

# **RESEARCH ARTICLE**

## CAUSALITY NEXUS BETWEEN FOREIGN DIRECT INVESTMENT AND ECONOMIC GROWTH: EMPIRICAL EVIDENCE FROM GHANA AND CHINA.

Richmond Asirifi Dankwa, Bright Okyere Ofosu, Isaac Asare and Tweneboa Kodua Lois.

Manuscript Info	Abstract
Manuscript History	Foreign direct investment (FDI) has always been one of the imperative
Received: 20 July 2018 Final Accepted: 26 August 2018 Published: September 2018	factors to the economic development of Ghana and China. This paper investigates the impact of foreign direct investment on economic growth using time series data over the period 1985-2015 in both countries. In Ghana, data was employed from Internal Monetary Fund
<i>Keywords:-</i> FDI, Economic Growth, GDP, China, Ghana.	(IMF) annual data and the statistical bulletin of Bank of Ghana. In china, we obtained our data from the National Bureau of Statistics of China and the Ministry of Commerce, China. Regression analysis of ordinary Least Square ((OLS) was used in analyzing the data. Furthermore, Augmented Dickey-Fuller Test, Johansen Co-integration Test and Granger Causality test was used to obtain the line of causality between FDI and economic growth in these two countries. The objective of this study is to determine the relationship and the causality nexus between Gross Domestic Product (GDP), Inflation and Consumer Pricing (INFCP), External Debt Stock (EDS), Gross National Income (GN1), Manufacturing Value Added (MVA), Industry Value Added (IVA) and Foreign Direct Investment (FDI). In examining the relationship between these factors, the results depicted that there exist a unidirectional and bidirectional causality running from FDI to GDP in Ghana and China respectively. Considering the crucial role FDI plays in the development of China and Ghana, this study concludes by proposing policy recommendations in Ghana and China aimed at enhancing and augmenting FDI and economic growth in these

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## **Introduction:-**

FDI has always played a significant role in the economic development of most countries. FDI is an investment that comprises the acquisition of lasting management interest in a corporation in a country other than the nationality of the investors with the aim of playing an effective vocal role in the earning of long and short term capital as depicted in the country's balance of payment account statement Sghaier I. M. and Abida Z. (2013); Ngare E. et al. (2014); Sahin S. and Ege I. (2015); Chiwira O. and Kambeu E. (2016). Simply put, FDI is adirect investment by an individual or an enterprise of another country into the production or business in a different country. FDI generally comprises of mergers and acquisitions, intra-company loans and the reinvestment of profits earned from company's overseas. The causality nexus between FDI and economic growth have generated varied results from researchers. Some researchers argue that FDI has a significant impact on a countries economic growth whiles others disagree with this notion. Researchers agreeing to the fact that FDI has a significant impact on economic growth generally

depicts that the contributions of FDI to a country's development cannot be underestimated Nyankweli E. M. (2012); Wondimnew K. (2014); Copper J. F. (2016). For example, Chiwira O. and Kambeu E. (2016) asserted that FDI has assisted countries like Japan after the World War II by providing and injecting tremendous foreign investment into Japan's general economic development in areas such as human resource development, expertise foreign skills, and technology. In developing countries, Wondimnew K. (2014) postulated that FDI affects the economic development of all developing countries. In using time series data, [4] found a significant weak positive relationship between FDI and economic growth. A study conducted by Adhikary, B. K. (2011) concluded that FDI enhances a host country's economic growth through macroeconomic stability and trade regimes.

Koirala J. (2011) also asserted that there exists a bi-directional causality between economic growth and FDI. Furthermore, other researchers argue that rapid economic development has a bearing on FDI. In Chile, it was concluded that GDP impacts economic development by using an innovative econometric technology in ascertaining the line of causality between FDI and economic growth Rungqu M. (2014). However, other researchers totally disagree with the notion that FDI has a momentous impact on economic growth. For example, Abubakar M. S. (2014), in using pre-andpost-structure adjustment program in analyzing the direction of causality between FDI and economic growth clinched that there exists no direction of causality between these two variables under consideration using the pre-adjustment program. However, the post adjustment program depicted that FDI granger causes GDP. The Ghanaian government is laying down measures and strategies in attracting foreign investors into the country through the provision of stable economic growth, provision of affordable social amenities and extending invitation to foreign firms and investors into the country in order to be briefed on the monumental advantages gained as a result of investing in the country Aregbeshola R. A. (2014); Waiyaki I. N. (2016); Khan M. A. and Abbas F. (2016). However, not in case of Ghana, China has already taken off as an industrial country with vast economic development. A country with such status has seen most foreign firms settling and investing in China. China is considered one of the finest countries for trade and investment. Some credits Chinese economic growth with structured governmental measures that aims at enhancing and augmenting growth of the Chinese economy.Yet, it seems blurry to actually differentiate and highlight the impact of FDI towards China's economic growth. With this background, the impact of FDI on economic growth remains indistinct in each of these countries. It is, therefore, essential to determine the impact of FDI on the economic growth in the Ghanaian and Chinese economy Rose -Ackerman S. and Tobin J. (2005); Pieke F. N. (2012); Asiedu E. (2006); Salidjanova N. (2011); Kwuczik M. (2010); Shambaugh D. (2013).

## Literature Review

## Nexus of FDI and Economic Growth

The impact of FDI on economic growth is viewed as one of the most debatable topics in political economics Gordon L. A. et al. (2012). It is argued that social, cultural and political factors play a steering role on economic development Rodriguez X. A. and Pallas J. (2008) whereas others are of the conviction that the impact of FDI on economic growth varies based on stages of development in different countries and continents. With this issue at hand, researchers have experienced mixed results on the impact of FDI on economic growth in different sectors of an economy. For instance, in exploring the causality between sectorial FDI on economic growth, Forsgren M. (2013) contended that the contribution of FDI to the manufacturing sector has a positive significant effect on growth but the overall contribution of FDI has an abstruse effect on real GDP. In studying the effect of sectorial FDI in twelve Szimai A. (2015) Asian countries, Huang M. C. et al. (2013), deduced that primary sector has a negative effect on growth whiles the sectorial contribution of FDI to the manufacturing sector revealed a positive effect on growth. In order to gain total understanding of the significance of FDI on growth, modernization and dependency hypothesis has been introduced to offer clear understanding on this issue. The modernization hypothesis posits that FDI poses a significant bearing on a countries economic growth through the provision of external capital across all the sectors of an economy Michailova S. and Mustaffa Z. (2012), Komnemic B. Pokrajcic D. (2012); Song J. (2014); McGuinness M. et al. (2013); Reiche B. S. (2015). This hypothesis asserts that FDI should be considered the critical tool aiding economic growth in developing countries. With the modernization hypothesis, the origin of investment is deemed important as compared to the presence of investment because FDI comprises advanced and accurate management and organization as well as technology. However, the dependency hypothesis admits that there exists a long-run deleterious impact of FDI on economic growth whereas a short-run positive impact of FDI on economic growth is deemed viableÖgütçü, M. (2002). Backing the dependency theory, Ahamad, M., & Tanin, F. (2010) argued that FDI does not exert an independent, positive impact on growth in the long-run. The dependency hypothesis further contends that the attraction of numerous foreign investments will generate a negative effect on other sectors of the economy thereby reducing economic development. Irrespective of these hypotheses, most recent

