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Long Run Relationship between Macroeconomic Variables and FDI in Nigeria

Onuorah, Anastasia Chi-Chi
Department of Accounting, Banking and Finance, Faculty of Management Sciences, Delta State University, Asaba Campus. Delta State Nigeria.
Tel: +2348035008100 E-mail: anastasiaonuorah@yahoo.com

Okoli. Margaret Nnenna
Department of Financial Management Technology School of Management Technology (FMT) Federal University of Technology P.M.B 1526, Owerri Imo State, Nigeria
Tel: 08037090118 E –mail: ndimegnne@yahoo.com

Abstract
It is evidence that foreign direct investment contributes to the survival of any developed or developing countries. It is paramount to find out the determinant of FDI performance as a result this paper is design to investigate the long run relationship between macroeconomic variables and foreign direct investments in Nigeria. The study makes use of data from the database of World Bank between 1980 to 2010. VAR and Impulse Function were the major econometrics techniques used for data analysis having performed unit root test and co integration. The result showed evidence of a negatively strong relationship between FDI and GDP in the country suggesting inverse relationship. EX, IF, MSP and IR exact direct impact on FDI. The Impulse- Response Function analysis of LNIR to LNFDI revealed that one standard deviation shock of LNIR to LNFDI was positive between the period 1 and 3 but became negative from period 3 to period 8. The shock was positive from period 9 to 12. The pattern of the effect of LNEX to LNFDI experienced negative trend behavior from 13 to 17 periods. Stability set in from period 18 to period 20. The graphical behavior of the shock of LNEX to LNGDP was observed to be positive from period 1 through to period 20. This indicates one standard deviation positive shock of LNFDI to LNEX. The channel of LNGDP behavior to LNFDI within the periods revealed positive trend from period 1 to period 20. In addition, the reaction of LNFDI to LNMSP was positive from period 1 to period 3 but became negative from period 4 through to period 20. We concluded that FDI survives in an atmosphere of robust GDP, Exchange rate and regulated money supply. Furthermore, it is recommended that government should work on the Interest rate and inflation rate policies to enhance foreign direct investment in Nigeria.
Keywords: Foreign Direct Investment, VAR, IRF, Stability, Periods

1. Introduction

Foreign direct investment (FDI) is a measure of foreign ownership of productive assets, factories, mines and land. Increasing foreign investment can be used as one measure of economic globalization. It is direct investment into production or business in a country by a company in another country, either by buying a company in the target country or by expanding operations of an existing business in that country. Foreign direct investment is in contrast to portfolio investment which is a passive investment in the securities of another country such as stocks and bonds. FDI is characterized by hands-on-management style which enables the owner to obtain relatively refined information about the productivity of the firm. This superiority, relative to FPI comes with a cost; a firm owned by the relatively well informed FDI investor has a low resale piece because of a "lemons" type asymmetric information between the owner and potential buyers. It can take on many forms and so sometimes the term is used to refer to different kinds of investment activity. Commonly foreign direct investment includes "mergers and acquisitions", building new facilities, reinvesting profits earned from overseas operations and intra-company loans. FDI refers to the net inflows of investment (inflow minus outflow) to acquire a lasting management interest in an enterprise operating in an economy other than that of the investor. It is the sum of equity capital, other long term capital, and short term capital and shown the balance of payments. It usually involves participation in management, joint-venture, transfer of technology and expertise. There are two types of FDI: inward and outward, resulting in a net FDI inflow (positive or negative) and "stock of foreign direct investment", which is the cumulative number for a given period. FDI is one example of international factor movements. Foreign direct investment is nothing but increase the country's economy. It arises when a firm duplicates its home country-based activities at the same value chain stage in a host country through FDI. It takes place when a firm through FDI moves upstream or downstream in different value chains. It decreases international trade as the product of them is usually aimed at host country. Foreign direct investment may acquire voting power of an enterprise in an economy through any of the following methods: by incorporating a wholly owned subsidiary or company anywhere; by acquiring shares in an associated enterprise; through a merger or an acquisition of an unrelated enterprise; participating in an equity joint venture with another investor or enterprise.

