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Macroeconomic Variables and Foreign Direct Investment (FDI) Inflows in the Nigerian Construction Sector

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The inconsistence of the macroeconomic variables performance and the low gross domestic savings can be attributed to the low infrastructure development in Nigeria. To reduce the problem of poor infrastructure development in Nigeria, capital must be mobilized from the high income countries to increase the present low gross domestic savings. The aim of this study is to investigate the influence of macroeconomic variables on FDI inflows in the Nigerian construction sector. The methodology adopted for this study was an ex-post facto survey research because it was based on existing or secondary data. Annual time series data of the FDI inflows in the Nigerian construction sector, Foreign exchange rates, inflation rates, and interest rates were used. Archive materials from Central Bank of Nigeria (CBN) and National Bureau of Statistics (NBS), annual data from 1990 to 2016 were used for analysis. The variables for this study were tested for stationarity. The unit root test results revealed that the variables were non-stationary at levels but they attained stationarity at first difference. The regression analysis of Ordinary Least Square (OLS) method was used to analyse the data. The result revealed that exchange rate has positive impact but not significant. The result also indicated that interest rate and inflation rate have negative impact on FDI inflows but not significant respectively. Johansen Co-integrated test conducted revealed that there existed a long-run relationship among the variables in the study. The study also established from the Johansen Co-integrated test that FDI and construction sector is significantly co-integrated, indicating a valid relationship at 5%. The result from the OLS model indicated that causality that exists between FDI and the construction sector is bi-directional. Hence construction sector influence FDI inflows as well as FDI inflows influence construction sector in Nigeria. The causality between FDI and the construction sector should encourage policy decisions that will improve the FDI inflows, which by extension would translate to boosting the construction industry's opportunity to meet infrastructure deficit.

Keywords: Construction sector; Economic growth; FDI; Macroeconomic variables; Nigeria

INTRODUCTION

Construction sector is an important and significant sector in any economy. According to Ekpo (2011), construction sector is an important variable of progress in the drive for economic sustainable development of any nation especially the Less Developed Countries (LDCs) such as Nigeria. In China for example, the construction sector accounts for a large percentage of the country's Gross Domestic Product (GDP), since it represents the cornerstone of the country's domestic economy (European Small & Medium-Sized Enterprise Centre, 2013). The construction sector in China, for example, has been receiving boost since 2010. In particular, the percentage contribution of the sector to the total GDP was 15 percent in 2010 (Spire Research & Consulting Pty Ltd, 2011). In Nigeria, the construction sector contributes between 3 and 6 percent to the country's GDP from 1960 during its independence to the 1980's after which the economy experienced recession and the GDP dropped to 1 percent, then later rose again to 3 percent in 2012 (Isa, Jimoh & Achuenu, 2013). The contribution of the construction sector to the economy can be attributed to both internal and external factors. One of the external factors that can significantly contribute to the construction sector growth under favourable economic policy management is the FDI.

FDI is regarded as an important input in the development of any nation because no country is an "island" or self-sufficient on her own. FDI helps to stimulate economic growth and development (Orji, 2004). According to the Organization for Economic Co-operation and Development [OECD] (2002), FDI can be defined as "an integral part of the international economic system and a major catalyst for economic development or flow of capital and human resources from one country to another". It went further that FDI is part of the economic system that stimulates growth by assisting in the provision of infrastructural facilities especially in the LDCs. One of the problems confronting most LDCs in Sub-Sahara Africa, Nigeria inclusive, is low gross domestic savings. The problem can be minimized by encouraging FDI in these countries, to maximize advantages (Ebekozien, Ugochukwu & Okoye, 2015). The fact that the contribution of the FDI in the development of any country is inevitable, it requires that there must be economic stability in the receiving country.