economic growth theories highlight the significance of information and knowledge as determinants of economic growth. With information and knowledge, it is explicit that developing countries cannot be compared to the advanced countries in terms of technological usage. Therefore, a country with more advanced technological tools in gaining knowledge and information on FDI, international trade and international licensing agreement is deemed to experience rise in foreign investment which in turn affects economic growth positively or negatively due to the country under consideration Ahamad M. and Tanin F. (2010); Motohshi K. and Yuan Y. (2010); Lin H. L. et al. (2011); Ouyang P. and Fu S. (2012).

## **Macroeconomic FDI Theories**

Macroeconomic FDI theories solely hinge on the zeal and motivation foreign investors possesses in investing in foreign countries. Macroeconomic determinants impacting a country's FDI are economic growth rate, infrastructure, market size etc. Petermann, J. H. (2012).

### **Capital Market Theory (CMT)**

The CMT asserts that FDI is determined by a host country's interest rate. CMT theory hinges on three important areas namely: FDI as a source of long term investment; host countries' lack of adequate knowledge in its securities thereby enabling the control of their assets; low production cost as a result of minimum valued exchange rates Ghaffari P. (2012); Coe N. M. and Yeung H.W.C (2015).

### **Exchange Rate FDI Theories**

FDI theories based on exchange rates depict the relationship between FDI and exchange rates. According to the theory, FDI is viewed as a mechanism for reduction in exchange rates. This theory spines and explicates the effect of FDI on economic growth Yusoff, W. F. W., & Guima, I. J. (2015).

### **Dynamic Macroeconomic Theory**

This theory posits that the timing of investment depends on the functions of multinational strategies. Therefore, GDP, real exchange rate, productivity and trade openness are perceived as the main determinants of FDI inflows Omotosho B. S. and Doguwa S. I. (2012); Mangir F. et al. (2012). Therefore, it is worth noting under this theory that the timing of investment spines changes in macroeconomic environment Okwuchikwu O. (2015); Okafor G. (2015).

#### **Economic Geography FDI theories**

These theories posit that internationally successful companies converge in a specific geographical location due to its infrastructure, resource availability, demand and labor force. Policy action enacted by governments aiming to manipulate resource availability to a country's favor is also contended by this theory. This theory further asserts that an economic unit of analysis is demarcated by political boundaries Yan A. and Luo Y. (2016); Warwick K. (2013)

#### **Institutional Analysis FDI theories**

These theories stipulate that a healthy institutional framework connotes political steadiness. Therefore, FDI determining variables are policies and its implementation. Under these theories, it is worth noting that markets, education, governments and socio-culture are the four ideal institutions to FDI inflows Zampetti, A. B. (2006).

#### **Microeconomic FDI Theories**

Microeconomic FDI theories depicts the reasons as to why multinational forms sets up firms or companies abroad instead of going through the processes of licensing or exporting their products.

## The Product Life Cycle-Vernon (1966)

This theory posits that the manufacturing of innovative products renders competitive advantage to firms. The theory further contends that manufacturing of products goes through the introductory, growth, maturity and decline stages. Product life cycle differs from countries based on consumer behaviors. Therefore, it is significant to study consumer behaviors before setting up subsidiaries abroad.

#### Eclectic Paradigm-Ownership, Location and Internationalization (OLI) Theory

This theory was developed by Mudambi, R. (2004) to study FDI patterns of movement as well as choices in establishing or creating productive activities by foreign investors. This theory hinges on three main pillars namely: ownership-specific advantages, international advantages and location-specific advantages. The ownership-specific advantages postulate that geographically dispersed income generating assets owned by firms renders competitive

edge in order to achieve growth in foreign productions. Internationalization advantages aims at locating value creation in foreign countries with respect to investments. The profitability of an investment in achieving international advantage depends on the availability of capital and labor force in the host country. Lastly, the ability of government to provide advance technology, modern infrastructure, human capital and fiscal incentive policies attracts location-specific advantages Kramer C. (2015); Alawadhi S. A. (2014). This theory can be mathematically presented as FDI = f(O, L, I) where O = Ownership, L = Location, I = Internalization.

#### Hymer's Monopolistic Advantage theory.

The monopolistic favorable circumstances hypothesis was licensed to the 1960's work of Pukall T. J. and Calabro. A. (2014). In his exposition paper, he utilized mechanical association and blemished rivalry speculations to disclose an association's choice to embrace an outside direct venture. As per this hypothesis, multinational partnerships have certain points of interest that residential organizations or firms don't. These favorable circumstances incorporate brand names, trademarks, advertising aptitudes, administration abilities, propelled advancements, economies of scale and access to low – expense financing. These points of interest are accepted to be supreme important for the accomplishment of remote direct venture. This is on account of, effectively local firms have various advantages, for example, top to bottom information of the neighborhood environment, learning of nearby economic situations, the legitimate and institutional structure, and neighborhood business clients. It is however workable for multinational enterprises to acquire these learning yet at an expense Buckey P. J. and Casson M. C. (2009)