2. Review of Related Literature

2 .1 Introduction

According to Feldstein (2002). International flows of capital reduce the risk faced by owners of capital by allowing them to diversify their lending and investment. Second, the global integration of capital market can contribute to the spread of best practices in corporate governance, accounting rules and legal traditions. Third, the global mobility of capital limits the ability of government to pursue bad policies. Four, foreign investment through FDI allows for the transfer of technology-particularly in the form of new varieties of capital inputs-that cannot be achieved through financial investment or trade in goods and services and can also promote competition in the domestic input market. Five, recipient of FDI often gain employee training in the course of operating the new businesses, which contributes to human development in the host country. Lastly, profits generated by foreign investment contribute to corporate tax revenues in the host country. However, the argument against foreign investment is that it may cause capital flight which, it may lead to net capital outflow and thus create balance of payment difficulties, it also creates income distribution problem when it competes with home investment. Foreign investment may also actually be capital intensive, which may not fit in the factor proportion of the recipient country. Since the 1980's, flow of investment have increased dramatically the world over. Despite the increased flow of investment to developing countries in particular, Sub-sahara Africa (SSA) countries are still characterized by low per-capital income, high unemployment rates and low and falling growth rates of GDP, problems which foreign private investment are theoretically suppose to solve. Nigeria, being one of the top three countries consistently received FDI in the last decade (Anyanwale, 2007) is not exempted from this category.

2.2 Macroeconomic Variables and Foreign Investment

In the work of Siamwalla et al (1999) opined that relative low yields in industrial countries together with impressive economic growth and attractive returns in developing countries motivated investors to relocate their funds to direct investments. He posits that the increase in international flow of foreign investment correspondent comes as a result of good mixture of macroeconomic variables as well as the trend towards trade globalization, international financial linkages and expansion of production bases overseas. He added that Macroeconomic variables are indicators or main signposts signaling the current trends in the economy. Thus Keynes identified some main macroeconomics variables that study the FDI of the economy as a whole: Gross Domestic Product (GDP), Exchange rate (EXR), Interest Rate, Inflation and Money Supply. Also Ekpo (1997), the factors influencing direct investment include: inflation, exchange rate, uncertainty, credibility, government expenditures as well as institutional and political factors. He further said that, for Nigeria, the factors affecting FDI include; return on investment in the rest of the world, domestic interest rates, rate of inflation, debt service, per capital income ratio of the world oil prices to world price of industrial countries manufactured goods, credit rating and political stability or instability.

In the words of Iyoha (1998), private investment can be significantly affected by such factors as macroeconomic instability, macroeconomic policy (monetary, fiscal and exchange rate); the incentive structure and the response to it, uncertainty and irreversibility, and credibility of policy reforms. For the purpose of the study, the impact of macroeconomic indicators such as interest rates (deposit), inflation rate, and gross domestic product on FDI will be considered.

Bamidele et al (1998): The basic objective of Nigeria's exchange rate policy has been to ensure both internal and external balance as well as overall macroeconomic stability through the preservation of the value of the domestic currency, maintenance of favourable external reserves and price stability.

Iyoha (1998): For a country like Nigeria that is highly dependent on trade, the exchange rate which is the price of foreign exchange, plays a significant role in the ability of the economy to attain its optimal productive capacity. In addition, the exchange rate level has implications for balance of payments viability and the level of external debt. For example, if the exchange rate is overvalued, then this will result in unsustainable balance of payments deficits an escalating external debt stock. These will in turn, lead to a declining level of investment. In general, a stable foreign exchange rate regime will lead to macroeconomic stability and encourage investment and growth.

2.3 Benefits and limitations of FDI

With its orientation to developing enterprises directly, foreign direct investment helps to strengthen economic potential. Sometimes, this is accomplished through Greenfield investment, adding new and different economic activity and consequently diversifying the economy.

Competition is one of the ways a foreign investment can have a broader effect on the economy. It spurs other enterprises to increase their own efficiency and productivity. Competition plays a major role in improving the allocation of resources, boosting the economic prospects of the domestic economy and worldwide sustainable economic development. Technology transfers and the development of human capital are often seen as two of the primary benefits of foreign direct investment. Competition has a role to play in both, as it encourages domestic competitors of the foreign investment to build up their own technological capabilities and the productivity of their

labor force.

