THE IMPACT OF FOREIGN DIRECT INVESTMENT ON NIGERIA ECONOMIC GROWTH (1980 – 2010)

BY

UZOKA CHUKWUEBUKA IJEOMA

REG NO: EC/2008/612

DEPARTMENT OF ECONOMICS

FACULTY OF MANAGEMENT AND SOCIAL SCIENCES

CARITAS UNIVERSITY, EMENE, ENUGU

AUGUST, 2012

TITLE PAGE

THE IMPACT OF FOREIGN DIRECT INVESTMENT ON NIGERIA ECONOMIC GROWTH(1980 – 2010)

A PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.SC) DEGREED IN ECONOMICS

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APPROVAL PAGE

This project has been approved as satisfying the requirement of the department of economics faculty of management and social sciences, Caritas University, Enugu State, for the award of Bachelor of Science, (B.Sc) Degree in Economics.

………………………………..
Mr. Ikpe Marius
Project Supervisor

Date: ……………………

…………………………………
Barr. Onwudinmjo P.C. Esq.
Head of Department

Date: …………………………

………………………………..
Dr. Charles Umeh
Dean of Faculty

Date: ……………………

…………………………………
External Examiner

Date: …………………………

DEDICATION

This research work is dedicated to Almighty God for his divine grace and protection in my academic life. Also to my lovely and best parents Mr. and Mrs. UZOKA N.D, my brother, sisters and friends for their unquantifiable support and encouragement in my academic life.

ACKNOWLEDGEMENT

I am most grateful to God Almighty for his blessing in my life, my profound gratitude goes to my parents Mr. and Mrs. UZOKA N.D., my brother and sister for their care and financial support.

My sincere gratitude to my Project Supervisor Mr. Ikpe who gave out his time to ensure the success of this research work. To my humble and wonderful lecturers, Mr. Umeadi, Mr. Uche, Mr. Odionye, Mr. Ikpe, Mr. Osodoro, Mr. Odo, Barr. Onwudinjo, Prof. Udabah and Prof. Onoh for all their support and teachings.

My profound gratitude to my friends, Chukwu Prisca, Adigwe Annabel, Nwankwoeze Ikechulwu)IK) Ifedinru Kelechukwu (KC), Agbodilke Chukwudi (Kokolet) Abang Achu, Abang Orinu, Uzor Nnaamaka and so many of them who in one way or the other supported me in my academic life.

I pray that Almighty God will reward you all Amen.

UZOKA CHUKWUEBUKA .I.

(King Buka)

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ABSTRACT

The study examined the impact of foreign direct investment (FDI) in Nigeria over the period 1980 to 2010. The study employed multiple regressions in analysis, using the ordinary least square (OLS) regression technique. The result at this revealed that FDI impacted positively on the growth of the Nigeria economy over the period under study. Based on this, the study recommended the provision of adequate infrastructure and policy framework that will be conducive for doing business in Nigeria, so as to attract the inflow of FDI necessary to stimulate growth.

CHAPTER ONE:

1.3 BACKGROUND OF STUDY:

Since the attachment of independent in 1960 various policies of the Nigeria government have been geared essentially towards promoting the growth and development of the Nigeria economy by influencing the trends of gross fixed domestic investment or indirectly through policies aimed at stimulating the flow of foreign finance in any growing economy. This is so given that in the literature there are divergent views on the nature of effects of foreign direct investment has been argued to be the most growth stimulation source of foreign finance in any growing economy. This is so given that in the literature there are divergent views on the nature of effects of foreign direct investment on host economics. Those that are of the view that foreign direct investment produce positive effects on host economics argue that some of the benefits are in the form of externalities and the adoption of foreign technology, employers training and the introduction of new process by the foreign firms according to Ayadi, (2002) foreign direct investment

especially when it flows to a high risk area of new firms where domestic resource is limited.

