

Does Chinese FDI Really Contributes to Growth of West African Economic and Monetary Unions?

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Abstract: Foreign direct investment (FDI) is frequently viewed as a fundamental component in any nation's given mission for economic development. There is slight uncertainty that the growth of Chinese trade and investment with developing and underdeveloped African states has furnished these countries with a supreme chance to rejuvenate their economies. This study reviewed driving factors of Chinese FDI to African economies utilizing a panel data from 1980-2016. Results showed that factors showing the determinants of FDI inflows have positive influence on development of West African and Monetary Unions economies. In particular components like trade openness, macroeconomic condition, infrastructural improvement and market size have significantly positive and noteworthy impact on FDI inflows to African economies.

Keywords: Foreign direct investment, China's OFDI, WAMU Countries, VECM Approach.

INTRODUCTION

Africa is picking up significance as a goal of international FDI, but from a lower premise than other areas. The year 2009 was to some degree surprising in this manner: On the continent level, Africa faced lower levels of FDI inflow in 2009 than the previous two back to back years. But, the aggregate volume of FDI inflow to Africa has expanded by 595.82 percent from 2000 to 2009. The general rate of Africa's FDI inflow in contrast with the world aggregate is expanding. It can be along these lines contended that Africa is turning into a more prominent goal for FDI, regardless of the possibility that this may not yet be a solidified long run trend. This development in significance is connected to the expanding levels of FDI that African nations get from rising economies. While the FDI inflow into the continent from developed and developing nations dropped in 2009, FDI from developing nations got again before and the expanded investment from nations like China, India and SA remunerated for the loss of FDI from developed nations.

Recently, FDI streams to emerging economies have been much more reliable and powerful than streams to advanced nations. Actually, it has been noticed that emerging countries have recorded the second higher amount as worldwide beneficiaries of FDI in spite of the fact that the numbers decline by four percent to \$703 billion in 2012 from \$735 in 2011. Emerging countries represented a record fifty-two percent of worldwide FDI inflows (by \$142 billion in 2012) which was fundamentally more noteworthy than

streams to developed economies interestingly. The overall rankings of the biggest beneficiaries of FDI likewise uncover varying trends of investment streams: Nine out of twenty of the biggest beneficiaries were emerging nations. Among areas, streams to emerging Asia and Latin America stayed at over all high limits, yet their development driving force debilitated, though; Africa observed a yearly increment in FDI inflows in 2012.

During 1980 and 1982, Ghana continually got about \$16 million for each of those years. On the other hand in 1983, there was a severe decline in FDI from about \$16 million to \$2 million this was consequence of an extreme drought that brought board starvation across the region and the execution of a less than ideal economic recuperation program. This proceeded till 1988. Average FDI inflow from 1989 to 1992 was about \$18 million for each year. The most astounding of about \$22million was reported in 1992 and the least amid 1989/90. Then again, there was a huge increase of almost \$125 million in 1993 and \$233 million in 1994, during 1995 and 1998, there was a significant diminishing to over half yet 1999 recorded a raise. From 2003, the economy has been encountering a continuous increment in FDI inflow.

In contrast with different nations in sub Saharan Africa, stream of FDI to Ghana in the past has been set apart with decrease in absolute terms (UNCTAD Report, 2008). From 1983, the Ghanaian government has left on a privatization policy therefore

an Economic Reform Program to empower the liberalization of the economy to foreign investors basically in the mining industry. Among the approaches to draw in FDI around then was the 'no proprietorship necessities' and foreign membership of above half or 50percent. This was a result of an inclination for domestic involvement which was set at the very least edge of no less than 25percent (GIPC, 2008).

