Empirical Examination of Foreign Direct Investment and Stock Market Performance in Nigeria

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Abstract
This study examined foreign direct investment and capital market development in Nigeria for the period 1972 to 2016. The study was specifically designed to assess the relationship between foreign direct investment and market capitalization, foreign direct investment and number of listed companies, foreign direct investment and all share index, foreign direct investment and turnover ratio and foreign direct investment and value of transaction FDI in Nigeria. Secondary time series data were collected using desk survey approach and analysed using Vector Auto Regression (VAR) method. The result of the analysis revealed that there is a significant positive relationship between foreign direct investment and market capitalization; also, there is a significant positive relationship between foreign direct investment and number of listed companies; again, the study shows that foreign direct investment has a significant positive relationship with all share index; lastly it was revealed that foreign direct investment has a significant positive relationship with turnover ratio and value of transaction in Nigeria. On the basis of these findings, the study recommended that Government should put in place suitable investment conditions such as steady power supply, good road networks, etc. for the profitable operation of foreign direct investment and to boost the capital market performance in Nigeria; also, government should encourage foreign direct investors to quote their securities on the Nigerian capital market by providing special benefits such as tax holidays, to quoted FDI and finally, regulatory authorities should make policies to boost investors' confidence in the market by promoting transparency, fair trading and discouraging capital fright.

Keywords: Foreign Direct Investment, Capital market, Market Capitalization, Turnover Ratio, All Share Index, Value of Transaction, Foreign Portfolio Investment

Introduction

There is no gain saying the fact that finance determines the direction, health and level of performance of any investment. This is because finance constitutes the life wire or blood and soul of any business organization (Akpan, 2004). Finance therefore occupies a vital position in investment, whether in developed, developing or less developed financial market. According to Adaramola and Obisesan (2015), the slow rate of development in the third world is attributed to the inadequate financial resource to speed up the economic growth and development. Saving in this part of the world is usually less than the investment needs, leading to the demand for foreign borrowings and other foreign contributions to complement the domestic resources and stimulate development. Hence, the importance of foreign capital inflows either by private or public agencies in promoting growth and development in developing countries cannot be overemphasized. Foreign capital inflows could be thought of as A financial market is a complex arrangement of institutions, mechanisms and structures through which financial resources (assets) are transferred to ultimate borrowers, who may be individuals, corporate bodies, or governments for investments in economic activities which

include both production and distribution (Nzotta, 2004). The Nigerian financial market is broadly divided into two: the money market and the capital market. The money market is that segment of the financial market where financial instruments of highly liquid and very short-term maturity are traded. The capital market on the other hand is a market for trading on long term financial securities, including ordinary shares, long term debt securities such as debentures, unsecured loan stock and convertible bonds (Akpan, 2004).

The Nigerian capital market could be termed developing arising from the shallowness and paucity of the stocks traded in the market. This is as a result of the low per capita income, transition from closed economy to an open one, accountability building within the system and an increase in both local and foreign (portfolio and direct) investments which characterized the economy. According to Maduka (2014), a developing economy is characterized by high commitment of investible resources to the development of productive capacity and the movement away from the traditional economy that relied on agriculture and the export of raw materials to an economy that is rapidly industrializing.

The Nigerian capital market has two components: the primary market, for new capital issues by firms and other institutional investors, including governments and the secondary market, for the exchange of existing Securities (Akinsulire, 2014). It follows from the above that the Nigerian capital market by its functional classification plays two major roles in investment attraction into Nigeria. First, it enables deficit investors to raise long term funds from surplus investors to finance their investment activities. In fulfilling this role, it acts as primary market for new issues of equity and debt; finally, it provides a ready market for investors to sell off some shares and bonds in their portfolio or to buy additional ones to beef-up the structure of their portfolios. By so doing, it acts as a secondary market for trading on existing securities.

Investment could be conceived of, as the sacrifice of current consumption for future benefits (Emekaekwe, 2009). It involves the injection of idle funds into a particular project or a series of projects with a view to earning returns on the invested capital. Thus, there are various approaches by which investment is classified: domestic and foreign investment. Domestic investment occurs when the capital is raised and contributed by citizens of the receiving country. Foreign investment on the other hand involves the inflow of capital from foreign countries in the form of equity or even grants. According to Jeffrey & Spaulding (2005), foreign capital flows into Nigeria through such avenues as foreign direct investment (FDI), foreign portfolio investment (FPI), official inflows (OI) and commercial loans (CL). The composition of foreign capital inflow to developing countries in general and Nigeria in particular has shifted from commercial loans to foreign direct investment (FDI) and portfolio investment. Between the periods of 1970s to 1980s, commercial loan was the primary form of capital flow to the Nigeria economy. This was due to the restrictions and capital controls place by the country as part of the policy of import substitution industrialization strategy aim at conserving foreign exchange and protecting domestic industries (Ndem, Okoronkwo & Nwamuo, 2014).

Foreign direct investment (FDI) has been defined as an investment in a business by an investor from another country for which the foreign investor has control (10% or more voting stock) over the company purchased (OECD, 1998). It is the inflow of investment by a direct investor into a target country with a view to having controlling interest in the firm. It could take the form of investment in the equity capital of either a Greenfield or Brownfield company, reinvestment of the earnings in a firm and short-term intra-company loans (Jeffrey & Spaulding, 2005).

The link between a capital market development and FDI in Nigeria has remained a subject of isolation among scholars. Little has been done on this area as many scholars devote more time investigating the relationship between FDI and the Nigerian economy Adegbemi, 2012), FDI and the stock exchange (Adaramola & Obisesan, 2015) and the determinants of FDI inflow into Nigeria (Muhtar, 2012). The few studies available in this subject are conflicting in terms of methodology and results (Nnanna, 2015 and Musa & Ibrahim, 2014). It is in line with this that this study becomes timely and appropriate to examine the extent to which capital market development impact on the inflow of FDI to Nigeria.

Objectives of the study
The major objective of this study was to examine the relationship between foreign direct investment and capital market developments in Nigeria. The specific objectives were to:
(i) Examine the relationship between FDI and the Nigerian capital market's market capitalization;
(ii) ascertain the relationship between foreign direct investment and the Nigerian capital market's number of listed companies;
(iii) determine the relationship between foreign direct investment and the Nigerian capital market's all-share index;
(iv) examine the relationship between foreign direct investment and the Nigerian capital market's turnover ratio;
(v) assess the relationship between foreign direct investment and the Nigerian capital market's value of transaction

Research hypotheses
The following hypotheses were formulated for the purpose of achieving the above stated objectives.
H_0: Foreign direct investment does not have any significant relationship with the Nigerian capital market's market capitalization;
H_0: Foreign direct investment does not have any significant relationship with the Nigerian capital market's number of listed companies;
H_0: Foreign direct investment does not have any significant relationship with the Nigerian capital market's all-share index;
H_0: Foreign direct investment does not have any significant relationship with the Nigerian capital market's turnover ratio;
H_0: Foreign direct investment does not have any significant relationship with the Nigerian capital market's value of transaction.

The remainder of the paper is organized into four sections. Following section, one is section two which deals with the literature review and theoretical framework, section three handles the research methodology. Section four shall present the empirical data for analyses and testing and finally, in section five the entire findings in the research process shall be summarized, conclusions drawn which will then lead us to making appropriate recommendations.

Literature Review and Theoretical Framework
Theoretical Framework
In order to give direction to the empirical investigation, this study was built on the foundation of the capital market theory of FDI, the dynamic macroeconomic theory of FDI and strength of the currency theory of FDI. However, the study was anchored on the capital market theory of FDI.