The development of human capital can be one of the chief contributions of foreign direct investment. The foreign owners will bring their management skills and technology to their enterprises. In training the local workforce, they will pass on those management skills and technology. As their workers move on to other jobs in domestic firms, or start their own business, they will bring with them the management, working skills, and the technology that they have learned. Thus, in a very direct manner, the human capital of the host country can be developed by foreign direct investment, and the investment technology transferred.

Human capital development and technology transfer also occur through the foreign investment's relationship with its suppliers and the downstream users of its products. The investment will require from its suppliers a certain standard of product, perhaps a higher standard than they are accustomed to producing. In order to meet that higher standard, they will have to improve their workers skill levels and their management system, they may also gain new technological expertise needed for the required product standard from the foreign investment. the current trend toward outsourcing and closer collaboration along the supply chain means that there will be a greater tendency to pass management, production and technology know-how to suppliers, enhancing the transfer of technology and skills. Enterprises that are downstream in the supply and sales chain will receive similar benefits, although less obviously and perhaps less frequently, both through the direct use of a higher standard product incorporating technological improvements and through efforts by the foreign investment to maximize the value of its product.

Foreign enterprises often incorporate foreign trade either with the parent company or with customers or both, thus, another benefit that foreign direct investment brings is increased opportunities and avenues for trade. Trade and investment are increasingly integrated as are their benefits.

Foreign direct investment can also provide environmental and social benefits. Often, international investors will operate at higher environmental and social standards than their domestic competitors, although they may not bring standards up to the highest level possible, they will have the effect of raising the standards above existing levels.

FDI is never creative, it takes advantage of what is already established, it is a change of ownership, only investment can be accomplished by any one, from firms to universities to foundation or individuals. FPI is the least form of foreign investment. It is usually aimed at short term benefits and typical target countries for this type of foreign investment, given its transient nature, are developing countries. It offers easier escape routes compared to FDI where an investor can easily withdraw from foreign portfolio either when targets have been realized or when there is an unexpected occurrence affecting the economic standing of that country which may adversely affect foreign investment. For instance, stock acquisitions, reinvestments of business profits by a parent company in its foreign subsidiary or just direct lending by a subsidiary company; it is not easy to withdraw from FDI so it is common to have members with a direct interest in the investment committing to managing the day affairs of their foreign interests or at least making major strategic decisions. FDI is an aspect of international capital flows comprising of transfer of financial assets: such as cash, stock or bonds across international borders in want of profit. Asia (2000) states that to maximize the economic benefits of foreign direct investment, the key element is the state of economic development and sophistication in the domestic economy. The closer the match to the foreign enterprises needs and sophistication, the more toes to the domestic economy are likely to develop over time. This will facilitate the transfer of technology and know-how. The health and education prerequisites require infrastructure. Not only must there be an infrastructure to deliver the health and education services, either public or private, but there must also be infrastructure to deliver clean water and to manage waste. To integrate the foreign enterprise into the domestic economy, and thus maximize the benefits it has to offer, adequate commercial infrastructure is necessary, which would include energy, communications, transport and financial infrastructure.

These are the elements needed to derive the greatest benefits from foreign investment other than the need for regulation acknowledge in both cases. These elements are different from the policies outlined above to minimize the risks from portfolio investment. Yet, there are underlying policy needs, such as the need for good governance..

2.4 The Empirical Review

A number of studies legitimately confirmed macro-economic factors as predictable effect on foreign investment. For example the results of some research studies find positive outcome from international capital flow such as direct and portfolio investment.

Aggarwal, et al, (2003) examined the investment allocation choices of actively-managed U.S mutual funds in emerging markets after the Asian financial crisis. They analyzed both country and firm level governance and disclosure policies that influence these investment allocation decisions. At the country level, they find that U.S funds invest more in open emerging market with stronger shareholder rights, legal frameworks and accounting standards. After controlling for country characteristics, U.S funds are found to invest more in firms that adopt policies resulting in greater transparency and accounting disclosures in addition to characteristics such assize, visibility, and high analyst following. The impacts of stronger disclosure and transparency are most pronounced in countries with weaker investor protection. Their results suggest that steps can be taken both at the country and the

firm level to create an environment conducive to foreign institutional investment.