In 1994, the Ghanaian government built up the Ghana Investment Promotion Council (GIPC) with the fundamental goal of recognizing key regions for political venture and equipping potential investors with the required data of the economy through the improvement of ideal strategies and policy controls. Major sectors focused on were the forestry and fishing industries and also administrative institutions, for example, insurance, financial institutions, and real estate. In the fishing sector, at least possession holding for non-natives was about 50 percent in a tuna-fish business and forty percent proprietorship for foreign investors in insurance agencies. Furthermore, foreign proprietorship for officially recorded organization on the stock exchange was given maximum limit of around seventy-five percent. Though in the mineral and oil industry, the state yet has a privilege to ownership rights of ten percent without any cost. Requirements of entry were likewise made more flexible in some specific industries as compare to other emerging nations which incorporated a low least capital prerequisite to set up a business venture in Ghana (GIPC, 2008).

Ernst and Young forecasted that by 2015, capital flow to Africa will touch \$150 billion, which will produce 350,000 new occupations every year. In reality, Africa's assembling, production, infrastructure and services division have seen prevalently solid inflows in foreign venture. The quantity of FDI ventures in Africa has dramatically increased to 857 a year ago from 339 in 2003, according to Ernst and Young. While the United States and United Kingdom is the top investing bodies in Africa, India and China are likewise vigorously looking for business openings on the continent. KPMG has distinguished three primary classifications of opportunities in Africa – natural resources, consumer demand and infrastructure. This discloses the clatter to compete for African market by the rising economies such as, Brazil, Russia, India and China (BRIC) markets, hoping to fuel their development, organizations searching for intra-Africa trade openings and organizations effectively working in Africa that are hoping to extend their impression on the region.

Objective of this study

The basic objective of this are

- (i) To analyze the trends and determinants of China FDI in WAMU countries.

- (ii) To find the impact of China FDI on growth and development of WAMU countries

LITERATURE REVIEW

The theoretical writing on the determinants of FDI starts from the proposition of Dunning [1, 2] which give a complete analytical structure in focused on advantages of ownership, location and advantages of internationalization (OLI) model. On the premise of this, past reviews can be ordered into two classes, one group concentrates on breaking down the determinants that are endogenous to Multinational enterprises (MNE, for example, the firm's size, and essentially inquires as to why a firm turns into an foreign investor. The second class looks at the FDI determinants that are exogenous to investors, for example, the advantages of location of the host nation, market size and costs of human capital. Aside from the well-suited theoretical composition, some chose empirical writing on the determinants of FDI is examined thusly in what takes after:

Asiedu [3] investigated whether elements that influence FDI in emerging nations influence Sub-Saharan African (SSA) countries in an unexpected way. Utilizing information for 32 African nations from 1970 to 1999, in which the dependent variable is (Net FDI streams)/GDP and autonomous factors are GDP growth rate, economic liberalization and openness, capital formation, inflation, returns on investment, Africa dummy, political instability, co operations etc. the study derived that components that drive FDI to emerging economies differently affect FDI in SSA. In particular, development of infrastructure and higher profit for capital elevate FDI to non-SSA nations and SSA nations. Trade Openness elevates FDI to both SSA and non-SSA nations. Onyeiwu and Shrestha [4] utilized a dataset for 29 African nations for the time period of 1975 to 1999 and the dependent variable was FDI inflows/GDP and independent factors were growth rate of GDP, international reserves, natural resources and economic openness correspondingly. They recognized economic development, international reserves, economic liberalization, and natural resource accessibility as the major FDI determinants. Also, in spite of different reviews, political rule and rights and infrastructure were observed to be insignificant for FDI streams to Africa.

Krugell [5] likewise investigated the determinants of FDI for a seventeen Africa nations from 1980 to 1999. Taking FDI inflows/GDP as a dependent variable for regression analysis and FDI lags, size of market and economic growth, capital formation represent the explanatory factors. The study inferred that FDI is controlled by past FDI, size of market and infrastructure.