Ajuwon (2016) analysed the FDI inflows to Nigeria and was of the opinion that the Nigerian's share of FDI inflows to Africa decreased from 35.3 percent in 1990 to 13.6 percent in 2000, then came up to 16.3 percent in 2005 and then to 14.1 percent in 2010. The FDI inflows to Africa declined in 2016 by 3 percent to $59 billion and also the FDI inflows to West Africa grew by 12 percent to $11.4 billion in 2016, supported by recovering investment in Nigeria (United Nations Conference on Trade and Development (UNCTAD), World Investment Report 2017). This fluctuation in FDI inflows was attributed to the performance of the economy as a result of uncertainty in the macroeconomic environment prevailing in the country. This uncertainty emanated from the macroeconomic variables behaviour, such as exchange rates, resource prices, interest rates, and changes in policies and rules of business transactions in the country. Othman, Jafari and Sarmidi (2014) believed that the impact of FDI on economic growth will depend on the development of a functional and viable financial market which may also depend on the macroeconomic variables or monetary policy of the receiving country. Functional financial markets will promote the development of local firms which will facilitate emergence of new technologies that will gain from technology transfer and this will improve all round capacities and development of the host country with respect to FDI inflows.

For about four decades now, the macroeconomic environment in Nigeria has not been performing satisfactorily to cause considerable growth in every sector of the economy. For instance, the average GDP growth rate of 3.95 percent achieved between 1970 and 2008 caused a low growth rate of 1.49 percent in per capita income terms (Umoh, Jacob & Chukwu, 2012). According to Agbaeze, Nwosu and Nwoba (2017), macroeconomic variables are part of the factors influencing FDI decisions and investment climate in a given economy. In Nigeria, some environmental factors such as high inflation rate, poor infrastructure, high interest rate on capital, unfavourable exchange rate and unnecessary barrier to trade and inflows of capital have contributed to the low inflows of FDI to every sector in the Nigerian economy (Agbaeze, et al, 2017). A study carried out by Siklar and Kocanman (2018) on the relationship between FDI and macroeconomic stability in Turkey revealed that fluctuation in inflation and real exchange rate has negative effect on FDI in Turkey, therefore government must come up with policy that would create stable macroeconomic environment to attract a higher volume of FDI inflows into the country.

The aim of this study is to find out whether macroeconomic variables in Nigeria influence the FDI inflows in the construction sector of the Nigerian economy. The study objectives are: to investigate the influence of inflation rate on FDI inflows to the Nigerian construction sector; to determine whether exchange rate influences FDI inflows to the Nigerian construction sector and find out whether interest rate influence FDI inflows to the Nigeria construction sector.

This study is very important because of the significance of the construction sector and the FDI in the development of any economy. Solution to the fluctuation and volatility of the Nigerian macroeconomic environment will go a long way to boost the economy, enhance sustainable development and increase the FDI inflows to the construction sector of the economy. The study will also add to the existing knowledge therefore useful to all stakeholders in the construction sector and the economy in Nigeria and outside Nigeria. The study is divided into sections: literature review, method of research, analysis, discussions, conclusions and recommendations.

Construction Sector and Its Relevance to Economic Development in Nigeria

The construction sector is a unique and important sector in the economic development of any nation. It is responsible for physical infrastructure development which is required by other sectors of the economy. According to Ekpo (2011), construction sector is a critical factor in the economic advancement of nations especially LDCs such as Nigeria. The construction sector contributed 3 percent to the Nigerian GDP in 2002, compared to manufacturing sector that contributed 4 percent in the same year (Anyanwu, 2007). To Polycarp and Ubangari (2017), there was a decline in the contribution of construction sector to the Nigerian economy between 2014 and 2016. For example, the contribution of the construction sector in the third quarter of 2015 was 5.34 percent and this went down to 2.81 percent in the third quarter of 2016. This drastic change was attributed to economic recession experienced by government at this period.

According to Dutse (2008), in the developed countries, the construction sector is the highest employer of labour, but in the developing countries such as Nigeria, it is expected to be the second highest employer of labour after agriculture sector. Akindoyeni (2011) also asserted that in the conduct of economic activities, construction sector is always used by government as the stimulus for the buoyancy of the economy. Okoye (2016) was of the opinion that construction sector drives the social and economic development of any nation because almost all sectors depend on their products for their operations. Iheme and Chiagorom (2018) described construction sector as a section that is normally used to explain the performance of an economy due to its reliability and connections with other sectors in an economy.