Capital market theory of FDI

The capital market theory is one of the oldest theories of FDI propounded by Boddewyn (1985). It holds that FDI is determined by the rate of interest charged by the host country's financial institutions. As a portfolio investment theory, the capital market theory identifies three factors which attract FDI to developing countries like Nigeria. First, is the undervalued exchange rate, which allows lower production costs in the host countries, less developed countries' currencies are lowly priced relative to those of the developed countries. Hence, to take advantage of low cost of production, multinational companies move their capital into these countries.

Secondly, since no organized securities exist, long term investment in less developed countries will often be FDI rather than the purchase of securities. Finally, the capital market theory assumes that foreign investors have limited knowledge about the host Countries' securities and hence prefers FDI which allows control of host country's assets (Morgan & Katsikeas, 1997).

Dynamic macroeconomic FDI theory

This theory was propounded by Sanjaya (1997). According to this theory, the timing of investments is dependent on the changes in the macroeconomic environment. This theory believes that volatility in macroeconomic environment such as inflation, exchange rate, interest rate, money supply, openness and national productivity determines the flow of FDI to developing countries. FDIs are therefore long-term function of multinational companies' strategies. This implies that foreign direct investment is a strategy used by multinational firms to take advantage of positive changes in developing countries macroeconomic environment. More so, unfavourable or negative changes in macroeconomic environment deter foreign direct investment inflow into developing countries.

Conceptual framework

Capital market is defined as the collection of institutions, individuals and instruments that interact to channel medium to long-term funds from the surplus economic units to the deficit economic units. It is the market where medium to long-term finance can be raised (Akingbohungbe, 1996). In another view point, Ekezie (2002) posited that capital market is the market for dealings (i.e. lending and borrowing) in longer-term loanable funds. Capital market has also been conceived as a forum through which long-term funds are made available by the surplus economic unit to the deficit economic units. It is a market where lenders (investors) provide long term funds in exchange for long term financial assets offered by borrowers. Nwankwo (1980) opined that the central task of the capital market is the mobilization of long term idle funds in the hands of myriad individuals who save and the pooling and channelling of such funds into productive uses. It is the most important institution for sufficient capital formation geared towards economic development. This market embraces both the new issues (primary) market and secondary market. Thus, it is a mechanism whereby economic unit desirous to invest their surplus funds, interact directly or through financial intermediaries with those who wish to procure funds for their businesses.

Capital market offers access to a variety of financial instruments that enable economic agents to pool, price and exchange risk. It encourages savings in financial form. This is very essential for government and other institutions in need of long term funds and for suppliers of long-term funds. Based on the relevance of the market in accelerating economic growth and development, governments of most nations tend to have keen interest in the performance of its

capital market. The concern is for sustained confidence in the market and for a strong investor's protection arrangement.

The principal participants in the Nigerian capital market, according to Akinsulire (2014), include the Nigerian stock exchange, the Securities and Exchange Commission, stock broking firms, issuing houses (banks and investment companies), government and quoted companies. The Securities and Exchange Commission (SEC) is the apex regulatory body of the Nigerian capital market and a government agency established by the Securities and Exchange Commission Act 71 of 1979 which was later re-named as Investment and Securities Act No. 29, 2007. The SEC pursues its objectives by registering all market operators based on capital adequacy, competence and solvency as criteria. Generally, the capital market among other things provides a platform for the greater percentage of the populace to participate in the economy. In some countries, the capital market constitutes one of the largest sources of funds for the public and private sectors to finance important projects. Similarly, the market provides a platform for mergers and acquisitions for companies desiring to do so while venture capitalists also use it as an avenue for promoting venture capital development. The capital market is a channel through which international capital flows in and out of a country.

International capital flows majorly consist of foreign direct investment (FDI), portfolio equity and debt investment, commercial lending and official flows (Razin, Sadka & Yuen, 1998). FDI may be broadly defined as the establishment of, or acquisition of substantial ownership in a commercial enterprise in a foreign country, or an increase in the amount of an already existing investment abroad to achieve substantial ownership. It must be stated that FDI involves more than just ownership, as in the case of portfolio investment. It also includes direct involvement in the management of the enterprise

Two characteristics of FDI are identifiable. First, FDI involves the movement of resources other than capital, such as technology, management, organisational and marketing skills. Secondly, the resources are transferred internally within the firm, rather than externally between two independent forces. Because of this, de jure control is still retained over their usage. Dunning suggests that this is the essential difference between portfolio and direct investment (Razin, Sadka & Yuen, 1998). For statistical purpose, the International Monetary Fund (IMF) defines foreign investment as direct when the investor holds 10% or more of the equity of an enterprise. As a rule of thumb this is usually enough to give an investor a say in the management of the enterprise.

Review of empirical literature
The critical roles played by capital markets in attracting FDI to countries have given rise to preponderance of empirical studies on this subject area. Many of these studies sought to investigate the role played by capital markets on FDI, yet others examined the relationship between capital markets and economic growth; FDI and stock market and the determinants of FDI. A review of some of these studies is presented below.

Serven and Solimano (1992) studied economic adjustment and FDI performance for fifteen developing countries using pooled cross-sectional time series data from 1975 to 1988. The investment equation estimated in the study used exchange rate and inflation as proxies for instability and in such case, instability was measured by the coefficient of the variation of relevant variable over three years. The two measures were found to be jointly significant in producing negative effect on investment.

Osinubi (1998) examined the impact of capital market on industrial growth and development in Nigeria, the outcome of the study provided a mixed result. While government securities and all-share index displayed a non-significant impact on industrial growth, volume of transaction and values of industrial securities were found to be relatively stable. New issues were found to be a major determinant of industrial output.

Asiedu (2003), used panel data for 22 countries in sub-Saharan African over the period of 1984-2000 to examine the impact of political risks, institutional framework and government policy on the FDI flows. The dependent variable was the rate of the net FDI flows to GDP while the independent variable used include natural resource intensity, attractiveness of the host country's market, infrastructural development, macroeconomic instability, openness to FDI, host country institution and political instability. His result showed that macroeconomic stability, efficient institution, political stability and good regulatory framework have positive impact on FDI. He, therefore, held that FDI inflows to Africa is not solely driven by natural resources endowment, but also by the institutional roles play by the government in promoting FDI and maintaining stable economic policies.

Nonnemberg and De Mendonca (2004) in their study argued that the growth in capital markets in advanced countries is a powerful determinant of investment outflows from these countries to abroad, especially in recent times. Anyanwu (2006), in the same vain, investigated the economic determinants of FDI inflow in Nigeria and applied the OLS technique; the study's findings revealed that market size is a strong determinant of FDI inflow in Nigeria.

On their part, De Santis and Ehling (2007), examined whether international portfolio investors follow firms' foreign investment decisions and conclude that the movements on the stock market are the most significant determinant of FDI and portfolio transactions. In a study on the dynamic linkages between stock markets and major macroeconomic indicators, Adam and Tweneboah (2008) found a positive and significant relationship between FDI and stock market in Ghana. They explained these trends by opening up the domestic stock market to foreigners and Ghanaian non-residents and they found the inflows of high-rank institutional investors which indirectly increased the inflows of FDI to Ghana.

Studying the determinants of stock market development in South Africa, Yartey (2008) stated that FDI promotes institutional and regulatory reforms which encourage greater confidence in the domestic capital market, which further increases the variety of investors and trading volume. Opening the domestic stock market to foreign investors may reduce the risk premium in the country and thus further attract foreign investments inflows.