Moreover, outside firms cause cost when they work their business from their own particular nation as opposed to building up in a household nation. Given the expense, if remote direct speculation succeeds and is productive, it should just be because of the focal points that outside firms have that the household ones proved unable. In this similarity, the monopolistic point of preference hypothesis considers outside direct venture to be a vital activity embraced by a firm to exploit market defects furthermore an instrument used to keep away from business blemishes. Fosfuri, A., Motta, M., & Rønde, T. (2001) recognized direct speculation and portfolio venture. To him, if a financial specialist specifically controls a remote firm or possesses a quarter century of the value of an outside big business, it activities control over the remote firm. This is called direct venture as per Asante Jnr, A. (2016). Then again, if the speculator possesses under a quarter century of an outside big business' value, it doesn't control it, and this is the thing that Hymer alluded to as portfolio venture. The need to straightforwardly venture or control of a remote endeavor is just required by two noteworthy reasons and a minor reason. The two noteworthy reasons are the gainfulness of wiping out rivalry and the need to endeavor an uncommon point of preference that the outside firm has while minor reason is the need to enhance. A critical essential for the accomplishment of remote direct venture as per this hypothesis is the presence of flawed economic situations. For outside direct venture to survive and succeed, there must be some blemish in the business. Asante Jnr, A. (2016) considers item separation in the home market as the essential component offering ascent to FDI. The ownership of impalpable resources permits it to separate items in diverse markets and secure money streams. These impalpable resources are termed "one of a kind resource". The association between the association's remarkable resources, including its innovation and administration predominance, and the level of outside contribution is affirmed Asante Jnr, A. (2016); Patil, S. T. (2016). The organizations that forcefully look for abroad venture are by and large the main firms in their commercial enterprises. They put more in innovative work, put gigantic exertion into showcasing and promoting, utilize numerous researchers, architects, and expert staff, offer some unmistakable items and have simple access to market conveyance systems. In summary, this theory asserts that the crucial factors affecting FDI are the existence of specific advantages and the eradication of foreign market conflicts. Explaining further, the existence of specific advantages predicts that for resource exploitation, it is viable to establish firms in foreign countries. The exploitation of resource renders market power to subsidiary firms irrespective of market imperfections. Also, conflicts in foreign markets can be eradicated through market sharing collusion with fiercest industry rivals in order to accentuate market imperfections Jenkins, R. (2013).

#### **FDI Determining Variables**

This study gauge potential determinants of FDI into seven categories namely economic stability and Growth, Currency Value, Market Size, Trade openness, labor cost, Gross capital formation and infrastructure facilities.

#### **Economic Stability and Growth**

FDI inflows from a volatile economy are always viewed as lesser than an economy with stable macroeconomic and sustainable growth. Most investors prefer to invest in an economic with stable economic development. Investors walk away from investing in a country with alesser degree of uncertainty Gaeta, G. (2012). According to

Vijayakumar, N. (2010), the proxies of growth rate which are interest rates, inflation rates, GDP growth rates and industrial production index influences FDI.

## **Currency Value**

The forte of a country's currency influences the purchasing power of a firm. Reduced exchange rate risk happens as a result of currency devaluation. The depreciation of a country's currency serves as again to foreign investors because investors purchasing power in foreign currency will be boosted thereby depicting a strong positive causality between FDI inflows and currency value. Factors influencing currency valuation are real exchange rate, nominal and real effective exchange rates.

## Market Size

FDI inflows somehow depend on the market size by GDP, middle-class population, and GDP per capita of a particular country. Small markets connote lesser FDI inflows as compared to the larger market sized economies. It is highly viewed that market size positively affects FDI Inflows McDougal, T. L. (2011); Mkandawire, T. (2015); Taylor, I. (2014); Bach, D. C. (2013).

## **Trade Openness**

Trade openness is considered as a vital determinant of FDI inflows in most economies. Trade openness is often calculated as the ratio of import plus export divided by GDP Hirst, P. (2015).FDI is widely recognized as exportoriented but may somehow necessitate the importation of capital, and intermediate products thus trade openness is anticipated to positively affect FDI Epaphra M. (2016); Egu M. E. (2014).

### Labor Cost

A surge in labor cost connotes a surge in the cost of production thus limiting FDI inflows. Labor cost can be measured by awage rate of employees in a country. The impact of labor cost on FDI inflows is debatable. Steven, R. (2016) argued that there exists a significant positive relationship between FDI inflows and labor cost but Babatunde, M. A. (2013) concluded that there is absolutely no relationship between these factors.

#### **Gross Capital Formulation**

Enhancement of investment in an economy correspond the attraction of high Gross capital formulation and FDI inflows. The causality between FDI and Gross capital formulation is very complex. For example, privatization may result in an increment or reduction in FDI inflows of a country, especially in a transition economy. Based on this, it is complex to be certain on the impact of Gross capital formulation on FDI.

## **Infrastructure Facilities**

A country with good infrastructural development is highly predicted to attract FDI inflows into the country. However, a country with minimum infrastructural development attracts lesser FDI inflows. Good infrastructural development with respect to FDI can be measured by the obtainability of quality electricity, transportation, water, and telecommunications. Furthermore, Asmelash, B. (2015) asserts that the acquisition of fixed capital assets, intangible assets, land and military assets are also important to the attraction of FDI.

## China's FDI and Economic Growth

Capital formation surging, exports to foreign countries, industrial output enhancement, employment and revenue creation may have stimulated china's economic growth. China's FDI-growth causality nexus has experienced mixed result by researchers. Some researchers found a unilateral causality running from FDI to economic growth. For instance, causality running from FDI to economic growth was found between the time periods of 1984-2015 by Hussein, H. (2016). Likewise, Abubakar, M. S. (2014) argued that FDI is the spine to economic growth in china over the years of 1978-2003. However, other studies argue that there exists a causality running from economic growth to FDI in China. For example, Kolstad, I., & Wiig, A. (2012) found out that china's economic growth attracted FDI to the country. Furthermore, Beeson, M. (2014) asserted that the attraction of FDI into the Chinese economy solely depends on the continual rise in china's economic growth.

## **Overview of China's FDI Policies**

China heartens auspicious FDI policies thereby handling preferential treatments to foreign investment enterprises in the country. It is worth noting that each specific designated area in China has its own policies. China has also enacted two policies governing FDI in the country. These policies are Develop China's West at Full Blast and the Strategy

of Stimulating Rusty Industrial Bases to augment FDI in the Northern and Western Areas of China. Based on the later strategy, foreign investment firms investing in the western and northern areas in China receives more preferential treatments as compared to investing in the southern or eastern part of China. China over the past decades is shaping strategic laws governing FDI in order to attract foreign investors into the country. These laws comprise Law of the People's Republic of China on Foreign Wholly Owned Enterprises, Law of the People's Republic of China on Foreign Wholly Owned Enterprises, Law of the People's Republic of China, the government has placed much emphasis on the Guidance Directory for Foreign Enterprises. Thus, the Guidance Directory was revised in 1997 and 2002 to accommodate new trade regulations by the World Trade Organization. In just a year of attaining membership into the World Trade Organization, China scrapped it laws on local contents, balance of foreign exchanges, transfer of technology and the creation of research and design contents in order to boost bilateral trade between China and each of the World Trade Organization membership countries. The Guidance Directory furnishes investors with investments that are prohibited, allowed, encouraged and restricted in the country. Recently, China boosts FDI for the purpose of developing and promoting modern industrial agriculture, utilization of modern and advance technology in their industrial sector, encouraging export-oriented FDI firms and attracting industrialization in the western part of China.