Following a study carried out by Abubakar, Abdullahi and Bala (2018) on the relationship between the Nigerian construction industry and the GDP between 1990 and 2015, it was discovered that despite the problems of the volatility in the macroeconomic variables in the economy, the construction output still granger-cause the GDP, which implies that there is correlational relationship between the growth of construction output and the GPD in Nigeria. This finding supports the fact that construction industry is important to the development of the Nigeria economy. The construction sector of any country also performs various activities which enhance effective sectoral linkages and ensures sustainable economic development (Ademola & Badiru, 2016).

On the historical overview of the Nigerian construction sector, according to Akindoyeni (2011), the organized construction contracting began in Nigeria in 1940s with few foreign companies coming into operation. With the oil-boom of 1970s, there was an upward trend in the Nigerian construction activities to the end of the second republic in 1983. It can be said that the sector witnessed increasing upsurge in construction activities in the past but activities in the sector were dominated by expatriate companies with few indigenous companies (Idoro, 2009). Due to the performance of the Nigerian economy, the construction sector is still struggling with a lot of challenges, ranging from inadequate technical and managerial problems, insufficient financial capability to material and equipment capital base (Ofori, 2001). However, regardless of all these challenges confronting the construction sector in Nigeria, the sector is still full of inherent potentials, such as self-sufficiency in cement production that will stabilize the materials sector and the huge deficit in physical infrastructure (road, rail, airport and sea port) that will help in creating opportunities for sustainable development (Oluwakiyesi, 2011). The construction sector in developed, emerging and developing countries can be seen as the sector of the economy that through planning, design, construction, maintenance, repair and operation, transforms various resources into constructed facilities. Various physical, public and private facilities produced by this sector ranges from residential and non-residential buildings to heavy engineering construction, and these physical facilities play a crucial and highly visible role in the process of development (Kheni, Gibb & Dainty, 2008).

According to Mogbo (2004), the infrastructure development in Nigeria is inadequate and of a poor state, when compared with those in Europe, North America and Japan. He also went further to say that infrastructure facilities in the Nigerian economy is weak and characterized by uneven distribution, decay and unstable which can be attributed to neglect and macroeconomic environment prevailing within the economy. According to Okoye, Mbakwe and Igbo (2018), the construction sector plays a vital role in the economic growth of Nigeria. However, this has been affected by the recent economic recession which has caused major risks for the construction sector. Also, the budget revenues have been reduced and as a result, investment in infrastructural facilities by the government is crippled. World Bank (2010) reported that more than one hundred million Nigerians do not have access electricity supply. Adelegan (2000) also observed the transportation infrastructure facilities in Nigeria to be generally poor. Road, rail, air and water transportation systems are in deplorable conditions, while most rural areas are not properly linked to the rest of the country thereby affecting development.

The state of a country's physical infrastructure development will determine such country's prospect for economic sustainability and development. The development of basic physical infrastructure in Nigeria is faced with challenges thereby contributing to low economic development in all the sectors of the economy. In

the World Economic Forum's 2016 to 2017 Global competitive index ranking, Nigeria was at the bottom, that is, 132 out of 138 countries (Institute of Security Studies, 2017). This report also indicates that serious policy must be instituted by policy makers in Nigeria to counter the effect of basic physical infrastructure deficit in Nigeria for sustainable economic development.

Construction Sector, Economic Growth and FDI Influence in Nigeria

Development of the construction sector in any economy is indisputable due to its immense contribution to the economic development of the nation. The construction sector is a subset of an economy at large. Anything that affects a given economy will affect its construction sector. Some researches were carried out on the relationship between construction sector and related economy. Isa et. al. (2013), reported that the economic growth of Nigeria is directly related to her construction sector. That is, if the Nigerian economy growth is high, the contribution of the construction sector will also be high. Lopes (1997) established that there exists a direct relationship between the level of GDP per capita and the level of the construction sector activity in Sub-Sahara Africa.