The first national development plan was launched for industrial trade off and developments however as foreign industrial investors were. Rather apprehensive of the nascent independent administration efforts had to be made not only to alloy their fears of nationalization but also attract additional foreign investment through joint venture with individuals or the state. However Nigeria economy has been one of the important destination points of foreign direct investment in sub-Saharan Africa. The amount of foreign direct investment inflow into Nigeria according to ayadi (2002) has reached US $ 2.23billon in 2003 and it rose to US $ 5.31billons in 2004 (9.13% increase) the figure rose again to US $9.92 billion (87%increasing) in 2005. The figure however declined slightly to US $ 9.44 billion in 2006.

Nigeria is argued to be buoyantly blessed with enormous mineral and human resource but believed to be highly risky market for investment. Also decade of bad governance have almost crippled. The national economy with corruption and misappropriation is of fund becoming the norm rather than expectation. What is

the way out of this economic state? Many experts accepted that foreign direct investment. Is a verifiable boaster to kick start the economy. According to Odozi (1995) foreign investment appears to be the most. Crucial component of capital inflows and Nigeria should seek to attract in light of her current economic circumstance. Some scholars are of the view that Nigeria. Is in need of foreign direct investment as a verifiable boaster of the Nigeria economy while others are of the view that foreign direct investment is a form of neo- colonialism to what extent. Has foreign direct investment helped. The economic growth in Nigeria.

1.2 STATEMENT OF PROBLEM:

One of the major economic problem in less developed countries (LCD) is low capital formation to finance the necessary investment for economic growth.

Capital was one regarded by most economists as the principal obstacle to economic development and this is lot attentions were paid to capital formation. The role of capital in economic growth is still regarded as very crucial both the theory of 'big push' and the concept of 'vicious cycle' all a test to the crucial role of capital in the growth process. The theory of 'big

push' simply state that the stagnant and undeveloped economies need huge and sudden injection of large capital from foreign direct investment.

However in the literature FDI is found to be related to export growth while human capacity building is found to be related to FDI floe.

Most studies on FDI and growth are cross country studies. However FDI and growth debates are country specific. Among Nigeria studies like those by otepola(2002) oyeyide(2005), Akinlo(2004) examined the importance of FDI on growth for several period and the channel through which it may be benefiting the economy.

In the literature there exist a direct positive link between export growth and the growth of an economy. This growth in export can further be traced down to the level of investment which in most cases can be domestic or foreign investment.

This is so given that foreign capital remains the sure best option of filling the saving investment gap where it exists. Given this fact assessment will be based on the existing link among investment, export, exchange rate and economic growth.

These problems therefore raise the following research question.

1. What is the impact of foreign direct investment to the growth of Nigeria economy?

1.3 OBJECTIVE OF THE STUDY

The objectives of the study are as follow

1. To find out whether or not FDI has a significant impact on the growth of the Nigeria economy.
2. To determine the nature and magnitude of the impact of FDI on economic growth in Nigeria.

1.4 STATEMENT OF THE HYPOTHESIS

H_{01}: FDI has no significant impact on the growth of the Nigeria economy

H_{02}: The nature and magnitude of FDI on economics growth in Nigeria cannot be determined.

1.5 SCOPE/ THE LIMITATION OF THE STUDY

The focus of the study is to verify_if there has been any contribution made toward the economic growth and development of the Nigeria economics via gross domestic product (GDP) through foreign direct investment for the period.(1990-2010)

This study will however be limited to investigate the impact of foreign direct investment on the growth of the Nigeria economy.

1.6 SIGNIFICANCE OF THE STUDY

Finding from the study will be of immense benefits in a number of ways and to different groups of persons.

1. For policy making, the expected result outcome shall serve as a riseful guide for future policies as it relates to stimulating growth within the economy.
2. For further studies, it will serve as a reservoir of knowledge for such academic exercises.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 CONCEPTAUL ISSUES

They are some variables that will be used in our model to examine our study they are as follows.