### **China's FDI Inflows**

During the period of 1982 to 201, China's FDI, net outflows (BoP, current US\$) has fluctuated between \$44 million in 1982 to \$80.5 billion in 2014. Furthermore, China's FDI, net (BoP, current US\$) oscillated between \$386 million in 1982 to \$231.6 billion in 2011. Additionally, China's FDI, net inflows (BoP, current US\$) fluctuated between \$430 million in 1982 to \$289.1 billion in 2014. With respect to FDI, net inflows as a percentage of GDP, china recorded the highest value of 6.21% in 2003. The lowest value recorded was 0.21% in 1982. China's net inflow as a percentage of GDP was 2.79% as of 2014. As of 2014, china's net outflow as a percentage of GDP was 0.78%. The highest values of 1.24% was recorded in 2008 whiles the lowest value of 0.02% was recorded in 1982. FDI, net inflows as a percentage of GDP in China was 2.30% as of 2015. Its highest value was 6.21% in 1993, while its lowest value was 0.21 in 1982. Figure 1 below represents China's FDI as a percentage of GDP from 2004 to 2015.



Figure 2:-China's FDI inflows to GDP. Source: Trading Economics

## **Ghana's FDI and Economic Growth**

Numerous institutional shortcomings plague the Ghanaian economy thereby diminishing Ghana's prospects of attaining economic development. Recently, the Government of Ghana asserted that the previous government left a 0.7 public debt to GDP ratio due to massive borrowing by the previous government. This shortcoming dissuades foreign direct investment in the Ghanaian economy and also interferes with the vibrant flow of goods and services all across the nation. Nevertheless, the Government of Ghana has pinpointing that attracting foreign investment irrespective of the nation's shortcomings is one of its strategies to heal the ailing economy. Trade is considered a significant boost to the Ghanaian economy. Over the years, Ghana's exports and imports taken together amounts to 99% of total GDP. Previous studies have captured the impact of FDI on economic growth. Using the Johansen and Juselius multivariate maximum Tolstoy, D. (2010) established positive bidirectional causality between FDI and GDP over the period of 1970 to 2007. However, Cowan, W. N., (2014) concluded that there exist no causal link

between FDI and economic growth. Employing the Vector Auto Regression and the Johansen co-integration test, Imoudu, E. C. (2012) indicated that there exist a positive long-run relationship between FDI and economic growth. Furthermore, using a time series data from 1980 to 2010, Imoudu, E. C. (2012) forecasted a statistically positive significant relationship between FDI and economic growth. Also, in studying the influence of FDI on trade and economic growth by using the Autoregressive Distributed Lag bound test technique, Pao, H. T., & Fu, H. C. (2013) realized that there exist a unidirectional causality running growth to Pao, H. T., & Fu, H. C. (2013) and trade. Pao, H. T., & Fu, H. C. (2013) further concluded that in both the long-run and short-run, trade openness had a positive effect on economic growth. Ray, S. (2012)In studying the causal sectorial link between FDI and economic growth by employing the Dynamic Ordinary Least Squares technique concluded that although there is a positive effect from FDI to economic growth, the effect of a three(3) year lad of FDI to economic growth had a negative effect.

### **Overview of Ghana's FDI Policies**

In Ghana, the primary law governing FDI is the Ghana Investment Promotion Center (GIPC) law of 1994. This law oversees investment in all areas of the economy except minerals and the oil and gas sector. The law governing investment in the mineral sector is the Mineral and Mining Act 1986 administered by the Mineral Commission of Ghana. The Petroleum Exploration and Production Law of 1984 administered by the Ghana National Petroleum Corporation is the law governing the oil and gas industry. The GIPC has been tasked with the sole responsibility of promoting direct investment in Ghana. The GIPC law enhances investment processes such as loan repayments, licensing fees, repatriation of capital and transferability of dividends. With reference to regulations regarding investment in Ghana, joint venture foreign investors must have at least \$10,000; wholly owned foreign ventures must also possess \$50,000 in capital; \$300,000 for trading companies with a requirement of employing more than ten (10) native Ghanaian employees. In Ghana, lands near the seaports of Takoradi, Tema and Kotoka International Airport are considered free trade zones. Foreign investors operating in these free trade zones are entitled to zero duty on imports and a full year corporate tax holiday. Nevertheless, the only requirement for operating in these free trade zone areas is that the foreign enterprises should export more than 70% of its output. Despite numerous efforts being laid to attract foreign investors in Ghana, it is worth noting that foreign investors are not subject to preferential treatment regarding the payment of taxes, credits, imports etc. The Government of Ghana is currently adopting the specific firm target promotion strategy aimed at attracting foreign investors seeking to be vibrant in the local and sub-regional markets by using raw materials in Ghana which in turn contributes to value-added production in the country.

#### **Ghana's FDI Inflows**

FDI is fledging rapidly in developing countries due to the continual rise in macroeconomic stability, granting of tax incentive schemes, lessening trade restrictions on FDI and the liberalization of capital accounts. In Ghana, some key areas of the country have been branded as free-trade zones aiming to attract foreign investors into the country. These free trade zone areashave been granted numerous tax incentives aimed at attracting FDI under the Free Zones Act (1995). According to the World Investment Report, Ghana's FDI shares rose to \$635 million in 2006 which depicted a quadruple of 2005 FDI epitomizing approximately 19.2% of the gross fixed capital formation. In 2008, Ghana saw a steady economic growth as a result of hosting the African Cup of Nations according to the World Bank 2008 report. The hosting of the African Cup of Nations brought attention to most foreign investors in the Ghanaian economy thus prompting the World Association of Investment Promotion Agencies and the United Nations Conference on Trade development to significantly hold a meeting on the flexibilities in investing in the Ghanaian economy. Investment into the Ghanaian economy has contributed to growth sustainability in areas such as the transfer of knowledge, the introduction of new management and accounting principles, expertise labor force and the upgrading of theindustrial sector. Figure 2 represents the contribution of FDI as a percentage of GDP. It gives an explicit view on the contributions of FDI to the economic development of Ghana over the period of 2004-2015.