The gross domestic savings of the Nigerian economy is very low hence the need for external intervention in form of FDI so as to boost economic growth (Ebekozien et al., 2015). FDI inflow into the construction sector especially for the development of the Nigerian infrastructure facilities will go a long way in the development of the Nigerian economy. Ogunjimi and Amune (2017) claimed that every country of the world, especially developing countries like Nigeria seek for FDI as part of their major source of external finance because FDI affords countries to get capital externally without much effort. FDI is one of the reliable and easy means through which a country can get capital to augment domestic savings for infrastructural development (Adeoye, 2009). FDI facilitates the provision of external finances for the implementation of infrastructure projects, assisting the local construction companies especially those that lack capital and expertise to execute projects (Zhorzhohani, 2016). This same author also emphasized that FDI assistance in projects could lead to increase in construction demand thereby creating opportunities for domestic companies. A study conducted by Ebekozien, Ugochukwu and Okoye (2015), revealed that there is a poor flow of FDI into the Nigerian construction sector, when compared with other sectors of the economy. From the findings, the study discovered that in Granger sense, the Granger Causality is bi-directional. This therefore suggests that FDI is an important catalyst for sustainable growth and development of the construction sector in Nigeria, and that the level of infrastructure facilities available in the country would determine the extent of FDI attraction into the economy.

Table 1, shows the inflows of FDI into the construction sector during the military regime between 1984 and 1998, and also during the democratic regime between 1999 and 2017 in Nigeria. From table 1, the highest FDI inflow into the construction sector during the military regime was #3, 888.30 million. During that period, the FDI inflow into the construction sector of the Nigerian economy was inconsistent which could be attributed to political unrest at the time. Also from table 1, the highest FDI inflow into the Nigerian construction sector during the democratic regime between 1999 and 2017 was #12, 702.50 million in the year 2008; this shows a positive flow of FDI into the construction sector. From table 1, it was equally observed that there was an improvement in the FDI inflows into the construction sector of the Nigerian economy during the democratic era which can be attributed to various economic measures introduced during this period of time to boost FDI attraction into the economy.

Table 1: FDI Inflows to the Economy and the Construction Sector between 1989 and 2017

Year	Total FDI inflows in the economy	FDI inflows to construction sector	Percentage FDI inflows in construction
1989	10,899.90	481.80	4.40

1990	10,436.10	743.60	7.10
1991	12,244.20	1,471.60	12.00
1992	20,512.70	1,406.60	6.90
1993	67,787.00	71.20	0.10
1994	70,713.70	1,707.00	2.40
1995	119,391.60	1,553.00	1.30
1996	122,600.90	1,864.30	1.50
1997	128,331.90	1,259.80	1.00
1998	152,410.90	3,888.30	2.60
1999	154,190.40	3,995.90	2.60
2000	157,508.60	3,995,90	2.50
2001	161,441.60	4211.90	2.60
2002	166,631.60	4,293.90	2.60
2003	179,687,60	4,545.80	2.50
2004	249,639.30	5,194.10	2.10
2005	324,129.30	6,713.30	2.10
2006	482,447.60	10,461.10	2.20
2007	552,498.60	12,030.20	2.10
2008	586,309.70	12,702.59	2.20
2009	441,271.10	8,25.50	2.20
2010	440,136.10	9,284,86	2.10
2011	463,239.30	10,191.26	2.20
2012	459,397.10	10,106.74	2.20
2013	502,473,20	11,556.88	2.30
2014	530,354.80	12,196.16	2.30
2015	284,575,69	5,976.09	2.10
2016	314,231.11	4,713.47	1.50
2017	299,142.00	5,085.40	1.70

Source: Ebekozien, Abdul-Aziz and Jaafar (2018)

Influence of Macroeconomic Factors on FDI Inflows to Construction Sector in Nigeria

There are four major factors that attract FDI into a country. These are access to resources, access to market, efficient gains and acquisition of strategic assets. These factors can be hindered as a result of the macroeconomic prevailing in a country (Mehta, 2012). Kariuki (2015) worked on the determinants of FDI inflow in the African Union, came up with the findings that high risk has a negative effect on FDI inflows; that political and financial risk affect FDI inflows negatively; that there is a positive relationship between commodity price index performance of any country has a positive effect on the FDI inflows; and that the degree of openness to trade has a positive effect on the FDI inflows. In a study carried out by Dondashe and Phiri (2018) on the determinants of FDI in South Africa (*Do macroeconomic variables matter?)*, using capita GDP, the inflation rate, government size, real interest rate, and terms of trade openness; it was discovered that all the macroeconomic employed were positively related to FDI except inflation rate.