GDP: it the total value of all final goods and services produced in a country in a given year.GDP was chosen because been an indicator of growth we could use. It is to show the impact of FDI on economic growth.

EXPORT EARNINGS: The variables was chosen to know if export earnings has an impact on FDI which stimulate economic growth since export earning is the proceeds from the export of goods and services of a country and the returns from it foreign investment denominated in convertible currencies.

EXCHANGE RATE: The rate at which a unit of the currency of one country can be exchange for a unit of the currency of another country. These

variables were chosen because of the role of exchange rate in foreign exchange market to know if FDI has an impact on economic growth in Nigeria.

FDI: this is the inflow of foreign income into a particular economy through investment which involves multinational corporation. The variables were chosen based on assumption that it is the direct indicator of growth in the economy.

2.1.1 FOREIGN DIRECT INVESTMENT AND MULTINATIONAL CORPORATION

Company that undertake foreign direct investment is called a multinational co-operation (MNC). There is no generally accepted definition of MNC however for a company to be Multinational Corporation it must satisfy some criteria.

It must operate in many countries at different level of economics development and manufacturing facilities in several countries. It must have a multinational stock ownership.

A. From expansion by foreign direct investment can take any of the three forms below.

A: Honzonal expansion where the same product are produced

B: Vertical expansion process that comes before processing activity

C: Conglomerate expansion whereby different goods for these of the domestic market are produced

The greatest part of foreign direct investment in term of value and number involves either horizontal expansion to produce the same or similar line of goods abroad or vertical integration backwards into the production of some raw material. To understand the effect and product the consequences of FDI in a growing country.

Foreign direct investment originates from differentiated. Oligopoly in the home market which are also oligopolistic with the product differentiation. They are large in size they are oligopolistic firms in the home market having exhausted. All possible source of economic of scales a firm would not invest abroad while profitable opportunities remained for the exploitation of scale economics in the home market.

Multinational Corporation tends to populate foreign oligopolistic markets which are protected by strong banners tom entry. They have advantage against sources of entry banners in the foreign market. This is achieved in the following way.

A: they can attain and even exceed the minimum optimal scale of plant in an foreign market because

I; having a better product, it may well expect to compute a large scale of foreign market than the local producers.

II; the subsidiary may start exporting to other countries or send back part of its product to home country.

Moreover, it has been empirically observed that subsidiaries are less vertical integrated than their parent company.

B: MNCS develop new superior products which may lead over foreign local producer.

C: initial capital investment has no banner since the subsidiaries are financed largely by the retained earnings of the parent corporation.

D: finally multinational has substantial cost advantage over local foreign producer such advantage derive mainly from the lower cost of capital superior technical knowhow and more efficient and skilled. Management talcum the greatest risk of foreign investment can be borne by large firms explaining firms why they require a higher rate of profit in foreign investment and large size of such firm, FDI is an alternative to other firms of penetration of foreign market such as exporting or licensing of foreign

producer. The decision to undertake foreign direct investment is a cost benefit and therefore a profit maximizing firm will evaluate the decision on the basis of return and cost.

Multinational Corporation carries with them technologies of production taste and styles of living management services diverse business practice including corporative arrangement market retraction advertising phenomenon of transfer pricing. This is exemplified by conglomerate such as united African company (UAC) nestle co-operation, leventis, Berger, and recks. UN likes certain type of foreign and the purpose of MNC activities is for charitable is consumers of MNC

Products in Nigeria pay so much for them the central characteristics of multinational co-operation are their large size and the fact that their worldwide operation and activities tend to be centrally controlled by parent companies. Many MNC have annual side volume in excess of the entire GNP of the developing nations in which they operate, this is likely in Nigeria and in Ethiopia.

2.1.2 0WNERSHIP AND CONTROL STRUCTIURE OF FOREIGN DIRECT INVESTMENT.