Suliman and Mollick [6] regressed panel data by using fixed effect model to distinguish the determinants of FDI for a sample of 29 Sub-Saharan African nations for the period from 1980 to 2003. They tried whether human capital advancement characterized by either education rates or economic liberalization, and the episode of war influence FDI streams to these nations. Joining these independent factors in mix with control factors, it was derived that the proficiency rate (human capital); liberalization (political rights and social liberties) and the episode of war are imperative FDI determinants. The outcomes affirm their rational signs; literacy rate has direct and positive impact on FDI inflows and to upgrades in political rights and general freedoms; war chance, by contrast, applies solid negative impacts on FDI.

Sekkat and Vezanones-Varoudakis [7] have assembled the elements deciding the incoming stream of FDI into three classes: essential economic elements, exchange market and trade strategies, and other factors of the investment atmosphere. The fundamental economic variables incorporate the distinction in the rate of profit for capital across nations, portfolio broadening procedure of investors and market size of the host nation. Foreign exchange and trade policy consideration identify with exchange rate schedule and its fluctuation [8]. Business atmosphere variables associated to infrastructure [9], labor expenses and accessibility of skilled labor/literacy, motivating elements, economic factors, political risk, per capita GDP, GDP development rate, economic mergers, significance of transport, trade and communication, social elements or level of urbanization, political instability means the quantity of legislative reforms in government authority, the performance of organizations as far as responsibilities to and implementation of principles [10], the fundamental macroeconomic arrangements and its stability as well as monetary, fiscal, and social [11], and the catalyzing impact of foreign aid [12, 13].

Amornmekin and Suriya [14] recommended that the security and insurance of investor might be another component to draw in foreign direct investment particularly in the broadcast communications area. In addition, Amornmekin and Suriya [15] added that the expansion of foreign shareholding in the organization will may improve foreign investors to further invest into the media communications division and generate more competitive condition that may prompt to the benefit of buyers through the lessening of service charges. Moreover, the prospering business particularly the supplier of infrastructure sector to bolster the economy, e.g., broadcast communications, won't just profit only the customers but additionally the export intensity of the nation [16].

By utilizing the IDP hypothesis, Geeman [17] explored the home factors of Chinese OFDI at provincial level. A panel dataset for 30 Chinese districts from 2003 to 2011 were analyzed. This was the primary examination that concentrated on Chinese OFDI at regional level to affirm the vital part of the expanded IDP hypothesis, home location limitations, and government strategies in China territorial outward FDI among its regions. To be precise, Chinese cost of labor, contamination level and trade balance negatively affected local China's OFDI while innovative abilities, capital formation, and agglomeration has positive impacts on local Chinese OFDI.

Model for empirical analysis and their Theoretical Background

After the criticism of [18] on the simultaneous equation model especially with reference to the included exogenous and endogenous model and the results variability of the variables has raised many questions regarding the selection and applying of a proper model. But, if all the included variables in the study are considered as endogenous, this will leads to a proper regression analysis of the variables through than on Vector Auto-Regressive model [19]. Correa and Kumar [20] concluded that Vector Auto-Regressive model is not only imperative in determining the dependence relationship between dependent and independent variables but also useful for finding the causal relation among the variables. However, the VAR model gives best and more liable results in case when the included model have endogenous and exogenous results [21], therefore, the model used in this study is completely taken from previous theoretical and empirical study Lee and Tan [21].

In this study the VAR model for panel analysis is constructed with both random and fixed co-efficient adjustment. The classical and typical method of regression is quite restrictive, therefore, for better understanding the trends of Chinese FDI on the growth of WAMU countries regarding the effect can be achieved by including fixed and random VAR effects model in the estimation. The constant coefficient model assumes that the terms of the intersection and slope are constant and there are no differences between the data matrices of the cross-sectional dimensions. However, in case of panel analysis both are varies, therefore, the VAR with both effects will be applied. The model of the study is presented in the following equation. To analyze the trends and effect of China's FDI on the growth of African and Monetary Unions countries, the following model will be followed.

