactive dummy was 0.3765 and 0.0738 which were greater than the 0.05. The implication is that there is no significant difference in the effect of FDI on GDP in pre and post-IFRS adoption periods in those countries that is to say that the changes in FDI inflow were insignificant to bring about any meaningful effect on GDP of the two countries.

Objective 11: To ascertain the effect of FDI on external reserves, in pre and post-IFRS adoption periods in Nigeria, Ghana and South Africa.

It was discovered that FDI inflows had significant effect on external reserve of Ghana but of no significant effect on that of Nigeria. In specific terms, FDI inflows to Ghana had positive and significant effect (P-value 0.0329 < 0.05) on her external reserves while that of Nigeria was positive but insignificant (0.4341 > 0.05). That of South Africa was negative but insignificant (p-value 0.4071). There were no significant difference in the effect of FDI on external reserve of Nigeria, Ghana and South Africa in the pre and post-IFRS adoption era.

Similar positive effect found in Nigeria and Ghana was discovered by Wenkai and Song (2009) in China, Rahman and Bristy (2015) in South Asian Association for Regional Corporation (SAARC; Mummtaz and Pirzada (2014) in Pakistan and Osigwe and Uzornwanne (2015) in Nigeria. This could be associated with increased access to information and capacity to tap international market which gives them the advantage to contribute to external reserve of host nations (Chopra, 2002). Also, through favourable balance of payment occasioned by increase in production and export, external reserve might build up.

5. Conclusions

Form the findings, the study conclude that adoption has insignificant effect on the economic growth compare to what was conversed. To that effect, nations adopting IFRS are advised to expect less growth from FDI as a result of her adoption.

5.1. Recommendations
The following policy recommendation was made in line with the findings:

1: Since FDI had positive effect on the GDP of Nigeria and Ghana their governments should continue to pursue policies that would favour more FDI inflows, encourage re-investment of earnings and improve their absorption capacities. This could be in areas of making more foreign investor friendly policies like tax holiday or lower tax rate and provision of some basic infrastructure, industrial layout for FDI led companies and development of their human capitals. South Africa should evaluate institutions and structures will stabilize FDI inflows and linkages. Nations should look inwards into other factors that would support FDI and economic growth like institutional factors and infrastructure but not relying on IFRS adoption alone, as IFRS alone cannot attract FDI and bring development.

2: Finally, to increase the external reserve through FDI the governments of Nigeria, Ghana and South Africa should improve not only FDI inflow into export-oriented industries but strive towards increased absorption for sustainable and improved exports. This will no doubt improve external reserves through favourable balance of trade and balance of payment.

5.2. Implications of the Findings

We discovered a positive and insignificant effect of FDI on GDP of Nigeria and Ghana while in South Africa was negative, but of insignificant effect. This implies that FDI contributes to increase in GDP that is an increase in FDI inflow would lead to increase in GDP. However, the For Nigeria and Ghana and South Africa the coefficients of FDI were 0.1710, 0.0093 and -0.004046 respectively shows that the effect of FDI on GDP of those countries were small. That is to say that the growth in GDP of those countries had little relationship with their FDI inflows. This suggested the possibility of capital transfer through high transfer pricing, high FDI remittances and/or corruption. The coefficient of interactive dummy for Nigeria -0.41526 (with p-value of 0.0141) which implies that in post IFRS adoption, the effect of FDI was reduced by .42 percent.

Finally, FDI inflows had positive and significant effect on external reserve of Ghana but had positive and insignificant effect on that of Nigeria with p-values of 0.0329 < 0.05 and 0.4071> 0.05 for Ghana and Nigeria respectively. That of South Africa was negative but insignificant (p-value 0.4071).This implies that FDI meaningful positive contribution to external reserve of Nigeria and Ghana that is as FDI increases, external reserve of those countries grew. Nigeria and Ghana had Positive coefficient of 0.410688 and 0.485827371 respectively while that of South Africa was immaterial with coefficient of -0.043758.

5.3. Contributions to Knowledge

This study made the following modest contributions to knowledge:

a) This is to the knowledge of the researcher, the first empirical work on effect of FDI on economic growth using three countries case-studies that have had the highest FDI inflows in the Sub-Saharan African continent, namely, South Africa, Nigeria and Ghana.

b) The study is to the knowledge of the researcher, the first to analyze the effect of FDI on economic growth using the Post-Keynesian investment framework that incorporates explicitly the endogenous growth path in the model specification. Endogenous growth model posits that economic growth of nations come from within which is propelled by technology. Basic augmented production function has the formula \( Y = f (A,L,K,H) \) where \( Y \) is the GDP, \( L \) is Labour force employed, \( K \) is the Physical capital Stock, \( H \) is the human capital index and \( A \) captures the effect of technology on economic growth. The technology required in endogenous growth is present in FDI which comes with technological transfer to the recipient nation. FDI therefore was used to substitute the technology in augmented production function in the model formulated.

c) It is to the knowledge of the researcher the first to analyze the effect of FDI on economic growth indices in the pre and post IFRS adoption using Dummy Variable Regression Technique for testing the hypotheses.

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