The ownership and control of business enterprise is certainly of great significance since it is only through the mobilization of local entrepreneurial talent that a more widely based and dynamic development process can be brought about in a developing country operating under a private enterprise system. The structure of business administration where for instance foreign institution owns the controlling share in a business enterprise is visually such that the most important level at which strategic decisions are made is located in the metro Politian country. This has further implication for the solution of many of the supply group problem which affected the pace of industrial development. The structure of ownership determines to a large extent the structure of control which in turn is an important determinant of the rate of industrial development. Decree of 1995 liberalized Nigeria economy there are no restrictions on ownership structure. Foreigner can come into the country and own 100 percent of companies with no to repatriate 100 percent

of their dividends or profit back home provided they pay their taxes like any other company in Nigeria.

2.1.3 GAINS OF FOREIGN DIRECT INVESTMENT

1. **TECHNOLOGICAL TRANSFER OF TECHNOLOGY TO A COUNTRY**. The technical and organizational knowledge and information available for the production of many goods and service together with the tool for producing the goods are made available through many foreign controlled enterprises established in development countries in most cases the specification blue point engineering design material requirement basic production technique. Operational know how and the aricillary technology used by the parent companies. Although the importation of the attack of the government for not creating or designing manufactured package that follow for not creating or designing manufactured package that follow for a least minimum value added.

In many developed countries like China Taiwan etc that have achieved real technology transfer. It is a although the insistence of their

government, on the execution of training aspects of all agreement existing between their natural and foreign parties that such countries were able to acquire technology ()diz 1995).

II. **INCOME** – This deal with the financial or fiscal reward or foreign private investment. It concerns itself with income accruing to the government by way of taxes paid by foreign corporation. It is difficult to say the precise amount of tax paid by foreign corporate to the government.

III. ENHANCEMENT OF BALANCE OF PAYMENT – Since foreign investment enterprise engage in import substitution or export producing industries, their production activities could improve the balance of payment of the host country.

Furthermore, the enterprises established through the foreign investment have the potential for generating significant indirect benefit involving improvement in investment.

Competiveness and enhancement of productivity in the most countries foreign direct investment enterprise could constitute local monopolies thereby imposing their technologies to the determent of employment of the

labour surplus on the host development countries restrictions on exports are also known to exist the host countries are therefore carried about the establishment of many affiliates over which they have no country.

2.2 THEORETICAL LITERATURE

The debate which has taken a long period of time is whether foreign direct investment directs to economic growth or not.

According to traditionalist, the inflow of foreign investment improves economic growth by increasing the capital stock where a recent literature points to the role of foreign direct investment as a channel of international technology transfers.

According to Markuser (1995) there is growing evidence to foreign direct investment enhance technological changer through technological diffusions, for example because multinational firms are concentrated in industries with a high ratio of research and development relatives to sales and a large of technical and professional work.

He argued further that international co-operation are probably among the most technologically advance firms in the world and the foreign investment not only contribute to import of more efficient foreign technologies but also generate technological spillover for local firms. Kinshasa (1997) and Soyohalom (1999) stated that technological change plays a pivot role in economic growth. Multinational co-operation is one of the major channels in providing developing countries with access to advanced technologies, they stated further that the knowledge spillover may take place via imitation, completion linkages and training, although it is in practice but rather difficult to distinguish between their form channels, the underlying theory.

Both above writers provided the analysis that imitation channel is based on the view that domestic form may becomes more productive by imitating the more advanced technologies or managerial practices of foreign firms. They argue that in the absence of FDI lower the cost of technological availability to local firms on the competition channel, they emphasis that the

entrance of foreign firms intensifies local firms to becomes more efficient by upgrading their technology base.

Bonojour (2003) support the spillover channel of technological transfer by arguing that most important benefit of FDI and multinational co-operation on the host country is the increase of domestic firms' productivity.