A study carried out by Prakash and Kumar (2017) using panel data analysis, revealed that variables such as market size, labour cost, infrastructure, currency value and capital formation were very essential determinants of FDI inflows of BRICS countries, therefore based on the findings of this study, the authors recommended a robust industrial production to boost the performance of domestic economy. Another study carried out by Siklar and Kocanman (2018) on the relationship between FDI and macroeconomic stability in Turkey discovered that fluctuation in inflation and real exchange rate have a negative effect on FDI in Turkey and therefore recommended that Turkey create favourable atmosphere that would provide stable macroeconomic environment in order to attract higher volumes of FDI.

Following a study carried out by Oloyede and Kolapo (2018) on the sensitivity of FDI to macroeconomic variables in Nigeria of which they employed the following variables, FDI as the dependent variable, GDP, population and openness to trade as the independent variables. The ordinary least square model for this study revealed that inflation rate; population and openness to trade have positive influence on FDI, while economic growth has a negative influence on FDI. This study also revealed that

unemployment, exchange rate and interest rate have negative influence on FDI inflows into Nigeria in the short run. Finally, this study recommends that managers of the Nigerian economy intensify measures to control interest rate and exchange rate fluctuation so as to attract FDI inflows into the Nigerian economy.

A major factor responsible for the low level attraction of FDI to Nigeria is the low level of savings and deficit infrastructure development in the country. The macroeconomic prevalence in Nigeria is also not favourable to attract FDI as few existing fixed assets are in deplorable states. The interest rate is high, exchange rate is unstable, crude oil (which is the major source of revenue for the country) is not stable and the rate of unemployment in the economy is very high (Ogunjimi & Amune, 2017).

RESEARCH METHOD

This study examined the influence of macroeconomic variables on the contribution to FDI inflows in the construction sector in Nigeria. The study made use of secondary data sources first because of the nature of data involved and second on the basis of the well-developed knowledge in the field of economics, as economic data could easily be sourced from national statistical sources. The sources of the data used for this study are: Central Bank of Nigeria (CBN) and the National Bureau of Statistics (NBS). The data were collated from the annual basis between 1990 and 2016. The variables used in the study are defined as follows:

FDI_CS represents the total inflows of FDI inflows in construction sector between the period of the study, 1990 and 2016. It is measured in Million US$.

Real Interest Rate (INTR): The real interest rate is the nominal interest rate adjusted for expected inflation rate and is measured as the difference in the nominal interest rate and the expected inflation rate in the economy. It is measured in percentage.

Real Exchange Rate (EXR): Real exchange rate is defined as the nominal exchange rate that takes into account the inflation difference among nations. It is the rate at which a country currency is compared with the currency of other countries.

Inflation Rate (INF): Inflation rate is based on the consumer price index. It is a percentage change in the price of goods and services in the economy within a given period of time.

In the study, FDI_CS is the dependent variable while interest rate, inflation rate and exchange rate are the explanatory or independent variables. The study uses both descriptive and inferential statistics to analyze and evaluate the results. Descriptive statistic is used to evaluate the properties of the data while the inferential statistic is used for correlation analysis, regression analysis, unit root test and cointegration analysis. Pearson correlation is used for correlation analysis to know the direction of relationship between variables. Ordinary Least square method is used for regression analysis to measure the strength and significance of relationship. Augmented Dickey-Fuller Test Statistics and Phillip Peron unit root test were used to test data stationarity. Johansen Co-integration test is used for data integration. E-views 7 software is used for data analysis.

DISCUSSION

The data analysis is divided into descriptive and inferential statistics.

Descriptive statistics

The section below shows the descriptive analysis of the variables engaged in the study.