In the same vein, Adam and Tweneboah (2009) highlighted an indirect, but strong relationship between stock markets and FDI inflows. FDI inflows are a source of technological progress and increasing employment in most developing countries, which increases the production of goods and services and ultimately, increased GDP. Economic growth then has a positive effect on the development of stock markets and the rise of share prices. Using the cointegration method, the authors found evidence of a long-term positive relationship between FDI and stock market development in Ghana.

Olatundun (2009) studied the impact of financial integration and capital market development on investment efficiency in Nigeria. Applying event study on 856 firms operating in Nigeria, the study revealed that investment was slowed down in high net worth growing firms and ramped up in low net worth declining firms in the pre and post financial integration period.

Obida and Abu (2010) examined the determinants of FDI in Nigeria. The error correction technique was employed to analyze the relationship between market size, deregulation, political instability, exchange rate depreciation and foreign direct investment. The results reveal that the market size of the host country, deregulation, political instability, and exchange rate depreciation are the main determinants of foreign direct investment in Nigeria.

Soumyananda (2010) empirically investigated the factors that determine FDI to Nigeria. Applying the co-integration technique, it was revealed that the endowment of natural resources, trade intensity, macroeconomic risk factors like inflation and exchange rates are significant determinants of FDI flow to Nigeria. The study also showed that in the long run market size is not a significant factor for attracting FDI to Nigeria.

Adefoso and Agboola (2012) also investigated the determinants of FDI in Nigeria. Using Residual-Based Engel-Granger Dickey-Fuller Co-integration test and a unit root test to test the properties of the time series of the variables. It was revealed that there was a significant relationship between market size, openness, ICT, oil sector, tax, tourism, phone penetration and the inflow of FDI in Nigeria in the long run. The study also showed that changes in exchange rate, CPI, infrastructure and external debt respectively accounted for changes in FDI outflow from Nigeria. Also

Lautier and Moreaub (2012) investigated domestic investment and FDI in developing countries, using a sample of 68 countries and GFCF as a proxy for domestic investment, the authors applied the OLS method to analyse the data. The study revealed a large positive relationship between domestic investment (GFCF) and FDI for all countries and therefore concluded that domestic investment is a strong determinant of FDI in less developed countries.

Ohazulike (2012) studied the effect of exchange rate fluctuations, infrastructure and inflation on FDI inflow in Nigeria. Using econometric tools of OLS multiple regression, unit root, co-integration and Granger causality tests to analyse the data, it was revealed on the one hand that exchange rate fluctuations and infrastructure had positive but insignificant relationships with FDI while on the other hand inflation had a negative and significant relationship with FDI in Nigeria. The study also revealed a unidirectional relationship between inflation and FDI.

Olukoyo (2012) examined the effects of foreign direct investment on the development of Nigerian economy, applying the ordinary least square regression technique to test the time series data from 1970 - 2007 and the Cochrane-Orcutt iterative method to correct for autocorrelation. The regression analysis result did not provide much support for the view of a robust link between FDI and economic growth in Nigeria.

Vladimir, Tomislav and Irena (2012) studied the long run and short run relationship between stock market and foreign direct investment in Croatia. They tested the long run relationship by using a co-integration analysis and the short run relationship by using a VAR model. The long run analysis suggested the absence of long run relationship among observed variables. This was explained by the lack of connection between FDI and economic growth in Croatia. The result obtained from the VAR model were consistent with the theoretical assumptions as the stock market indicators did prove to be an important short term determinant of FDI in Croatia.

Adeusi, Sulaiman and Azeez (2013) investigated the impact of capital market development on economic growth and development from the period 1986 to 2010 in Nigeria.

They employed Ordinary Least Square (OLS) and Johansen co-integration estimation techniques. Gross Domestic Product (GDP) was used as measure for economic growth while the capital market development was represented with Market Capitalization (MCAP), Total Value of Transaction (TVT), Total New Issues (TNI), All-Share Index (ALSI) and Total Listing on the NSE (TLT). The result of the study shows that capital market development has not impacted positively on Nigeria economic growth and development due to the relative small size of the market expected transmission effect of the liberalization policy.

Ebiringa and Emeh (2013) investigated the determinants of FDI in Nigeria. Using stationarity test, co-integration, error correction mechanism and variance decomposition analysis to examine the characteristics of the time series. The study revealed that all selected determinants individually and jointly exerted significant influence on FDI flows in Nigeria.

Applying the purely descriptive narrative methods, Nwankwo, Ademola and Kehinde (2013) studied the effect of globalization on FDI in Nigeria. The study revealed that, while FDI has been of increased benefit to Nigeria in the area of employment, technology transfer, local enterprise development, etc., there exist some impediments to the full realization of the benefits of FDI in Nigeria.

Maduka (2014), focusing on the economy of three countries observed a statistically significant relationship between capital market development and the performance of the industrial sector vis-a-vis national economic performance. He observed that financial liberalisation widens the rate of access to investible funds and by implication, has an upward shift on the production activities of the economy. Also, the higher the rate of capital market development, the better the industrial growth rate.

In studying the determinants of FDI and their impact in Nigeria, Ndem, Okoronkwo and Nwamuo (2014) sought to ascertain the relationship between exchange rate, market size, infrastructural investment, openness, political risk and the flow of FDI. Adopting the OLS and the co integration error correction method (ECM), it was revealed that market size, openness and exchange rate impacted much on FDI inflow while political risk was unfavourable to it, infrastructural investment was favourable but marginal in attracting FDI.

Umar, Ismail and Sulong (2015) studied the impact of the stock market development on foreign direct investment using autoregressive distributed lag (ARDL) in the presence of structural breaks (dummies) in Nigeria. The study utilized annual time series data from 1970 to 2013. The data were generated from World Bank and Central Bank of Nigeria (CBN). The result suggests that the foreign direct investment (FDI) has a significant positive long-run impact on the value of the total stock transaction but has a negative and significant effect on the rate of stock returns. However, the relationship between FDI and market capitalization ratio is not statistically significant

Research Methodology
Research design

A research design constitutes the core of formal research. This is because it does not only guide the conduct of the enquiry, but also provides the design for the testing of the formulated hypotheses. Thus, two designs: exploratory and ex-post facto were used in this study. The exploratory design was used to access the relevant theories and literatures needed to provide the empirical and theoretical basis for the study. The ex-post facto design on the other hand, was applied to collect the data on the study's variables, analyze and test them. The adoption of the ex-post facto design became appropriate as the events studied had already taken place and cannot be controlled.

Model specification

The functional relationship between foreign direct investment and capital market development in Nigeria was expressed thus:

(MCAP, NLC, ASI, TNR, VOT) = F (FDI)... (1)

Where:

MCAP = Market Capitalization

NLC = Number of Listed Companies

ASI = All Share Index

TNR = Turnover Ratio

VOT = Value of transaction

FDI = Foreign Direct Investment

The above functional relationship was transformed into an unrestricted standard VAR model with lag order K, thus:

$$Y_t = ß + \sum_{t-1}^{k} ß_i Y_{t-i} + e_t$$ .... (2)

Y_t = nx1 vector of endogenous variables

ß = Vector of constants

Y_{t-1} = corresponding lag term for each of the variable

e_t = vector of error terms

Sources of data

Both the study literature review and hypotheses testing were based on the secondary sources of data. They were extracted from the published works of various scholars in test books, articles, journals libraries internet and various other publications like the CBN statistical Bulletins.