Rai and Bhanumurthy (2007) examined the determinants of foreign institutional investments in India, which have crossed almost USS 12 billions by the end of 2002. Given the huge volume of these floes and its impact on the other domestic financial market understanding the behavior of these flows becomes very important at the time of liberalizing capital account. In this study, by using monthly data, we found that FII inflows depends on stock market returns and the ex-ante risk turned out to major determinant of FII inflow. This study did not find any causation running from FII inflow to stock returns as it was found by some studies. Stabilizing the stock market volatility and minimizing the ex-tane risk would help in attracting more FII inflow that has positive impact on the real economy.

Goldstein et al, (2007) posit that the key prediction of their model is that countries that have high probability of an aggregate liquidity crisis will be the source of more FPI and less FDI. The intuition is that as the probability of an aggregate liquidity shock increases, agents know that they are more likely to need to sell the investment early, in which case, if they hold FDI, they will not get a low price since buyers do not know whether they sell because of an individual liquidity need or because of adverse information on the productivity of the investment. as a result, the attractiveness of FDI decreases, and the ratio of FDI increases.

Baharumshah and Thanoon (2006) provide a quantitative assessment of the effect of various types of capital flows on the growth process of the East Asian Countries, including China. The empirical analysis was based on dynamic panel data and they find, first, that domestic savings contribute positively to long-term economic growth. Second, they confirm that foreign direct investment (FDI) is growth enhancing and that its impact is felt both in the short and long run. Additionally, FDI influence on growth is much higher than domestic savings. Third, short-term capital inflow has adverse effect on the long term as well as short-term growth prospects and it appears to be sensitive to long term. By and large, the observed positive contribution of FDI in growth process of East Asian economics is a robust finding. From policy perspective, the evidence convincingly suggests that are successful in attracting FDI can finance more investments and grow faster than those that deter FDI.

3.0 Methodology

This study covers a period of thirty one years, ranging from 1980-2010. The data for the study were extracted from the World Bank statistics online data base, and it is limited to GDP, EXR, IRI, INF and MSP, as the explanatory (independent variable) while the foreign direct investment (FDI) as explained (dependent variable). The study employed time series data and the justification for using it is because the study is only for Nigeria data and is collected over a period of interval of time which is annual time series data.

3.1 Model Specification

This is a brief description of the estimation method used in the study. The model can be expressed in estimation form as follows:

$$FDI = (GDP, EXR, INTR, INF, MSP)$$

Where; **FI** = Foreign Investment (FDI and FPI), **GDP** = Gross Domestic Product, **EX** = Exchange Rate, **IR** = Interest Rate, **IF** = Inflation Rate, **MSP** = Money Supply

Where $\boldsymbol{\alpha_0}$ =Constant (Intercept), $\boldsymbol{\alpha_1}$=Coefficient GDP, $\boldsymbol{\alpha_2}$=Coefficient EXR, $\boldsymbol{\alpha_3}$ = Coefficient INTR, $\boldsymbol{\alpha_4}$= Coefficient INF, $\boldsymbol{\alpha_5}$ = Coefficient MSP, $\boldsymbol{\mu}$ = Error term.

3.2 Transformed Model Specification

The transformation model can be expressed in Log form:

$$\Delta LNFDI_t = \beta_1 + \beta_2 \sum_{i=1}^{n} LNGDP_{t-i} + \beta_3 \sum_{i=1}^{n} LNEX_{t-1} + \beta_4 \sum_{i=1}^{n} LNIR_{t-1} + \beta_5 \sum_{i=1}^{n} LNIF_{t-1} + \beta_6 \sum_{i=1}^{n} LNMSP_{t-1} + \delta_1 VAR(-1) + \varepsilon_t \quad (2)$$

where $VAR(-1)$ is VAR term and ε_t is Error term. The presumptive sign or the apriori expectation is: $\forall$ α_2, α_3, α_4, α_5, α_6, > 0 where $\forall$ is mathematical symbol representing for every α is and α_1 is constant function of the var model. GDP is represented by α_2, one would expect an increase in FDI based on the revenue derivation from the transactions involved in overall economic activities.

Also, the apriori expectation of α_3 and α_4 which are coefficients of EX and IR respectively are expected to be positive, that is, bringing about increase in FDI. This is because the exportation of oil and non-oil items implies capital inflow to the Nigerian economy. IF which is represented by α_5 is also expected to have a direct relationship with FDI since it involves the importation of capital goods which are used to create investment.

β_6 which is the coefficient of MSP is expected to be directly related to FDI because Money Supply in the economy encouraged foreign direct investment.