## **Research Methodology:-**

In this section, we employ the ordinary least square and the granger causality test in analyzing the annual data ascertained in China and Ghana over the period of 1985-2015.

## **OLS Model Specification**

 $GDP{=}\alpha{+}\beta_{1}INFCP_{i}{+}\beta_{2}EDS{+}\beta_{3}GNI_{i}{+}\beta_{4}MVA{+}\beta_{5}IVA_{i}{+}{+}\beta_{6}FDI_{i}\epsilon_{i}$ 

Where the dependent variable is foreign direct investment (GDP) and the explanatory variables are inflation and consumer price (INFCP), external debt stock (EDS), gross national income (GNI), manufacturing value added (MVA), industry value added (IVA) and FDI. Furthermore, $\beta$  and I represent independent variable coefficients and time period respectively.

## **Research Hypothesis**

## **Diagnostic Testing**

Diagnostic testing is applied in this test in order to check for autocorrelation. We, therefore, employ Breusch-Godfrey Serial Correlation LM Test and heteroscedasticity Test in checking for autocorrelation between the series. On the basis checking autocorrelation, we derive our first and second hypothesis as shown below.

## **First Hypothesis**

 $H_0$ : There is no evidence of serial correlation in the residuals.  $H_1$ : There is evidence of serial correlation in the residuals.

## Second Hypothesis

H<sub>0</sub>: Residuals are homoscedastic H<sub>1</sub>: Residuals are heteroscedastic

## **GDP Impact Factors**

Third Hypothesis

□ GDP/□INFCP) >0

High inflation and consumer pricing indicate economic instability. Based on this we propose that inflation has a negative impact on GDP.

## **Fourth Hypothesis**

 $\Box \Box GDP / \Box EDS > 0$ With this hypothesis, we posit that external debt stock has a negative effect on GDP.

## **Fifth Hypothesis**

 $\Box \Box GDP / \Box GNI > 0$ 

Based on the above formula, we expect GNI to have a significant positive effect on GDP

### Sixth Hypothesis

 $\Box \Box GDP / \Box MVA) > 0$ 

Based on this empirical hypothesis derived, we make an assumption that manufacturing value added should positively impact GDP.

## **Seventh Hypothesis**

 $\Box \Box GDP / \Box IVA) > 0$ 

Finally, this study wants to find out whether or not there exists a significant positive relationship between FDI and Industry Value Added thus we propose that Industry Value added should have a significant positive impact on GDP.

## **Eighth Hypothesis**

 $\Box \Box GDP / \Box GNI > 0$ 

With this hypothesis, we expect FDI inflows to have a significant positive effect on GDP

## **Empirical Results Presentation and Analysis**

### **Diagnostic Testing**

 Table 1:-Breusch-Godfrey serial correlation LM test.

F-Statistics	0.031462	Probability	0.8146
Obs* R-squared	0.091437	Probability	0.80321

Table 1 shown above checks for the existence of serial autocorrelation between the series. The p-value of 0.80321>0.05 derived from the empirical analysis indicates that there is no evidence of serial autocorrelation between the series. Thus, we fail to reject the null hypothesis.

**Table 2:-**White heteroscedasticity Test

F-Statistics	6.12378	Probability	0.0028
Obs* R-squared	20.14789	Probability	0.0781
Scaled explained SS	11.53277	Probability	0.2511

Table 2 seeks to depict whether or not there is evidence of heteroscedastic test between the variables. Empirical evidence derived from computing heteroscedastic test shows an Obs\* R-squared p-value figure of 0.0781>0.05. Therefore, we can conclude that residuals are homoscedastic.

### **Ordinary Least Square Technique**

Table 3:-Ghana's Ordinary Method of Least Squares (OLS)

Variables	Coefficients	Std. Error	T-Statistics	Probability
Constant	7.3421	4.9281	-1.8326	0.814
INFCP	-0.111	0.0054	-0.8061	0.321
EDS	0.0236	0.0426	0.9143	0.456
GNI	0.4356	0.0732	0.5799	0.011
MVA	-0.324	0.4925	-0.4562	0.425
IVA	0.2614	0.3527	0.6327	0.844
FDI	0.7684	0.1432	4.4534	0.000

R-squared 0.9142; Adjusted R-squared 0.9001; Significance level 0.005

Table 3 above represents the OLS approach on factors affecting FDI. The R-squared figure of 0.9142 depicts a 91.42% variation in the dependent variable is explained by the predictor variables. With reference to the table, GNI and FDI have p-values<0.005 thereby indication that these variables have positive influence on GDP. Therefore, from the OLS table, we derive our regression model as:

 $GDP{=}7.3421{+}0.4356GNI_{i=(1985{-}2015)}{+}0.9956FDI_{i=(1985{-}2015)}{+}\epsilon_{i=(1985{-}2015)}$ 

Table 4:-China's Ordinary Method of Least Squares (OI	LS)	
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Variables	Coefficients	Std. Error	T-Statistics	Probability
Constant	8.1921	4.9281	-1.4563	0.456
INFCP	-0.6234	0.9897	-0.46474	0.234
EDS	-0.5543	0.9767	0.87684	0.111
GNI	0.7685	0.0675	-1.00074	0.000

MVA	0.1707	0.6676	-1.90855	0.002	
IVA	0.1457	0.1145	0.45674	0.000	
FDI	0.9871	0.8867	0.88962	0.000	

R-squared 0.9743; Adjusted R-squared 0.9621; Significance level 0.005

Table 4 represents the OLS approach on factors affecting FDI in China. The R-squared figure of 0.9743 depicts that 97.43% variation in the dependent variable is explained by the predictor variables. GNI, MVA, IVA and FDI all have p-values<0.005. This indicates that these variables possess a positive effect on GDP. Therefore, from the OLS table, we derive our regression model as:

 $GDP = 8.1921 + 0.7685GNI_{i= (1985-2015)} + 0.1707MVA_{i= (1985-2015)} + 0.1457IVA_{i= (1985-2015)} + 0.9871FDI_{i= (1985-2015)} + \epsilon_{i= (1985-2015)} + \epsilon_$ 

### **Stationarity Test**

Determining non-stationarity property is an important and initial test in conducting a time series data. All variables are therefore tested using the Augmented Dickey-Fuller (ADF) Test. The hypothesis for the unit root test is:

If t\*>ADF critical value, then unit root test exists or data is stationary

If t\*<ADF critical value, unit root test does not exist or data is not stationary