Methods of data collection

Annual time series data were collected for the period 1972 to 2014 on Foreign Direct Investment (FDI), Number of Listed Companies (NLC), All Share Index (ASI), Market Capitalization (MCAP) Turnover Ratio (TNR) and Value of Transaction (VOT). The desk survey method was used to extract the data on the variables from the publications bearing in mind the study objectives and hypotheses. FDI, NLC, ASI, VOT and MCAP were transformed into their natural logs to ensure that their elasticity's were duly captured and to control the robustness of the time series.

Techniques of data analyses

In view of the uniqueness of this study, several techniques were employed, to estimate and analyse the study's model. Firstly, descriptive analytical tools such as simple tables, and percentages were used to analyze the trend performance of the variables. Secondly, the unit root test was conducted using Augmented Dickey Fuller and Philips Peron to ascertain the stationarity or otherwise of the time series.

Thirdly, the study also employed the Vector Auto Regression (VAR) technique. The VAR model places less theoretical emphasis on the structural relationship, but simply specifies a set of endogenous variables that are believed to have logical relationship and qualify for inclusion as part of the economic system. It is used for systems of interrelated time series and for analyzing the dynamic impact of random disturbance on the system variable.

Furthermore, the study applied the AR root to test the stability or otherwise of the VAR result. Again, the impulse response function was applied to examine the effect of one standard deviation shock on current and future values of the endogenous variables. It establishes the

path of the dependent variables in the VAR, to shocks from all the explanatory variables. More so, the variance decomposition was used to examine the proportion of forecast error variance in each variable that is attributable to its own innovation and to the innovation from endogenous variables in the model. The study finally applied the granger causality test to determine the nature of relationship that existed between the variables of the model and the direction of such relationship.

Data Analyses and Discussion of Findings
Data analysis
4.2.1   Unit root test
TABLE 4.2.1

Unit root test using the Augmented Dickey-Fuller (ADF) statistics

Variables	ADF Test Statistics		Order of
	Level	1st Difference	integration
LMCAP	-0.717065	-4.895736	I(1)
LNLC	-4.767256		I(0)
LASI	-2.049228	-3.872303	I(1)
TNR	-2.978254		I(0)
LVOT	-0.266388	-6.708592	I(1)
LFDI	-0.404499	-8.817976	1(1)

Test critical values at level: 1% = -3.679322, 5% = -2.967767, 10% = -2.622989
Test critical values at 1st Diff: 1% = -3.689194, 5% = -2.971853, 10% = -2.625121
Source: Researcher's Computation from E-views 9, 2016.

TABLE 4.2.2

Unit root test using the Philip Peron (PP) statistics

Variables	ADF Test Statistics		Order of
	Level	1st Difference	integration
LMCAP	-0.613249	-4.916359	I(1)
LNLC	-5.190482		I(0)
LASI	-2.046425	-3.912503	I(1)
TNR	-2.837577		I(0)
LVOT	-0.249297	-6.699541	I(1)
LFDI	-0.286047	-8.580645	1(1)

Test critical values at level: 1% = -3.596616, 5% = -2.933158, 10% = -2.604867
Test critical values at 1st Diff: 1% = -3.600987, 5% = -2.935001, 10% = -2.605836
Source: Researcher's Computation from E-views 9, 2016.

This study started by examining the time series properties of each variable employed in the model using both the Augmented Dickey Fuller (ADF) and Philips Peron (PP) tests to determine the order of integration of the series. Tables 4.2.1 and 4.2.2 above showed that the two tests are in congruence at 5 percent respectively, suggesting that LNLC and TNR are stationary at levels which means that they are all integrated at order zero (0) at 5 percent significant level while LMCAP, LASI, LVOT and LFDI are stationary at first difference, implying that they are integrated at order one (1). Since the series are not integrated at the same level, it excludes the possibility of a long run relationship among the variables, which suggests that co-integration is not necessary.

VAR lag order selection criteria

In order to estimate the VAR model, we started by determining the optimal lag order selection criteria. The result is as presented in table 4.2.3

TABLE 4.2.3
VAR lag order selection criteria
Endogenous variables: LMCAP, LNLC, LASI, TNR, LVOT, LFDI.

Lag	LogL	LR	FPE	AIC	SC	HQ
0	3.200196	NA	4.96e-08	0.207393	0.495357	0.293020
1	126.0130	181.9449	8.59e-11	-6.223187	-4.207441	-5.623800
2	199.1698	75.86630	8.58e-12	-8.975542	-5.232013	-7.862395
3	305.1035	62.77550*	2.23e-13*	-14.15581*	-8.684501*	-12.52891*

Source: Researcher's Computation from E-views 9, 2016.
*indicates lag order selected by the criterion
LR: Sequential modified LR test statistic (each test at 5% level)
FPE: Final prediction error
AIC: Akaike information criterion
SC: Schwarz information criterion
HQ: Hannan Quinn information Criterion

Table 4.2.3 above showed that the Akaike Information Criterion (AIC) and all other information criteria were significant at lag three (3) implying that the optimal lag for this study is three.
Vector Auto Regression (VAR) test
Having determined the optimal lag length, we proceeded to estimate the VAR model using E-views 9. The result of the VAR model is presented below in table 4.2.4

TABLE 4.2.4
Vector Auto Regression (VAR) result
Dependent variables: LMCAP, LNLC, LASI, TNR, LVOT

Variable	Coefficient	Standard Error	t-stats
C	62.90363	18.9662	3.31662
LMCAP(-1)	6.409340	1.79997	3.56080
LMCAP(-2)	-2.191751	0.76555	-1.06506
LMCAP(-3)	-3.463594	1.05707	-3.27661
LNLC(-1)	9.821294	4.00721	2.45090
LNLC (-2)	-4.125728	2.18000	-1.89253
LNLC (-3)	4.226080	2.10589	2.00680
ASI(-1)	4.608247	1.38972	3.31597
ASI(-2)	-3.049352	1.07719	-2.83084
ASI(-3)	1.315468	0.73980	1.77813
TNR(-1)	39.79935	11.8385	3.36184
TNR(-2)	2.640297	9.08038	0.29077
TNR(-3)	14.22848	7.41318	1.91935
LVOT(-1)	2.103152	0.73579	2.85835
LVOT (-2)	1.703558	0.96270	1.76956

LVOT(-3)	-1.534438	0.63380	-2.74983
LFDI(-1)	-0.909547	0.34314	0.35838
LFDI (-2)	0.929328	0.33796	2.74983
LFDI(-3)	0.873228	0.30049	2.90604
R-squared		0.990209	
Adj. R-squared		0.968180	
F-statistics		44.94970	

Source: Researcher's Computation from E-views 9, 2016.

The result of the VAR model as presented in table 4.2.4 above shows a positive relationship between foreign direct investment and market capitalization in Nigeria for the first period lags and an inverse relationship between foreign direct investment and market capitalization for the second and third period lags. This result showed specifically that a one percent increase in foreign direct investment led to a 640.93 percent increases in the first lag period and a 219.18 percent and 346.35 percent decrease in market capitalization in the second and third lag periods respectively.

Further examination of the result showed that foreign direct investment has a positive and significant relationship with number of listed companies in the first and third lag periods and an inverse relationship in the second lag period. This means that a one percent increase in foreign direct investment led to a 982.13 percent and 422.61 percent increase in the number of listed companies in the Nigerian capital market in the first and third lag periods and 412.57 percent decrease in the second lag periods.