The short run effects are captured through the individual coefficients of the differenced terms. That is $\boldsymbol{\beta_i}$ captures the impact while the coefficient of the VAR variable contains information about whether the past values of variables affect the current values of the variables under study. The size and statistical significance of the coefficient of the residual term measures the tendency of each variable to return to the equilibrium. A significant coefficient implies that past equilibrium errors play a role in determining the current outcomes $\boldsymbol{\partial_1}$ captures the long-run.

3.3 Estimation of Model Procedure

Time series properties of equations will are tested at lag 3 using Philips-perron. Co integration is done to examine long run or short run convergences of the variable equations. However, stationarity of series of variables at level I(0) and order one I(1) which informs the application of VAR (Vector Autoregressive Model) as an unrestricted model for multivariate analysis of macroeconomic variables on FDI to determine their relationship and test the significance level of each variables significance on the Foreign Direct Investment (LNFDI)). To test model functionality (stability) Ramsey Reset Test is adopted. F-statistics and t-statistics are adopted to accept or reject the above hypotheses to be tested using the decision rule criteria of the probability associated with t-ratio and F-stat. To test for the significance of the individual parameter in **VAR** model, if the value of t-ratio for the coefficient of the regression parameters (β_i) is greater than the 2.0 rule of thumb irrespective of the sign difference, we accept H_1 and conclude that they are statistically significant to the Endogenous variable otherwise it is not significant.

4.0 Empirical Analysis and Discussion of Results of Model 2

Table 1: Summary of Result of Unit Root Test using Phillips-Perron Test (PPtest) for FDI

Variables	PP Test	5% Critical Value	Decision	Conclusion
D(LNFDI) I(1)	-9.2869	-2.9665*	No Unit Root	It is Stationary
D(LNGDP) I(0)	-6.5359	-2.9378*	No Unit Root	It is Stationary
D(LNER) I(0)	-3.4838	-2.9627*	No Unit Root	It is Stationary
D(LNIR) I(0)	-3.9321	-2.9627*	No Unit Root	It is Stationary
D(LNIF) I(0)	-3.4833	-2.9627*	No Unit Root	It is Stationary
D(LNMSP) I(0)	-4.7894	-2.9627*	No Unit Root	It is Stationary

significant at 5% level, PP test > Critical value, then the variable is stationary

Table 1 shows that there is no unit change among the time series when subjected to PP test at various level and order difference in the time series. Gross Domestic product (LNGDP), Foreign Portfolio Investment (LNFPI), Interest Rate (LNIR), Exchange Rate (LNEX), Inflation (LNIF) and Money Supply (LNMSP) have no unit root at level I(0) as the calculated PP test values are greater than the critical value at 5% irrespective of sign difference at iteration lag 3. In addition, there is no unit root in the series of Foreign Direct Investment (LNFDI) at order 1 since the PP-test statistic is greater than the critical value at 5% at lag 3. This confirms that all the time series variables are not stationary at the same level or order. The result further informs co integration and possible VAR model application for model estimation and relationship to investigate the impact of macroeconomic variables on FDI. Impulse Response at 20 periods is performance to under the behavior of Macroeconomic variables to FDI in Nigeria.

4.3 Co integration Analysis of FDI

Table 2

Series: LNFI LNGDP
Exogenous series: LNEXR LNINTR LNINF LNMSP

Lags interval: 1 to 2

Eigenvalue	Likelihood Ratio	5 Percent Critical Value	1 Percent Critical Value	Hypothesized No. of CE(s)
0.478022	18.20449	15.41	20.04	None *
2.99E-05	0.000839	3.76	6.65	At most 1

*(**) denotes rejection of the hypothesis at 5 %(1%) significance level
L.R. test indicates 1co integrating equation(s) at 1% significance level

Source: E-Views 4.0

From Table 2 the trace statistic and likelihood function values are greater than critical value at 1%. This reveals that there is co integration at none with an implication of at least 1 co integrating equations among the variables which were rejected in favour of the alternative hypotheses at 1 per cent critical level. This is because the value exceeds the critical value at the 0.01 level which implies that co integration exists among the variables (LNEX, LNGDP, LNIF, LNIR, LNMSP) and FDI. The Johansen co integration shows that there is no presence of full rank given that subtraction of the number of co integrating equations and the variables under study do not equal to zero, therefore implying that the model is good and in functional form. No presence of multi co linearity as the value of the log likelihood is negative.