$$FDI_c / GDP_i = f(TLB + MecGDP + MS + IsD + MU) \dots\dots\dots (3.1)$$

In the above equation FDI_c estimates foreign direct Investment of China in WAMU countries. GDP_i indicates growth of WAMU countries. TLB assumes

trade liberalization policies, MecGDP macro economic conditions and political stability in African countries, MS indicates market size of WAMU countries. IsD shows infrastructure development to attract FDI in WAMU countries and MU assumes dummy for Monetary Unions countries. The VAR econometric model for estimation random and fixed model for empirical analysis is

$$FDI_c / GDP_i = \beta_0 + \beta_1 TLB_{i-1} + \beta_2 MecGDP_{i-1} + \beta_3 MS_{i-1} + \beta_4 IsD_{i-1} + \beta_5 MU_{i-1} + \mu \dots \dots (3.2)$$

In the empirical analysis of the above model (3.2) for trends and determinants of China FDI in West African and Monetary Unions countries, the VAR model and Multivariate co- integration analysis via granger-causality tests within the framework of Vector Error-correction Model (VECM) will be applied to analyze the dynamic relationships among the variables.

Details of Data Used in this Study

In this study the panel data is employed for more than forty (40) West African and Monetary Unions countries to determine the trends and impact on its growth of China’s foreign direct investment from 1980 to 2016. The data is collected from World Bank’s African Development Indicators (ADI), Statistical Bulletin of China, World Trade Organization (WTO), United Nations Commodity Trade Statistics (UNCTS),

and World development indicators, International Monetary Fund (IMF), The World Economy, United Nations Statistics Database, The Global Economy and The Trading Economy Database.

Methodological Framework of economic growth

The empirical analysis is based on the application of the Granger causality test and vector error correction model (VECM) to test the causal relationship between the variables observed from panel data. Though, prior to applying of these techniques, the study has conducted a series of diagnostic tests to meet the sensitivity and reliability of the data [13, 22]. Also it has eliminated superfluous variables, at the same time provisions for the likelihood of omitted variables were made.

In the beginning, Housman test has been performed to manage the issue of autocorrelation [23, 24]. The standard errors obtained by white diagonal standard errors and covariance technique [25]. Table 1 presents the correlation matrix of all variables except dummy variable. There is no significant correlating link among the explanatory variables. As a result, all the variables observed were utilized for further analysis. The outcome of the study were robust supported that there is no random serial correlation and the differences in variance at the different periods of instability.

Table-1: Correlation Matrix and Descriptive Analysis excluding Dummy Variables

| Variables | Symbols | Observation | Mean | Std. Deviation | 1 | 2 | 3 | 4 | 5 |
|-------------------------------|---------|-------------|------|----------------|-------|-------|-------|-------|------|
| Foreign Direct Investment | FDI | 656 | 2.43 | 1.54 | 1.00 | -- | -- | -- | -- |
| Growth of WAMU countries | GDP | 643 | 3.65 | 0.89 | 0.23* | 1.00 | -- | -- | -- |
| Trade liberalization policies | TLB | 625 | 4.72 | 1.23 | 0.42* | 0.19* | 1.00 | -- | -- |
| Market size of WAMU countries | MS | 622 | 3.54 | 1.18 | 0.13* | 0.23* | 0.29* | 1.00 | -- |
| Infrastructure development | IsD | 618 | 3.75 | 0.87 | 0.09* | 0.27* | 0.11* | 0.17* | 1.00 |

The study examines the trends and determinants of Chinas outward foreign direct investment in West African and Monetary Unions countries and its effect on growth of these countries from 1980-2016. The important variables considered crucial to attract Chinese FDI to WAMU region

discovered from panel data set applied the VAR method of regression with ECM and granger Causality approach for causal relation under VAR methodology. The results obtained from both methodologies is discussed and given below.