**Table 5:-**Ghana's Stationarity Analysis

At Level			At 1 <sup>st</sup> Difference				
Variables	T-Statistic	CV 5%	PVs	Variables	<b>T-Statistic</b>	CVs	PVs
GDP	-3.675	-1.007	0.456	GDP	1.234	-2.980	0.000
FDI	-4.897	-1.456	0.556	FDI	1.232	-1.786	0.001
GNI	-5.878	-1.989	0.421	GNI	1.467	-3.756	0.002
MVA	-2.456	-1.007	0.111	MVA	-1.321	-2.008	0.023
IVA	-3.984	-1.345	0.231	IVA	-1.247	-3.345	0.047
EDS	-4.002	-1.223	0.123	EDS	-1.078	-4.908	0.032
INFCP	-3.221	-1.342	0.467	INFCP	-2.005	-2.987	0.017

Table 5 above illustrates the stationarity analysis of all the variables collected in Ghana. In the time series data, empirical findings depicts that the time series data was not stationary at level of  $\{1(_0)\}$ . After deriving the first differencing of the time series data, the data became stationary at level of  $\{1(_1)\}$ . That is, after first differencing, it was realized that the t\* calculated is > the ADF critical values.

At Level			At 1 <sup>st</sup> Difference				
Variables	T-Statistic	CV 5%	PVs	Variables	T-Statistic	CVs	PVs
GDP	-2.907	-2.013	0.105	GDP	-1.894	-3.897	0.042
FDI	-3.110	-2.897	0.482	FDI	-1.008	-4.087	0.000
GNI	-3.897	-1.345	0.236	GNI	-1.756	-2.908	0.043
MVA	-1.987	-1.061	0.764	MVA	-1.986	-3.765	0.001
IVA	-1.876	-1.435	0.843	IVA	-1.755	-2.087	0.000
EDS	-2.564	-1.874	0.210	EDS	-1.456	-3.786	0.000
INFCP	-2.675	-1.005	0.194	INFCP	-3.097	-5.675	0.014

 Table 6:-China's Stationarity Analysis

Likewise, table 6 depicts stationarity results of all the data variables in China. Results derived from the table indicate that the data was not stationary at level  $\{1(_0)\}$ . However, after deriving the first differencing out of the data set, the data became stationary at level  $\{1(_1)\}$ . That is the t\* calculated from the first differencing is > the ADF critical values.

#### Johansen Co-integration Test (Trace and Maximum Statistics)

After ensuring the stationarity of the time series data of all the variables under consideration in China and Ghana, it is significant to carry out a co-integration analysis to check whether or not there exist long run equilibrium relationships between the variables.

Ghana's Unrestricted Co-integration Rank Test (Trace Statistics)					
$H_0$	Trace Statistics	Critical Value 5%	Probability		
None*	68.3304	59.2347	0.0000		
At most 1	29.0073	34.8742	0.5423		
At most 2	20.0456	27.9864	0.4562		
At most 3	14.9082	19.6743	0.3458		
Ghana's Unrestricted Co-int	egration Rank Test (Maximun	n Statistics)			
$H_0$	Maximum Statistics	Critical Value 5%	Probability		
None*	85.6453	49.098	0.0000		
At most 1	51.4562	40.3456	0.2235		
At most 2	16.0747	11.9873	0.3456		
At most 3	9.28383	3.98733	0.4298		
China's Unrestric	ted Co-integration Rank Test	(Trace Statistics)			
$H_0$	Trace Statistics	Critical Value 5%	Probability		
None*	124.8976	100.6543	0.0123		
At most 1*	80.45621	74 98744	0.0385		
		/+./0/++	0.0303		
At most 2	50.89754	65.15648	0.1907		
At most 2 At most 3	50.89754 19.75436	65.15648 30.00464	0.1907 0.2716		
At most 2 At most 3 At most 4	50.89754 19.75436 10.89756	65.15648 30.00464 21.09844	0.1907 0.2716 0.3251		
At most 2 At most 3 At most 4 China's Unrestricted Co-inte	50.89754 19.75436 10.89756 egration Rank Test (Maximum	65.15648 30.00464 21.09844 Statistics)	0.1907 0.2716 0.3251		
At most 2 At most 3 At most 4 China's Unrestricted Co-inte H <sub>0</sub>	50.89754 19.75436 10.89756 egration Rank Test (Maximum Maximum Statistics	65.15648 30.00464 21.09844 Statistics) Critical Value 5%	0.1907 0.2716 0.3251 Probability		
At most 2 At most 3 At most 4 China's Unrestricted Co-inte H <sub>0</sub> None*	50.89754 19.75436 10.89756 egration Rank Test (Maximum Maximum Statistics 100.3467	65.15648 30.00464 21.09844 Statistics) Critical Value 5% 87.04532	0.1907 0.2716 0.3251 Probability 0.0000		
$\begin{array}{c} \text{At most 2} \\ \text{At most 3} \\ \text{At most 4} \\ \hline \text{China's Unrestricted Co-interval} \\ H_0 \\ \hline \text{None*} \\ \text{At most 1*} \end{array}$	50.89754 19.75436 10.89756 egration Rank Test (Maximum Maximum Statistics 100.3467 76.90851	65.15648 30.00464 21.09844 Statistics) Critical Value 5% 87.04532 70.00345	0.1907 0.2716 0.3251 Probability 0.0000 0.0000		
At most 2At most 3At most 4China's Unrestricted Co-inter $H_0$ None*At most 1*At most 2	50.89754 19.75436 10.89756 egration Rank Test (Maximum Maximum Statistics 100.3467 76.90851 52.09584	65.15648 30.00464 21.09844 Statistics) Critical Value 5% 87.04532 70.00345 60.00434	0.1907 0.2716 0.3251 Probability 0.0000 0.0000 0.2142		
At most 2At most 3At most 4China's Unrestricted Co-inter $H_0$ None*At most 1*At most 2At most 3	50.89754 19.75436 10.89756 egration Rank Test (Maximum Maximum Statistics 100.3467 76.90851 52.09584 40.95853	65.15648 30.00464 21.09844 Statistics) Critical Value 5% 87.04532 70.00345 60.00434 49.18673	0.1907 0.2716 0.3251 Probability 0.0000 0.0000 0.2142 0.2398		

 Table 7:-Co-integration analysis

In Johansen Co-integration Test, when the trace statistics and maximum statistics have values lesser that the critical values, then there is evidence of long-run relationship among the variables. From the trace and maximum statistics in Table 7, it was found that all variables are co-integrated at level 5% indicating long term association between the variables. In Ghana, it could be realized that there exist at most three (3) co-integrating equations whiles in China, there exist at most four (4) co-integrating equations. In all, it can be concluded that the variables have long-run relationship in each of the two countries under study.