Furthermore, the result showed a positive and significant relationship between foreign direct investment and all share index in the first and third lagged periods. This implies that a one percent increase in foreign direct investment led to a 460.82 percent and 131.55 percent increase in all share index. Also, the result showed that there is an inverse relationship between foreign direct investment and all share index in the Nigerian capital market in the second lagged periods. Meaning that a one percent increase in foreign direct investment led to 304.94 percent decrease in all share index.

Again, the result shows that there is a positive relationship between foreign direct investment and capital market turnover ratio in the first, second and third lagged periods. This implies a one percent increase in foreign direct investment led to 3979.94 percent, 264.03 percent and 1422.85 percent increase in the turnover ratio of the Nigerian Capital Market.

Finally, the result showed a positive relationship between foreign direct investment and value of transaction in the first and second lagged periods. This implies that a one percent increase in foreign direct investment led to 210.32 percent and 170.36 percent increases in volume of transaction. However, in the third lagged period, foreign direct investment had an inverse relationship with value of transaction. In effect, a one percent increase foreign direct investment led to a 153.44 percent decrease in value of transaction in the Nigerian capital market.

The goodness of fit of model as indicated by their R^2 and adjusted R^2 values of 0.990209 or 99.02 percent and 0.968180 or 96.82 percent indicated that the model fits the data well. Specifically, the adjusted R^2 value of 96.82 percent showed that the total variation in the observed behaviour of the selected capital market development indices in Nigeria is predicted or explained by the variations in foreign direct investment, up to 96.82 percent, the remaining 3.18 percent is accounted for by the disturbance term. The overall significance of the model

was also tested using the ANOVA or F-statistics. Here the high significance of the f-statistics value of 44.95 confirmed that the high predictability of the model did not occur by chance, it actually confirmed that the data fitted the model well.
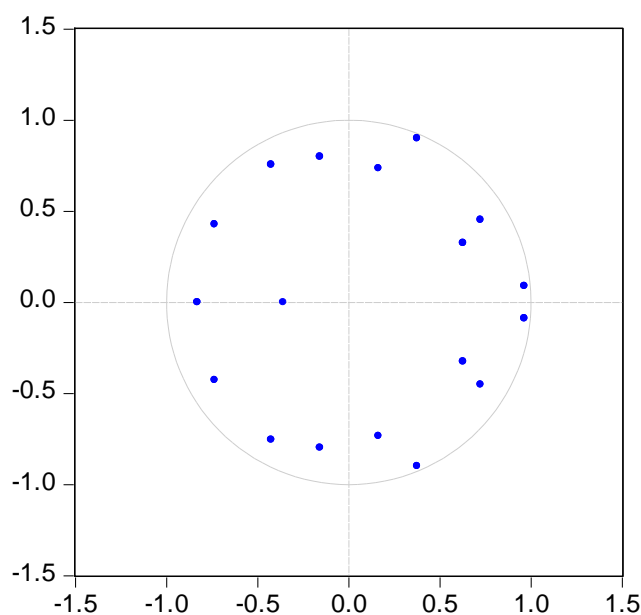
4.2.5 Stability test

With the VAR result above, we proceeded to conducting a stability test using the using the AR root graph and table 4.2.5. The result of the stability test is presented in figure 4.2.1 and table below

FIG. 4.2.1
Inverse AR roots graph
Inverse Roots of AR Characteristic Polynomial

Source: Researcher's Computation from E-views 9, 2016.

TABLE 4.2.5
Inverse AR roots table
Root of polynomial characteristic
Endogenous variables: LMCAP, LNLC. LASI, TNR, LVOT, LFDI

Root	Modulus
0.376896 + 0.899240i	0.975030
0.376896 - 0.899240i	0.975030
0.963921 - 0.088452i	0.967970
0.963921 + 0.088452i	0.967970
-0.424282 + 0.755114i	0.866148
-0.424282 - 0.755114i	0.866148
0.724716 - 0.452388i	0.854323
0.724716 + 0.452388i	0.854323
-0.734973 + 0.427490i	0.850255
-0.734973 - 0.427490i	0.850255
-0.829885	0.829885
-0.157729 - 0.798628i	0.814055

-0.157729 + 0.798628i	0.814055
0.164741 + 0.734528i	0.752776
0.164741 - 0.734528i	0.752776
0.627884 + 0.325962i	0.707452
0.627884 - 0.325962i	0.707452
-0.358762	0.358762

No root lies outside the unit circle.
VAR satisfies the stability condition.

Source: Researcher's Computation from E-views 9, 2016.

Figure 4.2.1 is the stability test of the VAR result using AR root graph. The condition for the stability of the VAR result is that no root should lie outside the unit circle. Hence, since in our result all roots lie within the unit circle, the stability condition has been satisfied. Confirming this result is the AR root table presented in table 4.2.5 above. The result also showed that no root lies outside the circle. The modulus is less than one, meaning that our VAR result is stable.

4.2.6 Impulse response function analysis

Having seen that the VAR result is stable we now examine the impulse response function to determine the response of FDI to choleskey one standard deviation shocks in other exogenous variables. The result of the impulse response function is presented below.

FIG. 4.2.2
Impulse response graph of LMCAP to LFDI
Response to Cholesky One S.D. Innovations ± 2 S.E.

Response of LMCAP to LFDI
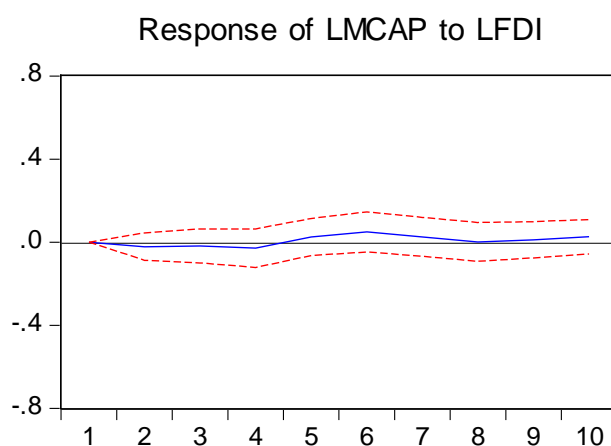
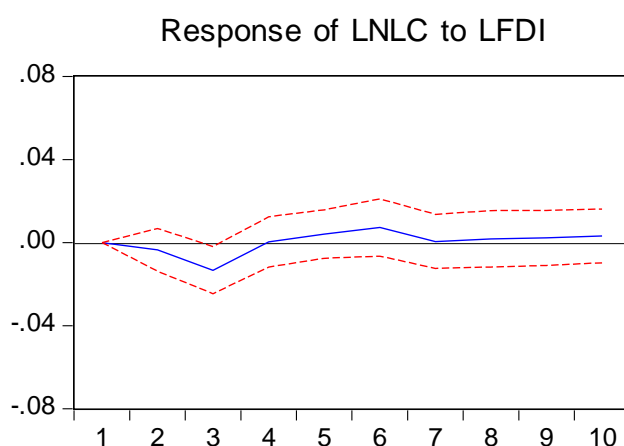**Source:** Researcher's Computation from E-views 9, 2016.

From figure 4.2.2 above, a one standard deviation innovation in Foreign Direct Investment (FDI) led to a negative impact on Market Capitalization (MCAP) up to period four. From period four to period eight, innovations in Foreign Direct Investment (FDI) led to positive impact on Market Capitalization (MCAP). From period eight to nine, the impact level out at zero origin but increased immediately in a stepped manner from period nine to ten. This implies that foreign direct investment triggered positive developments in market capitalization in the

medium to long term period. An innovation in foreign direct investment resulted in a negative development in market capitalization in the first four periods. From the fifth period, innovations in foreign direct investment led to positive development in Market Capitalization.