The Table 2 shows the descriptive properties of the studied variables over the period - 1990 to 2016. Jarque-bera statistics test of the goodness of fit of the sample data if normally distributed, the Jarque-bera statistics will have a chi square distribution with two degrees of freedom. The skewness statistics shows that FDI_CS, INTR, EXR, are negatively skewed. For inflation rate, skewness statistic is positive. The results shown that the interest rate has the highest rate of change among all the variables whereas the inflation rate has the lowest rate of change. Standard deviation depicts that FDI_CS values are more vulnerable to deviation as against the expected values whereas the inflation has the least potential to deviate from the expected figures.

Table 2: Descriptive Statistics of the Variables for the Study

	FDI_CS	INTR	EXR	INF
Mean	19.03	24.39	2.52	3.16

Median	19.31	24.41	2.53	3.08
Maximum	22.41	25.82	1.32	4.43
Minimum	13.81	22.56	3.53	1.56
Std deviation	1.94	0.83	0.54	0.78
Skewness	0.44	0.30	0.17	0.008
Kurtosis	3.12	2.41	2.65	1.73
Jarque-Bera	1.29	1.16	0.39	2.61
Probability	0.52	0.55	0.82	0.26
Observation	27	27	27	27

Table 3, shows the correlation matrix test of the variables for the study. Table 3 shows that FDI_CS is positively correlated to all three variables, interest rate, exchange rate and inflation rate. It indicates presence of integration in the market and it may be due to high flow of capital in the economy. The lower level of correlation of inflation attracts more opportunities for the foreigners to invest in construction sector in Nigeria.

Table 3: Correlation Matrix

	FDI_CS	INTR	INF	EXR
FDI_CS	1.000	0.912	-0.007	0.908
INTR	0.912	1.000	-0.183	0.903
INF	0.007	-0.103	1.000	-0.158
EXR	0.908	0.930	-0.158	1.000

4.2 Regression Analysis

To ensure good model, the one that would be suitable for policy recommendation, unit root test must be carried out on the variables so as to make sure that they are stationary. After which regression model can then be determined. Two stationary tests were conducted using Augmented Dickey fuller (ADF) and Phillip Peron test. These results are shown on Table 4, and Table 5.

Table 4: Stationary Test Using Augmented Dickey Fuller (ADF) Test

Variable	Level			First Difference			Decision
	Intercept	Trend Intercept	None	Intercept	Trend Intercept	None	
FDI_CS	-1.283	-4.281	1.316	-9.043	-8.959	-8.338	I(1)
INTR	-0.814	-2.587	2.940	-7.580	-2.587	-2.940	I(1)
INF	-3.068	-3.250	-0.860	-5.364	-5.371	-5.471	I(1)
EXR	0.459	-2.810	4.881	-4.298	-4.382	-2.684	I(1)

Table 5: Stationary Test Using Phillip Peron

Variable	Level	First Difference	Decision

	Intercept	Trend Intercept	None	Intercept	Trend Intercept	None	
FDI_SC	-2.645	-6.120	1.607	-10.391	-10.133	-9.363	I(1)
INTR	-0.184	-2.315	3.735	-5.349	-5.224	-4.016	I(1)
INF	3.013	-3.071	-0.894	-6.179	-6.077	-6.262	I(1)
EXR	-1.354	-4.310	-0.303	-11.618	-11.781	-2.684	I(1)

From Table 4 and Table 5, the results of the tests show that all the variables are non-stationary at level but are stationary at first difference, with intercept, trend and intercept, and none.

Table 6 shows the Johansen Co-integration of the variables for the study. From the Table, the Log Likelihood Ratio (LR) satisfied three equations at 5% significant level. Johanson Co-integration Test is used to test co-integration series of variables. The results show null hypothesis rejection at 5% significance. Log likelihood ratio satisfied co-integration equation at 5% significance level. The assumption which is used in this co-integration test is intercepted with no trend and vector regression (VAR) with linear deterministic trend.