## Pairwise Granger Causality Test

As the Johansen co-integration test only exhibits the presence of long-run relationship between the variables, pairwise Granger causality test elicits the direction and degree of causality between the variables under study.

Table 8:-Result of Granger Causality Test (Ghana)

Null Hypothesis	<b>F-Statistics</b>	Prob.	Decision
1. FDI does not Granger cause GDP 2.54	64 0.0182	Reject	
GDP does not Granger cause FDI 3.577	2 0.0964	Accept	
2. GNI does not Granger cause GDP1.74650.2345 Ac	cept		
GDP does not Granger cause	e GNI 1.5'	763 0.056	7 Accept
3. GNI does not Granger cause FDI 3.782	6 0.0645	Accept	
FDI does not Granger cause GNI	4.873	0.0785	Accept
4. MVA does not Granger cause GDP 4.903	0.1235	Accept	
GDP does not Granger cause MVA	3.047	0.2154	Accept
5. MVA does not Granger cause FDI6.8927 0.145	52 Accept		
FDI does not Granger cause MVA	5.628	85 0.2351	Accept
6. MVA does not Granger cause GNI 7.34	0.4678	Accept	
GNI does not Granger cause MVA	6.45	0.1145	Accept
7. IVA does not Granger cause GDP 1.04	0.5673	Accept	
GDP does not Granger cause IVA 1.9856	0.0567 Accep	ot	

8. IVA does not Granger cause FDI		5.3421	0.3234	Accept	
FDI does not Granger cause IVA	2.0956	0.1256	Accept		
9. IVA does not Granger cause GNI		2.0934	0.0122	Accept	
GNI does not Granger cause IVA	2.9863	0.2181	Accept		
10. IVA does not Granger cause MVA		5.2481	0.1982	Accept	
MVA does not Granger cause IVA	5.6548	0.0634	4 Accep	t	
11. EDS does not Granger cause GDP		6.4622	0.6583	Accept	
GDP does not Granger cause EDS	6.3842	0.235	7 Accep	t	
12. EDS does not Granger cause FDI		1.2374	0.0756	Accept	
FDI does not Granger cause EDS	1.5733	0.0546	Accept		
13. EDS does not Granger cause GNI		3.9467	0.8573	Accept	
GNI does not Granger cause EDS4.8576	0.0683	Accept			
14. EDS does not Granger cause MVA		5.4732	0.7482	Accept	
MVA does not Granger cause EDS	5.8571	0.5769	Accept		
15. INFCP does not Granger cause GDP		2.9402	0.0857	Accept	
GDP does not Granger cause INFCP	3.4572	0.0673	Accept		
16. INFCP does not Granger cause FDI		4.9482	0.3943	Accept	
FDI does not Granger cause INFCP	4.9636	0.2567	Accept		
17. INFCP does not Granger cause GNI		3.8274	0.6572	Accept	
GNI does not Granger cause INFCP	4.	.2743 (	).5724	Accept	
18. INFCP does not Granger cause MVA	2.4824	0.0673	Accept		
MVA does not Granger cause INFCP	2	.7382	0.3294	Accept	
19. INFCP does not Granger cause IVA		4.7123	0.0857	Accept	
IVA does not Granger cause INFCP	4.	.9362 (	).0849	Accept	
20. INFCP does not Granger cause EDS		5.2638	0.0782	Accept	
EDS does not Granger cause INFCP	4	.9274	0.3742	Accept	

From the pairwise causality test derived from table 8 above, it appears that there exists a unidirectional causality running from FDI to GDP. This means that the value after FDI can help predict the value of GDP in the next period. Hence, GDP is granger caused by FDI in Ghana.

**Table 8:-**Result of Granger Causality Test (China)

Null Hypothesis	<b>F-Statistics</b>	Prob.	Decision	
1. FDI does not Granger cause GDP5.72	.62 0.0000	Reject		
GDP does not Granger cause FDI 3.392	0 0.0000	Reject		
2. GNI does not Granger cause GDP 3.57	0.3822	Accept		
GDP does not Granger cause GNI	2.493	0.0043	Reject	
3. GNI does not Granger cause FDI 4.05	84 0.8472Acc	cept		
FDI does not Granger cause G	NI 5	0.2802 0.2	313 Accept	
4. MVA does not Granger cause GDP 4.50	0.3495	Accept		
GDP does not Granger cause	MVA	2.59020.8943	Accept	
5. MVA does not Granger cause FDI 3.40	0.2312Ac	cept		
FDI does not Granger cause M	VA 2	2.4022 0.0	)563Accept	
6. MVA does not Granger cause GNI 6.89	280.0729 Acce	ept		
GNI does not Granger cause MVA	5.820	0.3953	Accept	
7. IVA does not Granger cause GDP 3.59	200.3534 Acce	ept		
GDP does not Granger cause IVA 2.49590.2958 Accept				
8. IVA does not Granger cause FDI 5.92	95 0.2764Acc	cept		
FDI does not Granger cause IVA 3.5932	20.0682 Accep	t		
9. IVA does not Granger cause GNI 4.93	04 0.0739Ac	cept		
GNI does not Granger cause IVA 5.382	0 0.1847 Acc	cept		
10. IVA does not Granger cause MVA4.81	.02 0.2620Ac	cept		
MVA does not Granger cause IVA 4.282	0 0.5892Acce	ept		
11. EDS does not Granger cause GDP4.68	0.0568Ac	cept		
GDP does not Granger cause EDS 6.692	0 0.0862 Acc	ept		
12. EDS does not Granger cause FDI3.59	23 0.6829	Accept		

FDI does not Granger cause EDS	3.9092 0.8330 Accept		
13. EDS does not Granger cause GNI	1.49340.8573Accept		
GNI does not Granger cause EDS	2.4799 0.2350 Accept		
14. EDS does not Granger cause MVA	4.5820 0.2492Accept		
MVA does not Granger cause EDS	5.2950 0.5769 Accept		
15. INFCP does not Granger cause GDP	3.59200.0562 Accept		
GDP does not Granger cause INFCP	3.2872 0.2493 Accept		
16. INFCP does not Granger cause FDI	4.38200.4624 Accept		
FDI does not Granger cause INFCP	3.2859 0.4925 Accept		
17. INFCP does not Granger cause GNI	5.2850 0.1104 Accept		
GNI does not Granger cause INFCP	3.5920 0.2940 Accept		
18. INFCP does not Granger cause MVA	2.5746 0.1134 Accept		
MVA does not Granger cause INFCP	2.7382 0.5920Accept		
19. INFCP does not Granger cause IVA	3.5925 0.3952 Accept		
IVA does not Granger cause INFCP	4.3853 0.4920 Accept		
20. INFCP does not Granger cause EDS	1.42950.0782 Accept		
EDS does not Granger cause INFCP	4.2538 0.0638 Accept		

Table 9 checks for the causality nexus between all the variables under study. From the results, it can be concluded that there exist bidirectional causality between FDI and GDP. Thus it can be further concluded that GDP is granger caused by FDI and FDI is granger caused by GDP. Also, an evidence of a unidirectional causality running from GDP to GNI was found. This means that economic growth in china poses a positive effect on the gross national income in the Chinese economy.