FIG. 4.2.3
Impulse response graph of LNLC to LFDI
Response to Cholesky One S.D. Innovations ± 2 S.E.


Response of LNLC to LFDI

Source: Researcher's Computation from E-views 9, 2016

Figure 4.2.3 above, is the response of Number of Listed Companies (NLC) to a one standard deviation shock in Foreign Direct Investment. A one standard deviation innovation in Foreign Direct Investment (FDI) led to negative values of Number of Listed Companies up to period three. At period four, Number of Listed Companies had touched the origin but increasing continuously to the positive region and levelled back at the origin in period seven, then, increased slightly within the negative region but did not touch the origin and levelled at period eight till the end.

FIG. 4.2.4
Impulse response graph of LASI to LFDI
Response to Cholesky One S.D. Innovations ± 2 S.E.


Response of LASI to LFDI
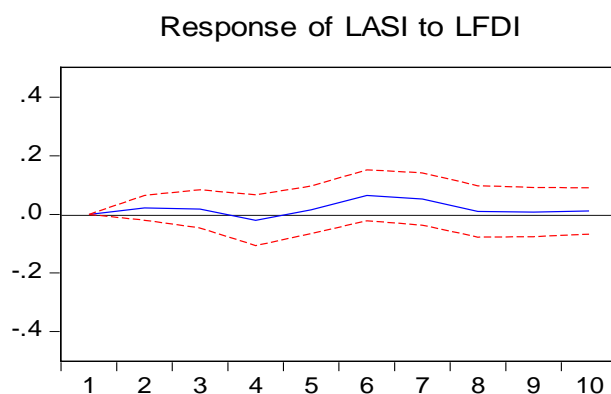
Source: Researcher's Computation from E-views 9, 2016

From figure 4.2.4 above, a one standard deviation innovation in Foreign Direct Investment (FDI) led to a decrease in All Share Index (ASI) to the second quarter of period three, after which, it started rising and touched the origin at the first quarter of period four. Further innovations in Foreign Direct Investment (FDI) led to a continuous increase in All Share Index (ASI) to the last quarter of period six and then a gradual decrease to period eight, where it flattens to last period without touching the origin. This shows that market FDI has a positive relationship with ASI.

FIG. 4.2.5

Impulse response graph of TNR to FDI

Response to Cholesky One S.D. Innovations ± 2 S.E.
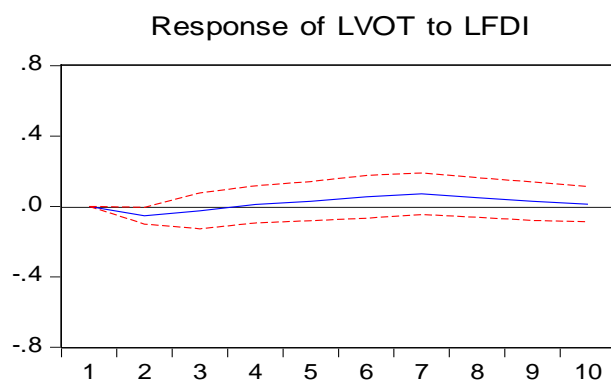

Response of TNR to LFDI
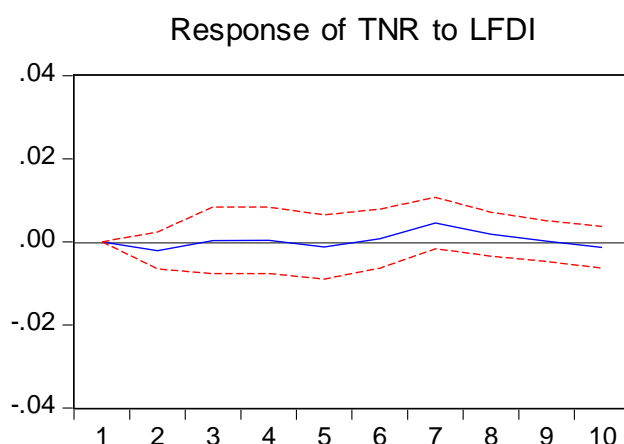
Source: Researcher's Computation from E-views 9, 2016

Figure 4.2.5 above, is the response of Turnover Ratio (TNR) to a one standard deviation shock in FDI. A one standard deviation shock in TNR led to negative responses of Turnover Ratio (TNR) to period three, after which it flattens at the origin to period six. At period six, Turnover Ratio (TNR) responded positively to period seven where it peaked and then fell gradually and assumed negative values at the end. Investors in the capital market are careful always to invest in stocks that guarantee liquidity.

FIG. 4.2.6

Impulse response graph of LVOT to FDI

Response to Cholesky One S.D. Innovations ± 2 S.E.

Response of LVOT to LFDI

Source: Researcher's Computation from E-views 9, 2016

Figure 4.2.6 above, is the response of Value of Transaction (VOT) to a one standard deviation shock in FDI. A one standard deviation shock in FDI led to negative responses of VOT to the first quarter of period three, after which it increased in a stepped pattern and touched the origin at period four. Further innovation in FDI led to continuous increase in VOT to period seven where it peaked and then started falling till the end but did not touch the origin. This means that innovations in FDI triggers enhanced performance in value of transactions as theoretically expected.

Variance decomposition

In order to appraise the relative importance of the random innovations and show the sources of error in forecasting capital market development in Nigeria, the variance decomposition was applied. The result of the variance decomposition is presented in tables 4.2.6 below

TABLE 4.2.6
Variance decomposition Result

Variance decomposition of LMCAP

Period	S.E.	LMCAP	LNLC	LASI	TNR	LVOT	LFDI
1	0.302201	100.0000	0.000000	0.000000	0.000000	0.000000	0.000000
5	0.717275	50.85723	2.417525	17.30362	11.32553	17.64864	0.447461
10	0.890008	39.86610	8.344695	19.58997	15.72016	15.70478	0.774287

Variance Decomposition of LNLC

Period	S.E.	LMCAP	LNLC	LASI	TNR	LVOT	LFDI
1	0.047109	65.59389	34.40611	0.000000	0.000000	0.000000	0.000000
5	0.084453	47.07101	18.14092	15.72472	10.75056	5.406101	2.906678
10	0.101547	46.52788	21.14825	14.77090	10.41834	4.450099	2.684526

Variance decomposition of LASI

Period	S.E.	LMCAP	LNLC	LASI	TNR	LVOT	LFDI
1	0.193347	84.86236	0.156955	14.98069	0.000000	0.000000	0.000000
5	0.590335	43.26259	4.457674	16.22471	17.45025	18.17837	0.426400
10	0.741728	30.92355	13.12274	20.56691	20.67705	13.13066	1.579093

Variance decomposition of TNR

Period	S.E.	LMCAP	LNLC	LASI	TNR	LVOT	LFDI
1	0.020338	6.739069	5.780959	46.95593	40.52404	0.000000	0.000000
5	0.035820	33.50931	8.702547	20.07739	31.37139	5.850530	0.488844
10	0.042429	31.62625	13.68780	19.91688	26.47834	6.506316	1.784423

Variance decomposition of LVOT

Period	S.E.	LMCAP	LNLC	LASI	TNR	LVOT	LFDI
1	0.208631	39.25463	0.041164	9.815356	23.01326	27.87559	0.000000
5	0.744864	49.03692	8.018577	14.37522	13.67168	14.09668	0.800933
10	1.002038	27.85141	23.06085	16.04613	19.17215	12.28306	1.586397

Variance Decomposition of LFDI

Period	S.E.	LMCAP	LNLC	LASI	TNR	LVOT	LFDI
1	0.337947	12.17963	49.40772	0.656892	27.70736	0.003285	10.04511
5	0.798587	27.39368	12.31042	19.98421	24.14705	12.58590	3.578750
10	0.906920	25.46685	16.61257	19.62540	22.99061	12.08595	3.218615

Source: Researcher's Computation from E-views 9, 2016.