This relating to the concept of technological and productivity spillover Ngow (2001) summarized the potential role of FDI to host country into 10 points:-

- Employment creation
- Technology transfer
- Skill and management technique
- Contribution to capital formation
- Increase production diversity
- Facilitate local resource more efficiently and productivity
- Use of local more efficiently and productivity
- Use of environmentally clean technology

- Observe human and labour right
- Create a lot linkage-effect in the economy both forward and backward.

According to him FDI can be an engine of economic growth in a host economy such investment can sustain and improve economics development in a country or region, he emphasized that given the economic condition of Africa countries and its level direct investment in the region cannot be over emphasized. The continent needs to increase its share of global FDI inflows as one of the most likely ways to increase the needed external capital for its development.

Helpman (1984), Helpman and Kingman (1985) argues that the impact of trade performance adopted by multinational enterprise in the case of vertical investment theoretical imperfect competition models predict complementary relationship between FDI and trade.

Beriassary (2000) argues that the influence of real exchange rate on foreign direct investment is ambiguous and depends on the motivation of

foreign investors for instance depreciation make local assets and production cost cheaper leading to higher inflows of FDI.

2.2.1 THE THEORY OF FOREIGN DIRECT INVESTMENT

Foreign direct investment plays a large role in the international economy in the period leading to World War II. Most of those investments were of portfolio type. Great Britain was the leader 90% of British investments at that time were in France and Germany.

Exchange rates then were negligible and political situation stable these international portfolio investment were governed by invest rate differential. Young expanding economic which offered high return on capital investment could attract money from major leading countries.

According to Nwadike (1991) the American investors were of a contented with the small interest rate differential from portfolio investment.

A dominant share of United States capital export consisted of direct investment. FDI among developing countries can attract other investment. Opportunities and stability in government.

A distinct feature of indirect investment is that investor wants to return control over his investment. One of the main determinants of FDI is technological superiority or superior managerial skills. A firm under monopolistic or oligopolistic market condition may develop some new products or new product technology. It wants to make use of its innovation to increase its possibility of making a profit from its superior technology.

Therefore it may be decided on entering a foreign market. They national way to do this is by direct foreign investment.

We now live in a world where factors of production are mobile and some factors are being more mobile than others. The least mobile factor is labour. Capital is more mobile than labour and management is most of the time the only complementary factor of production. Movement of techniques or organizational comparative advantage. It is not necessary that a country must have surplus in its balance of payment to engage in direct investment.

FDI are often a two sided affair for example USA can make direct investment in Europe while Western Europe also make direct investment in

USA. Though United State have the most development technology, its technology is not the most developed in all sectors of the economy.

Therefore, some part for example German industries, Swedish industries are technologically more sophisticated than their American counterpart.

These being the case, makes sense for German and Swedish industries to engage in direct investment in the United State. The relationship between the development and developing countries themselves, then is a one sided relationship where by the developed countries make direct investment in the less developed countries in the investment being made by the less developed countries in the industrial countries. The capital flows from less developed to developed countries are mostly of the portfolio type in the same model above managerial or technological superiority is the key variable, the model assume that there is no pure competition firms are small and there is no production differentiation. The most important industries that engage in direct investment are typically those where monopolistic or oligopolistic market corporation engaging in direct investment is trying to export a new

innovation under monopolistic or oligopolistic market. Condition also helps to explain why most corporations are against patently or joint ventures. Other factors that many encourage direct investment include the following:-

a. A protectionist policy in the his
b. A rapid economic growth under a political stable government can encourage direct investment.
c. Share size for example of large personnel and financial resource compared to foreign counterpart can encourage direct investment in foreign areas.

The principle advantage of direct investment is they raise world output by running managerial skills and capital from region where they are scare and this earn a higher return.

The immediate impact of FDI on the investing country's balance of payment is often adverse for the host country. This immediate impacts is an improvement in balance of payment to the long-run. However the effect could be negative from a real point of view the effect could also be the

beneficial as long as the positive effect and the country's economic growth are longer than the negative effect on the balance of payment.