## **Discussions of Result:-**

OLS test was applied to the annual data collated in China and Ghana. The results of this test in China proved significant as compared to the results obtained in Ghana. For data analysis of Ghana: FDI and GNI had a positive relationship with the dependent variable GDP. Explaining further, forming strategies based on eliminating trade barriers will help attract foreign investment into the country thereby surging the gross national income of Ghana and boosting the Ghanaian economy as a whole. In the case of China: GNI, MVA, IVA and FDI have positive relationship with GDP. With both manufacturing value added and inventory value added having a positive effect on economic growth, it can be postulated that the industrialization in China is more advanced than that of Ghana. Therefore, giving preferential treatment to foreign investors and eliminating barriers to trade coupled with improving industrialization in China will help stimulate the economic growth of China. The FDI coefficient in Ghana and China was found to be positive showing that there is an upward of FDI in Ghana and China. The reasons for this upward trend maybe good infrastructural development, energy stabilization, skilled workforce, accommodating tax rates and credible policy formulations.

With reference to the causality nexus in Ghana, the empirical evidence depicted a unidirectional causality running from FDI to economic growth. Therefore the inflows of foreign direct investment lag length 2 drives economic growth. It's unsurprising that economy growth in Ghana couldn't attract foreign direct investment because the current external debt to GDP ratio is 0.7. Currently, as a result of colossal borrowings from previous governments, almost 70% of government revenue is used to finance loans. Statistically, Ghana's economic growth rate has been reducing for the past five years in a row. With a change in government, the new Government of Ghana in an effort to boost GDP has scrapped certain taxes which were seen as posing a detrimental effect on trade. For instance, recently, the Government of Ghana scraped taxes on the importation of automobile spare parts as well as reducing corporate taxes paid by foreign and local firms. The new government is placing much effort in developing appropriate systems aimed at checking government revenues in order to be able to fund government expenditure. Empirical results derived in Ghana are similar to previous researches done by Michailova S. and Mustaffa Z. (2012), Komnemic B. Pokrajcic D. (2012); Song J. (2014). However, in china a bidirectional causality between FDI and GDP was found. This indicates that in the Chinese economy, economic growth attracts foreign investment and in turn, foreign investment drives economic growth. Thus, it is statistically proven from the empirical results obtained in china that the inflows of foreign direct investment lag length 2 impacts economic growth and vice versa. Furthermore, with a bidirectional causality found in china, it can be concluded FDI and GDP are mutually

correlated. The result of the empirical evidence of the study conducted in China is in consonance with studies done byMkandawire, T. (2015); Taylor, I. (2014); Bach, D. C. (2013).

## **Conclusion:-**

The main objective of this paper investigated the pairwise granger causality associations between gross domestic product (GDP) and foreign direct investment (FDI) using an annual sample data from 1985 to 2015 in each of these two countries. The paper also identified Inflation and consumer pricing (INFCP), external debt stock (EDS), gross national income (GN1), manufacturing value added (MVA) and industry value added (IVA) as the main economic variables that poses a detrimental effect on a country's economic growth. Therefore, this paper further analyzed the pairwise relationship between FDI, GDP and all the identified economic variables in this study. In Ghana and China, the raw data sets were not stationary at level  $\{1(\alpha)\}$  but the data for all the variables under study was found to be stationary with the first differencing at level  $\{1_{(1)}\}$ . Moving on to the Johansen Co-integration test, all the variables were found to have a long-run equilibrium association or relationship among themselves. Data from Ghana revealed that the data set had at most three (3) co-integrating equations whereas at most four (4) co-integrating equations were found from the data set in China. Affirming the evidence that data in Ghana and China is stationary coupled with evidence of long-run equilibrium equations among variables, it was necessary to check for the line or direction of causality between FDI and GDP in these two countries. The empirical results in Ghana depicted the existence of a unidirectional causality from FDI to economic growth with a p-value of 0.0182. This means that trade liberalization in Ghana is the spine to a surge in Ghana's economic development Finally, the empirical results in China revealed the existence of bidirectional causality between GDP and FDI with a p-value of 0.000. More specifically, we document that an increase in FDI inflows in China are more likely to positively affect the economic development of China. On the other hand, economic growth also promotes FDI given that the continuous statistical surge in economic growth rate helps reduce the risks of returns as a result of investing in China.

## **Recommendations:-**

For developing countries like Ghana, foreign direct investment is seen as a spine to economic growth because it offers direct funds and foreign exchanges to the host country. This existence of this unidirectional causality proposes prompt measures as well as serene environments to encourage FDI in Ghana. Therefore in Ghana, Import-substitution policies are important in promoting foreign direct investment. Also, trade incentives and preferences should be given to foreign investments in order to ascertain technology transfer into the host country. Lastly, a liberal and competitive investment climate might help the Ghanaian economy in raising productivity growth. In an emerging and almost developed country like China, the existence of bidirectional causality between foreign direct investment and economic growth has significant policy implications. Therefore, pre-conditions for the flow of foreign direct investment coupled with a surge in gross domestic product should be created by the Chinese national government. Also, key policy measures such as developing human capital, improvement in infrastructure, creation of macroeconomic environment should be in existence by the Chinese government. Finally, the Chinese government should promote FDI inflows by providing incentives such as the revision of bureaucratic laws inhibiting FDI, provision of tax holidays to foreign investors and ensuring of security for foreign investors in the country.

## **Future Research**

In the future, it will be necessary to explore the relationship between FDI and economic growth by making acomparison between West African Countries and ASEAN Countries. With accurate continental data, researching into the impact of foreign direct investment on economic growth on continental basis is worth exploring because it gives insight to foreign investors on which continent they should invest in. Also, exploring the impact of foreign direct investment and development is also worth much attention in Africa.

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