From the above table it could be noticed that the variance decomposition of LMCAP is completely explained by its own movements in the first period. In the fifth period, LMCAP contributed 50.86 percent to its own movements, leaving about 2.42, 17.30, 11.33, 17.64 and 0.44 percent to number of listed companies, all share index, turnover ratio, Volume of transaction and FDI respectively. In the tenth period, the variance decomposition of LMCAP explained only 39.87 percent of its own movement while number of listed companies, all share index, turnover ratio, Volume of transaction and FDI explain only 8.34, 19.59, 15.72, 15.70 and 0.77 percent respectively to changes in LMCAP.

Again, the variance decomposition of LNLC is explained by its own variation up to 34.41 percent, leaving 65.59 percent explanation to LMCAP and no contribution from other variables in the first year. In the fifth year, the variance decomposition of LNLC revealed that about 18 percent of its variation had been explained by its own movement while 47.07, 15.72, 10.75, 5.41 and 2.91 percent been explained by market capitalization, all share index, turnover ratio, Volume of transaction and FDI. Furthermore, the variance decomposition of LNLC in period ten showed that LNLC contributed about 21.15 percent of its variations, while market capitalization, all share index, turnover ratio, Volume of transaction and FDI contributed about 46.52, 14.77, 10.42, 4.45 and 2.68 percent respectively to the variations in LNLC.

The variance decomposition of All Share Index (ASI) shows that ASI contributed about 14.98 percent to its own variations in the first year while LMCAP and LNLC contributed respectively 84.86 and 0.15 percent to the variations in ASI. In the fifth period, ASI explained about 16.22 percent of its variations while LMCAP, LNLC, TNR, LVOT and LFDI explained 43.26, 4.46, 17.45, 18.18, and 0.43 percent of the changes in ASI respectively. In the tenth period, ASI explained 20.57 percent of its variations, while LMCAP, LNLC, TNR, LVOT and LFDI explained 30.92, 13.12, 20.57, 20.68, 13.13 and 1.58 percent respectively of the changes in ASI.

The variance decomposition of TNR shows that in the first period TNR contributed 40.52 percent to its variations while LMCAP, LNLC and ASI explained respectively about 6.74, 5.78 and 46.96 percent of the changes in TNR. In the fifth period, TNR explain about 31.37 percent of its variation while LMCAP, LNLC, LASI, LVOT and LFDI explained

respectively 33.51, 8.70, 20.08, 5.85 and 0.49 percent of the changes in TNR. In the tenth period, TNR explained about 26.48 percent of its variations, while LMCAP, LNLC, LASI, LVOT and LFDI explained respectively 31.63, 13.69, 19.92, 6.51 and 1.78 of the variation in TNR.

The variance decomposition of LVOT shows that in the first period LVOT contributed 27.88 percent to its variations while LMCAP, LNLC LASI and TNR explained respectively about 39.25, 0.04, 9.82 and 23.01 percent of the changes in LVOT. In the fifth period, LVOT explain about 14.10 percent of its variation while LMCAP, LNLC LASI TNR and LFDI explained respectively 49.04, 8.02, 14.37, 13.67 and 0.80 percent of the changes in LVOT. In the tenth period, LVOT explained about 12.28 percent of its variations, while LMCAP, LNLC, LASI, TNR and LFDI explained respectively 27.85, 23.06, 16.05, 19.17, and 1.59 percent of the variation in TNR.

Finally, the variance decomposition of LFDI revealed that FDI contributed 10.05 percent in explaining changes in FDI in the first period while LMCAP, LNLC, LASI, TNR AND LVOT respectively contributed 12.18, 49.41, 0.66, 27.71 and 0.003 per cents to the variations in LFDI. In the fifth period, LFDI explained its variation up to 3.58 percent while LMCAP, LNLC, LASI, TNR AND LVOT respectively were responsible for 27.39, 12.31, 19.98, 24.15, and 12.59 percent changes in LFDI. LFDI explain 3.22 percent of it variation in the tenth period while LMCAP, LNLC, LASI, TNR AND LVOT respectively account for 25.47, 16.61, 19.63, 22.99 and 12.09 percent changes in LFDI. It could on the bases of this analysis be concluded that innovations in FDI accounted predominantly for variations in capital market development.

4.2.8 Granger causality test

The Pairwise Granger causality test was employed to examine the direction of relationship among the variables. The result is as presented in table 4.2.7.

TABLE 4.2.7
Granger causality test

Null Hypothesis:	Obs	F-Statistic	Prob.
LASI does not Granger Cause LMCAP	27	1.43545	0.2621
LMCAP does not Granger Cause LASI		4.47707	0.0147
TNR does not Granger Cause LMCAP	40	1.45482	0.2447
LMCAP does not Granger Cause TNR		3.45912	0.0273
LVOT does not Granger Cause LMCAP	40	1.33362	0.2802
LMCAP does not Granger Cause LVOT		6.66552	0.0012
LFDI does not Granger Cause LMCAP	36	3.17390	0.0389
LMCAP does not Granger Cause LFDI		1.51572	0.2313
LFDI does not Granger Cause LNLC	36	3.24428	0.0362
LNLC does not Granger Cause LFDI		2.84724	0.0548
TNR does not Granger Cause LASI	27	2.63782	0.0776
LASI does not Granger Cause TNR		2.65377	0.0765

LVOT does not Granger Cause TNR	40	2.95467	0.0467
TNR does not Granger Cause LVOT		7.65958	0.0005

Source: Researcher's Computation from E-views 9, 2016.

The result showed from table 4.2.8 shows a unidirectional relationship running from ASI, TNR and VOT to MCAP. This means that it is ASI, TNR and VOT that cause a change in MCAP. Also, there is a unidirectional relationship between MCAP and FDI. This implies that changes in MCAP cause changes in FDI and not the other way round. Furthermore, a bidirectional relationship was found running from between FDI and NLC. This shows that, it is chances in foreign direct investment trigger changes in number of listed companies and vice versa. Again, a bidirectional relationship was found between TNR and ASI, implying that the both variables cause changes in each other. Lastly, a bidirectional relationship was found between volume of transaction and turnover ratio, meaning that both variables trigger changes in each other.

4.3 Test of hypotheses
Hypothesis one
H$_0$: Foreign direct investment does not have any significant relationship with the Nigerian capital market's market capitalization;

H$_1$: Foreign direct investment has a significant relationship with the Nigerian capital market's market capitalization.

Decision Rule
Accept H$_0$: if calculated t-statistics value > table t-statistics value.'
Reject H$_0$: if calculated t-statistics value < table t-statistics value.
From the regression result,
Table t-statistics value = 2.026
Calculated t-statistics value = 3.561

Since the calculated t-statistics value of 3.561 is greater than the table t-statistics value of 2.026 at 5 percent level of significance, we reject the null hypothesis and accept the alternative hypothesis. It therefore implies that foreign direct investment has a significant relationship with market capitalization in Nigeria.