An adverse effect for a host country of FDI is that it may stifles scientific research and development work in the host country. Also direct investment could lead to exploitation especially of less developed countries.

2.3 Empirical Literature

Having review the theoretical aspect of FDI, it is necessary to take a look at some important empirical contributions based on the observation of rate of mature significance and controversy regarding FDI especially in the resent past all over the world.

Recent studies showed the flow of FDI have been on the increase in the recent years.

Accam,)1997) reviewed the effect of exchange rate instability on the macro economic performance with specific reference to the effect on trade and investment. In the survey, Ham and De Melo (1990) found out that unstable macroeconomic environment constitutes one of the major impediment to investments in many LDCs. The author estimated on OLS

regression of the fixed country using standard deviation of the exchange rate as a proway for instability. The study find a negative sign associated with the coefficient of exchange rate uncertainly.

Serven and Soliman (1992) also investigated economic adjustment and FDI performance for fifteen developing countries; the pooled Gross sections time series data from 1975 to 1988. The investment equation estimated in the study used exchange rate and inflations 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. The same effect was confirmed by Hadgmehael et al (1995) study on growth of saving and investment performance of 41 developing countries between 1986 and 1993.

Olumigina (2003) in the test conducted using OLS, found market exchange rate in the official market as being significant at 10% for FDI to agricultural sector, the same is however not significant for manufacturing. He therefore concluded "proper management of the exchange rate to

forestall costly distribution, constitute an important pillar in determining flows of FDI to Nigeria and sub-Sahara African countries.

Asiedo (2003) in his work 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, macro economic instability, openness to FDI, host country institution and political instability. His result showed that macroeconomic stability, efficient institution, political stability and goods regulatory framework have positives impacts on FDI an importation implication of the result that FDI to Africa is not solely driven by natural resources endowment and that government can play an important role in promoting FDI to LD regions.

2.4 SUMMARY OF LITERATURE AND JUSTIFICATION OF THE STUDY

Most studies reviewed under the discuss were cross country analysis within the Nigerian economy, a number of studies made useful attempt growth of the Nigeria economy each of the studies came up with results that were quite interesting and revealing too. This study intends to extend the period of investigation to 2010 given that the Nigeria economic environment under investigation most likely has changed over the years and the change may likely give rise to a different result outcome secondly, the study intend to introduce exchange rate as a control variable, this has not been done before now.

CHAPTER THREE

3.0 METHODOLOGIES

3.1 INTRODUCTIONS

This chapter centres on the research methodology employed in the study it is a very important chapter because it makes a lot of different in the quality of any research (anyanwu 2000). It is the background upon which findings of a research are deregulated and concluded the content of the reader to understand the analysis done in the study, but also will help to clarify the procedure for the research.

3.2 THE MODEL:

This research will employ the single equation technique of econometric simulation for its analysis.

Specifically, an ordinary least square (ols) regression model will be adopted. The merit of using ordinary least square rests on the fact that it poses a blue property which is best linear unbiased estimator (kontsoyannis 1997) from

our first objective we shall develop a compact functional form of our model as follows.

In GDP=(EXP,FDI,EXR)............................eqn1

Where in GDP-log of gross domestic product

EXP-export earnings

FDI- foreign direct investment

EXR-exchange rate

The linear specification of equation will become,

InGDP=bo+b1exp+b2fdi+b3exr+u........................eqn2

U = the error term

Bo, b1, b2 and b3 are the parameters to be estimated.

3.3 METHOD OF EVALUATION

3.3.1 ECONOMIC CRITERIA:

The equation (2) will be evaluated on the basics of economic criteria. This will inform us of the sign of the parameter whether or not the confirm to economic theory. Specifically b1, b2, and b3 are expected to be positive.

3.3.2 STATISTICAL CRITERIA:

Statistical criteria will be based on checking T-value for the statistical significance the F-test will be used to check the overall regression whether the model has goodness of fit. The R2 will be used to determine the explanatory variables .