4.3 VAR Model FDI

Table 3

Variables	Coefficient	Std	T-Ratio	Rule of Thumb	Conclusion
LNFDI(-1)	0.4966	0.2308	2.1519	If t-ratio >2.0	It is sig.
C	0.0020	0.0303	0.0668	If t-ratio >2.0	It is not sig.
LNGDP	-0.0039	0.0256	0.9699	If t-ratio >2.0	It is not sig.
LNEX	0.0006	0.0017	0.3687	If t-ratio >2.0	It is not sig.
LNIR	0.0006	0.0017	0.36104	If t-ratio >2.0	It is not sig.
LNIF	0.0012	0.0385	0.3066	If t-ratio >2.0	It is not sig.
LNMSP	0.0007	0.0168	0.3066	If t-ratio >2.0	It is not sig.

significant at 5% level, t-ratio > 2.0 rule of thumb, it is statistically significant.

4.3.1 Discussion of VAR Result of FDI

Econometric result of the model adopted is presented in table 3. The vector autoregressive model of Foreign Direct Investment (LNFDI) is statistically significant at the current year (-1) as the probability of the t-ratio (2.1519) is less than the critical value of 5%. The estimate of β_2 is -0.0039. This implies that there is inverse relationship between the independent variable, Gross Domestic Product (GDP), and the dependent variable, Foreign Direct Investment (LNFDI). This means that unit change in GDP will bring about 0.39 relative decrease in Foreign Direct Investment (LNFDI). The estimated value of β_3 is 0.0006. This shows a direct relationship between Exchange Rate (LNEX) and Foreign Direct Investment (LNFDI). That is, a relative change in Exchange Rate (LNEX) results in about 0.06 increase in Foreign Direct Investment (LNFDI). The estimate of β_3 and β_4 are 0.0006 and 0.0012. This implies correspondent relationship among Exchange rate, Interest Rate (LNIR) and Portfolio Foreign Direct Investment (LNFDI). This further implies that a relative change in Exchange Rate (EX) and Interest Rate (LNIR) will account for 0.0006 and 0.0012 increase in Foreign Direct Investment (LNFDI).

The estimate of β_5 is 0.0007 suggests direct relationship between money supply (LNMSP) and Foreign Direct Investment (LNFDI). This further means that unit change in money supply (LNMSP) brings about 0.07 increases in Foreign Direct Investment (LNFDI).

Investigating the overall significance of the model, the value of F-statistics is 9.172 and the probability associated with it is (0.000) which is less than 0.05 at 5% level of significance. This means that there exists statistical significance between FDI and Macroeconomic variables. R-square is 0.4082, implying that the coefficient of determination (R^2) is statistically significant at 40.8% which adjudge the model as accurate and highly fitted. The adjusted R-square indicates that about 17.1% variation in the endogenous variable can be explained by the exogenous variables while 82.9% is accounted for error and other economic policies. To test for the significance of the individual parameter, if the probability value of t-ratio for the coefficient of the regression parameters (β_i) is less than the 2.0 rule of thumb irrespective of the sign difference, we accept H1 and conclude that they are statistically significant to the Endogenous variable (LNFDI) otherwise is not significant. Based on these arguments, LNGDP, LNEXR, (LNIR), (LNIF) are not statistically significant to the Foreign Direct Investment (LNFDI) in the current year since the probability of the t-ratio is less than 2.0 rule of thumb. Generally, the empirical results show that some of the identified macroeconomic variables are not statistically significant to the Portfolio Investment (LNFDI). Therefore have no long run relationship with the FDI.

Table 4 Stability Test

Ramsey RESET Test:

F-statistic	3.62134	Probability	0.000189
Log likelihood ratio	26.54401	Probability	0.000317

Source: E-Views 4.0 Result Output

In table 4 above, we investigate the functional form of model estimate using stability approach called Ramsey Reset test. The probability of the F-statistics (0.000189) is less than the critical value of 0.05 at 5% level. This result shows that the model is stable and in functional form as the null hypothesis is rejected in favour of the alternative hypothesis that the model is structurally stable.