Hypothesis two
H$_0$: Foreign direct investment does not have any significant relationship with the Nigerian capital market's number of listed companies;

H$_1$: Foreign direct investment has a significant relationship with the Nigerian capital market's number of listed companies.

Decision Rule
Accept H$_0$: if calculated t-statistics value > table t-statistics value.'
Reject H$_0$: if calculated t-statistics value < table t-statistics value.
From the regression result,
Table t-statistics value = 2.026
Calculated t-statistics value = 2.451

Since the calculated t-statistics value of 2.451 is greater than the table t-statistics value of 2.026 at 5 percent level of significance, we accept the alternative hypothesis and reject the

null hypothesis. It therefore implies that foreign direct investment has a significant relationship with the Nigerian capital market's number of listed companies.

Hypothesis three
H₀: Foreign direct investment does not have any significant relationship with the Nigerian capital market's all-share index;

H₁: Foreign direct investment has a significant relationship with the Nigerian capital market's all-share index.

Decision Rule
Accept H_0: if calculated t-statistics value > table t-statistics value.'
Reject H_0: if calculated t-statistics value < table t-statistics value.
From the regression result,
Table t-statistics value = 2.026
Calculated t-statistics value = 3.316

Since the calculated t-statistics value of 3.316 is greater than the table t-statistics value of 2.026 at 5 percent level of significance, we accept the alternative hypothesis and reject the null hypothesis. It therefore implies that foreign direct investment has a significant relationship with the Nigerian capital market's all-share index.

Hypothesis four
H₀: Foreign direct investment does not have any significant relationship with the Nigerian capital market's turnover ratio;

H₁: Foreign direct investment has a significant relationship with the Nigerian capital market's turnover ratio.

Decision Rule
Accept H_0: if calculated t-statistics value > table t-statistics value.'
Reject H_0: if calculated t-statistics value < table t-statistics value.
From the regression result,
Table t-statistics value = 2.026
Calculated t-statistics value = 3.362

Since the calculated t-statistics value of 3.362 is greater than the table t-statistics value of 2.026 at 5 percent level of significance, we accept the alternative hypothesis and reject the null hypothesis. It therefore implies that foreign direct investment has a significant relationship with the Nigerian capital market's turnover ratio.

Hypothesis five
H₀: Foreign direct investment does not have any significant relationship with the Nigerian capital market's value of transaction;

H₁: Foreign direct investment has a significant relationship with the Nigerian capital market's value of transaction.

Decision Rule
Accept H_0: if calculated t-statistics value > table t-statistics value.'
Reject H_0: if calculated t-statistics value < table t-statistics value.
From the regression result,
Table t-statistics value = 2.026
Calculated t-statistics value = 2.858

Since the calculated t-statistics value of 2.858 is greater than the table t-statistics value of 2.026 at 5 percent level of significance, we accept the alternative hypothesis and reject the null hypothesis. It therefore implies that foreign direct investment has a significant relationship with the Nigerian capital market's value of transaction.

4.4   Discussion of findings

The result of the analysis revealed that foreign direct investment has a significant relationship with market capitalization in Nigeria. This implies that foreign direct investment significantly relates with developments in market capitalization in Nigeria. In the current period, foreign direct investment has a positive relationship with market capitalization, however, in the second and third lagged periods foreign direct investment has inverse relationship with market capitalization in Nigeria. This finding agrees with Umar, Ismail and Sulong (2015) whose finding showed a mixed but significant relationship between foreign direct investment and market capitalization. Again, this study has been supported by Vladimir, Tomislav and Irena (2012) who studied the relationship between stock market and FDI in Croatia. Their finding showed evidence of a positive but significant relationship between FDI and capital market development in Croatia.

The study again showed a positive and significant relationship between foreign direct investment and number of listed companies in Nigeria in the first and third lagged periods. In the second lagged period however, foreign direct investment had an inverse relationship with number of listed companies in Nigeria. This implies an increase in foreign direct investment led to increases in number of listed companies in the first and third lagged periods but a decrease in the second lagged period. In other words, foreign direct investment promotes growth in number of listed companies in the Nigerian capital market in the first and third lagged periods. This finding agrees with the findings of Hossain and Nasrin (2012) who found foreign direct investment to be strongly related with capital market development in Bangladesh.

The study further revealed that foreign direct investment had a significant positive relationship with all share index in the first lagged and third lagged periods but a negative relationship in the second period. This implies that increases in foreign direct investment can trigger high increases in all share index in the current and three lagged periods but in the previous two periods, such increase led to large decreases in all share index. This finding has been strongly supported by Umar, Ismail and Sulong (2015) who investigated the impact of stock market development on foreign direct investment in Nigeria. Using the Auto Redistributive Lag technique, their findings showed that foreign direct investment triggers positive development in stock market in the medium to long term period.

The study further revealed that foreign direct investment has a positive and significant relationship with turnover ratio. This implies that increases in the foreign direct investment leads to significant increases in the liquidity of the Nigerian capital market. In other words, the higher the inflow of foreign direct investment to Nigeria, the more the liquidity of the Nigerian capital market. This finding has been supported by Maduka (2014) who in his study found a positive relationship between foreign direct investment and turnover ratio in Nigeria. Also supporting this study is Ezeoha, Ogamba, and Onyiuke (2009) who found a positive relationship between stock market turnover ratio and foreign private investment in Nigeria.

Lastly, the study revealed that there is a positive and significant relationship between foreign direct investment and value of transaction in the first and second lagged periods. In the third lagged period however, foreign direct investment had an inverse relationship with value

of transaction in the Nigerian capital market. This implies that inflows of foreign direct investment enhance the value of transaction in the Nigerian capital market in the current and previous two periods. However, in the previous third lagged periods, such increase promotes inverse developments in value of transaction. This finding negates the findings of Ojong, Arikpo & Ogar (2015) who study the determinants of foreign direct investment in Nigeria and found using the ordinary least squared analysis a strong relationship between FDI and value of transaction in Nigeria.

Summary of Findings and Recommendations
Summary of findings

The major aim of this study was to examine the relationship between FDI and capital market development in Nigeria. In view of this, the relationships between market capitalization, number of listed companies, all share index, turnover ratio, value of transaction and foreign direct investment were examined using Vector Auto Regression (VAR) technique. Consequently, the following major findings were made:

(i) There is a positive and significant relationship between foreign direct investment and market capitalization in Nigeria.

(ii) There is a positive and significant relationship between foreign direct investment and number of listed companies in the current and previous three periods.

(iii) There is a positive and significant relationship between foreign direct investment and all share index in Nigeria in the first and third lagged periods.

(iv) Foreign direct investment has a positive and significant relationship with turnover ratio in Nigeria.

(v) Foreign direct investment has a significant positive relationship with foreign direct investment in Nigeria in the first and second lagged periods

Recommendations

Based on the above findings the following recommendations were made:

(i) Government should encourage foreign direct investments inflow to Nigeria by loosening their registration requirements to trigger positive developments in the Nigerian capital market.

(ii) Government should put in place suitable conditions such as steady power supply, good road networks, etc. for the profitable operation of foreign direct investment to boost the capital market performance in Nigeria.

(iii) Government should encourage foreign direct investors to quote their securities on the Nigerian capital market by providing special benefits such as tax holidays, to quoted FDI.

(iv) Regulatory authorities should make policies to boost investors' confidence in the market by promoting transparency, fair trading and discouraging capital fright.

(v) Regulators of the Nigerian capital market should broaden scope of the market by introducing new investment instruments such as derivatives, futures, swaps, etc., to enhance foreign participation in the market and boost its value.

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