3.3.3 ECONOMETRIC CRITERIA:

This will be used to evaluate if the assumption of ordinary least square are not violated they are as follows.

3.3.3.1 AUTO CORRELATION TEST:

This test will adopt the conventional Durbin Watson test on checking for the present of auto correlation.

3.3.3.2 MUTI-COLINEARITY TEST:

This test will adopt the correlation matrix test in order to check for the degree of muti-co lineanty among the variable.

3.3.3.3 HETEROSECEDASTICITY: this test will be preferred to see if there is heterosecedasticity among the variables.

3.4 JUSTIFICATION OF THE MODEL:

The choice of this model is based on the fact that ols is best suited for testing specific hypothesis about the nature of economic relationship (Guajarati 2004)

The reliability of this method has on its desirability properties which are efficiency consistence and unbiasness this implies that its error term has a minimum and equal variance (Guajarati 2004)

3.5 DATA REQUIRED AND SOURCE:

Data used in this analysis are secondary data and the data for this study will be sourced from central bank of Nigeria. (CBN) statistical bulletin (2009)

3.6 ECONOMETRIC SOFTWARE:

Pc give econometric software will be used.

CHAPTER FOUR

4.0 PRESENTATION OF RESULTS

4.1 PRESENTATION OF RESULTS

The empirical results are presented in a table which shows the estimated parameters, their t-statistics and other diagnostic tests of equation. The result obtained from the estimation techniques are presented in the table below:

Table 4.1.1 Modeling and GDP by OLS

Variable	**Coefficient**	**Std Error**	**t-value**	**Probability**
Constant	1.527889	0.196641	7.780121	0.000
EXPT	0.567969	0.039268	14.46380	0.000
FDI	0.461396	0.059025	7.816943	0.000
EXT	0.002620	0.000476	5.508579	0.000

From our model:

R^2 = 0.996966

F(3,27) = 2957.477

DW = 1.726595

No. of observations = 31

No. of variables = 4

4.2 RESULT INTERPRETATION

4.2.1 ANALSIS OF RESULTS BASED ON ECONOMIC (RITERIA)

a) Export Earnings (EXPT)

the coefficient of EXPT is 0.567969, it has a position relationship with GDP showing that a unit increase in export earnings (EXPT) will increase GDP by 0.567967.

b) Foreign Direct Investment (FDI)

the coefficient is 0.461396, it has a positive relationship wioth GDP showing that a unit increase in real foreign direct investment (FDI) will increase GDP by 0.461396.

c) Exchange Rate (EXR)

the coefficient is 0.002620, it has a positive relationship with GDP showing that a unit increase in real exchange rate (EXR) will increase GDP by 0.002620.

d) When the independent variables are zero, GDP will be 1.529889

From result obtained in the regression, the results is expected to follow the economic a prior expectation of negotiation of magnitude and sign.

This table 4.2.1 below analyzes the outcome of the parameters.

Variable	**Expected**	**Obtained**	**Conclusion**
EXPT		Positive	Conform
FDI	Positive	Positive	Conform
EXR	Positive	Positive	Conform

4.2.2 ANALYSIS BASED ON STATISTICAL CRITERIA

i) The Coefficient of Multiple Determinations (R^2)

this is used to check the goodness of fit from the regression results, the value of R^2 is 0.996629 which implies that in the long run 99% of the variations in real GDP is explained by the independent variables (export earnings), foreign direct investment and exchange rate).

ii) Test of Significance of the Parameters

(The t-statistics)

The student t-test is used to determine the significance of the individual parameter estimates and to achieve this; we have to compare the calculated t-value in the regression result with the t-tabulated at n-k degree of freedom – (df) at 5% significance level.