4.4 Impulse-Response Function Analysis

4.4.1 Graph of Impulse-Response to One S.D. Innovation ± 2 *S.E*

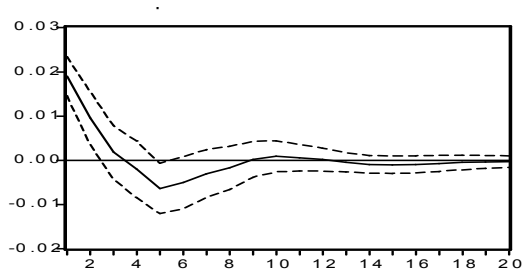

Fig. a: IRF of LNIR to LNFDI

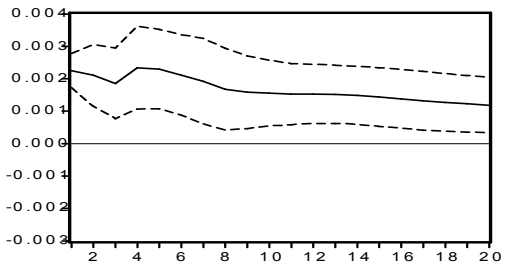

Fig. b: IRF of LNEX to LNFDI

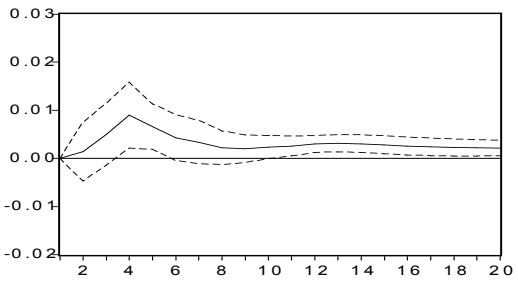

Fig. c: IRF of LNMSP to LNFDI

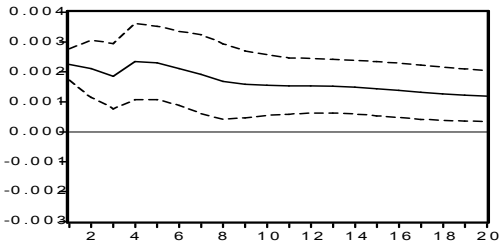

Fig. d: IRF of LNGDP to LNFDI

5. Findings

Foreign Direct Investments in Nigeria shows evidence of a negatively strong relationship with GDP in the country suggesting inverse relationship. A weak positive impact of MSP is found on FDI and exchange rates in the short–run in the county as interest rates are often drawn in order to increase money supply in the economy and inflationary trends are greatly associated with increased money supply. Foreign Direct Investment establishes inverse relationship between GDP but MSP and EX, IF and IR exact direct impact on FDI. The Impulse- Response Function analysis of LNIR to LNFDI in fig. a above reveals that one standard deviation shock of LNIR to LNFDI was positive between the period 1 and 3 but became negative from period 3 to period 8. The shock was positive from period 9 to 12. The pattern of the effect of LNEX to LNFDI experienced negative trend behavior from 13 to 17 periods. Stability set in from period 18 to period 20. The graphical behavior of the shock of LNEX to LNGDP as presented in fig. b above was observed to be positive from period 1 through to period 20. This indicates one standard deviation positive shock of LNGDP to LNEX.Going by the graphical representation in Fig d, the channel of LNGDP behavior to LNFDI within the periods reveals positive trend from period 1 to period 20. Finally, in fig. c above, the reaction of LNFDI to LNMSP was positive from period 1 to period 3 but became negative from period 4 through to period 20.

6. Conclusion

It has been established in this study that Foreign Direct Investments in Nigeria are for varieties of reasons depending on the need of the country in question. As for Nigerian, it is the opinion of the empirical findings of this study that Investments in Nigeria are held as buffer stock absorbers for insurance of the economy against external

shocks in exchange and inflation rates management among others with the main sources of Foreign Direct Investments in Nigeria being MSP, GDP and INTR. In the face of today's increasing globalization, country can afford to operate as an island, thus in the process, there are bound to unexpected shocks. This could results from the upward behaviour of exchange rate, GDP and Money supply. Based on the nature and behavior of the graphs, we observed that the impulse response function graphs indicated that one standard deviation shock of macroeconomic variable may suggest positive or negative reactions to Foreign Direct Investment within the 20-year period.

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