Table-2: The VAR Regression Results with Error Correction Term

| | FDI/ GDP | TLB | MecGDP | MS | IsD | MU |
|---------------------|------------------------------------|------------------------------------|-------------------------------------|-----------------------------------|-------------------------------------|-------------------------------------|
| | 1 | 0.4627* (0.1024) | 0.5471* (0.0692) | 0.2803* (0.0381) | 0.3801*** (0.2763) | 0.2914** (0.1108) |
| Co-Equation | 0.5372* (0.06572) | 0.6518** (0.3715) | 0.6482*** (0.4371) | 0.7583* (0.3721) | 0.4527* (0.0926) | 0.2983*** (0.0975) |
| R ² | 0.7391 | 0.6984 | 0.6987 | 0.7562 | 0.6875 | 0.7089 |
| Adj. R ² | 0.7452 | 0.7103 | 0.6995 | 0.7582 | 0.6893 | 0.7352 |

(*), (**) and (***) denotes p-value at ≤0.01, ≤ 0.05 & ≤0.09.

Principally, a selection between OLS and VAR with fixed-effects (FE) is made by applying standard F-statistics. The empirical analysis also estimated the model with random effect approach (RE) by applying ADF and PP unit root test where the statistical significance level prefers VAR as the best suitable model. Though, through analysis it has found that coefficient of per capita GDP is directly proportional to the foreign direct investment as well as statistically significant at the 1% level. Simple justification is that the size of the market is one of the root causes for the attraction of foreign investors to the member countries of the West African & Monetary Union (WAMU) Countries. These findings are coinciding with many of the past studies on FDI, such as [26, 27, 4, 5, 24].

Implicitly, FDI investors can utilize and take advantage of the benefits related to economies of scale with the broader market countries. Thus, the biggest economy is capable to attract more foreign direct investment. This result has provided credibility to the size of the market hypothesis also adopted in the theoretical explanation of determines of China's foreign direct investment towards West African & Monetary Union (WAMU) Countries. The results of this study also strongly support the significance of African Countries market size in attracting the Chinese foreign Direct Investment towards WAEMU countries.

The determinant of macroeconomic stability level although consistent to a priori anticipation has statistical significance at all the level of statistical significance. Findings supporting the descriptive statistics are given in Table 1. This is not surprising as every economy within the regional bloc has always sought to fulfill the conditions (for example, such as the preservation of inflation rate to single digit), imposed by the various regional bodies and also by regional integrated arrangements. For instance the Union of West African Economic and Monetary Community and West Africa Monetary Union (WAMU) and a host of others also noteworthy effect of macroeconomic conditions and political stability in attracting china's FDI.

Coefficient on the degree of openness is positive and has significant association with Chinese foreign direct investment in West Africa and Monetary Union (WAMU) economies. Possible clarification for the positive coefficient can be related to the idea that openness is generally imposing capable cost of crowding in effect local companies because of the high technologies. In terms of marginal effects, as each percentage increase in the degree of openness, China's foreign direct investment tends to rise in West Africa and Monetary Union (WAMU) countries. On the other hand as to a priori expectation, the coefficient on infrastructure quality is positive.

CONCLUSION

Today, the world is seeing the vital effect of globalization which has totally reclassified the path in which business used to be made. One of the key consequences of globalization is that there has been a huge development in worldwide FDI. This sensational advancement has occurred at the same time with a considerable development in global trade. The term 'Global Village' was begat to show that the separation is no longer an imperative and the trade limits have turned out to be obscured. FDI is an imperative determinant in the globalization procedure as it increases the cooperation between states, locales and firms. Developing universal streams of portfolio and direct investment, global trade are all parts of this procedure. Globalization proposes an exceptional opportunities for building nations to accomplish quicker economic growth and development through investment and trade.

Foreign direct investment (FDI) can perform a vital part in an economy's improvement endeavors, as well as: increasing local saving reserves, business and job creation and development, merging into the worldwide economy, exchange of present day innovations, upgrade of proficiency, advancement of domestic suppliers, and promoting skilled labor [28, 29]. In African nations, specifically, other than being a basic source of long run capital for infrastructural investment and other progressive activities, FDI can be an impetus for economic development, serving these economies to leave behind the economic and financial dependence on behalf of natural assets.

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