Table 6: Johanson Cointegration

Observation 27

Series: FDI_CS, INTR, INF, EXR

Lag 1 to 1

Eigen Value	Likelihood Ratio	5% Critical Value	1% Critical Value	Hypothesized No of CE(s)
0.536	72.742	46.19	53.35	None[xx]
0.479	44.285	28.86	36.55	At most 1[xx]
0.405	20.097	14.51	24.14	At most 2[xx]
0.023	0.847	4.67	7.56	At most 3[xx]

[xx]denote Hypothesis rejected at 5% and 1% significant level

Table 7, shows the Least Square Estimation used for the study. Ordinary Least Square technique is used for time series data to test the strength and significance of the explanatory variables against the dependent variable. The results significantly disclosed that the value of coefficient of interest rate, inflation & exchange rate are positive & significant at 1% level, hence it can be concluded that all the three explanatory variables are positively related to the dependent variable, FDI. This implies that exchange rate and FDI contribution influences Nigeria construction sector. Also that, inflation rate and FDI contribution influences the Nigeria construction sector and that interest rate and FDI's contribution influences the construction sector in Nigeria. The model shows a positive relationship, which implies that a change in one variable will certainly result in correspondent change in the other. The model established the fact that a unit increase change in the FDI inflow into the construction sector of the economy will bring about increase in construction sector.

Table 7: Least Square Estimation

Dependent variable: FDI_CS

Sample 1: 27

Included observation: 27

Variable	Coefficient	Std. Error	T-statistics	Prob.
INTR	1.260	0.358	3.519	0.0012
INF	0.624	0.205	3.041	0.0044
EXR	1.066	0.303	2.780	0.0088
C	-13.524	7.588	-1.782	0.0834

R-Squared	0.8879	Mean dependent var.	19.0387
Adjusted R Squared	0.8783	S.D. dependent var.	1.9477
S.E of Regression	0.6772	Akaike info criterion	2.1554
Sum Squared Raid	16.0546	Schwarz criterion	2.3260
Log Likelihood	-38.0310	F-statistic	92.4527
Durbin Watson Statistics	1.8665	Pro (F-statistics).	0.0000

So, any increase in the three explanatory variables would cause an increase in FDI which invariably affects construction sector in Nigeria, therefore government should focus on stabilizing these variables to attract more FDI to the country in order to further support growth of industries, especially the construction industry. The coefficient values explained the beta coefficients of the explanatory variables and their effects on the dependent variables. The resultant equation can be expressed mathematically as:

FDI_CS = -12.83 + 1.26 INR + 0.62 INF+ 1.06 EXRATE + e

FDI_CS represents FDI inflow in construction sector between 1990 and 2016. INR represents the nominal interest rate adjusted for expected inflation rate between 1990 and 1916. INF represents inflation rate between 1990 and 1916, EXRATE represents between 1990 and 1916 and e represents error term.

Probability of F-statistics also shows that the model is overall significant at 1% level. The value of R^2 denotes that about 89% of the variations in dependent variable are explained by the variations in the explanatory variables.

CONCLUSION AND FURTHER STUDIES

This study evaluates the influence of macroeconomic variables on FDI inflow to the Nigerian construction sector. Annual time series data were employed. This study used OLS estimation method and Johansen co-integration test to ascertain the long run relationship between the variables under investigation. The study revealed from the OLS results that causality between the FDI inflow and the construction sector is bi-directional. This implies that the construction sector influences the FDI inflow and at the same time the FDI inflow influences the construction sector.

The implication of the construction sector influencing FDI inflow is that the infrastructure facilities on ground can determine the level of FDI inflow in an economy. At the same time the FDI inflow to the country can lead to an improvement in the growth of the construction sector. From the study it was also that macroeconomic variables such as interest rate, inflation rates and exchange rates have significant positive impact on FDI inflow on the economy as a whole, likewise the construction sector.

The recommendations of this are as follows: the monetary authorities must ensure that the macroeconomic variables are stable and also the socio-economic environments are conducive so as to increase FDI inflow into the construction sector of the economy; Government must create policies that would improve the economy in terms of per capita growth and this will attract FDI inflow in to the construction sector; Government must also fully liberalize exchange rate regime devoid of multiple exchange rates so as to attract more FDI inflow into the economy.

Based on the importance of this study, the following areas are identified as needed further research: Macroeconomic factors, FDI inflows in the construction sector and the Nigerian economy growth; Inflationary dynamics and the FDI inflows in the Nigerian construction sector; and Exchange rate Volatility and the FDI inflows in the Nigerian construction sector.

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