If p is coefficient of the parameter

Ho: $\beta_1 = 0$ (null hypothesis)

H_1: $\beta_1 \neq 0$ (alternate hypothesis)

Ho: $\beta_1 = 0$ (Not significant)

H_1: $\beta_1 \neq 0$ (statistically significant)

Decision Rule

Reject Ho if t-cal > t-tab and accept if otherwise. From our data, n = 31 and k = 4.

:- df = n – k = 31 – 4

= 27

From our statistical table, critical t-tabulated at 0.05 significance level is equal to ± 2.052.

The result of the analysis id summarized in table 4.2.1 below.

Variable	**T-calculated**	**t-tabulated**	**Decision Rule**	**Conclusion**
EXPT	14.46380	±2.052	Reject Ho	Significant
FDI	7.816943	±2.052	Reject Ho	Significant
EXR	5.508579	±2.052	Reject Ho	Significant

From the table above, β_1 (EXPT), β_2 (FDI) and β_3 (EXR) are all statistically significant. Therefore, we rejected the null hypothesis (Ho) for all the variables.

iii) **The F-Statistics Test**

the test is carried out to determine if the independent variables in the model are simultaneously significant or not. Hence, the analysis shall be carried out under the hypothesis below:

Ho: $x^1 = x^2 = x^3 = 0$ (all slope coefficient are 0)

H_1: $x^1 \neq x^2 \neq x^3 \neq 0$ (all slope coefficient are 0)

Decision Rule

Reject Ho if fcal > ftab.

Where;

$V_1 = k-1 = 4-1 = 3$ (numerator)

$V_2 = n-k = 31- 4 = 27$ (denominator)

Table 4.3.1 below analyzes the result.

Fcalculated	Ftabulated	Decision Rule
2957.477	2.9604	Reject Ho

From the table above, since t cal > t tab i.e (2957.477 > 2.9604), we therefore reject the null hypothesis Ho and accept the alternative hypothesis H1 and conclude that at 3% level of significance, the overall regression is statistically significant.

i) **Test for Auto Correlation**

This test is aimed at ascertaining if auto correlation occurred in the model. To achieve this, we assume that the values of the random variable (ut) are temporarily independent by employing the techniques of Durbin-Watson (d) statistics.

Decision Rule

Null Hypothesis	**Decision**	**If**
No positive auto correlation	Reject	$o < d < dl$
No positive autocorrelation	no decision	$dl \leq d \leq du$
No negative autocorrelation	Reject	$4 - dl < d < 4$
No negative autocorrelation	No decision	$4 - du \leq d \leq 4 - dl$
No autocorrelation (Positive or negative)	Do not reject	$Du < d < 4\text{-}du$

Where;

dl = lower limit

du = upper limit

d^x or d = Durbin Watson

We obtained n = 31 (No. of observations)

k = 4 (No. of explanatory variables).

From our Durbin Watson table

dl = 1.160

du = 1.735

d* = 1.726595

Computation:

$dl \leq d \leq du$

$1.160 \leq 1.72659 \leq 1.735$

Conclusion

We conclude that there is no positive autocorrelation in the model since 1.160 (dl) ≤ 1.72657 (d) ≤ 1.735 (du). We reject the null hypothesis.

ii) **Normality Test**

The normality test adopted is the Jargue-Bera)JB) test of normality. The JB test of normality is a large sample test and is based on the OLs residuals.

The test computes the skewness and kurtosis measures of the OLS residuals and it follows the chi-square distribution (Gujarati, 2004).

Hypothesis

Ho: $\beta_1 = 0$ (The error term follows a normal distribution)

Ho: $\beta_2 \neq 0$ (The error term does not follows a normal distribution)

The statistical data follows chi-square distribution with 2 degree of freedom (df) at 5% level of significance.

Decision Rule

Reject Ho, if x^2 cal > x^2 tab (0.05) and accept if otherwise.

From our result obtained from Jargue-Bera (JB) test of normality;

x^2 cal = 3.849435

x^2 tab = 5.99147

Therefore we accept Ho and conclude that the error term follows a normal distribution since x^2 cal < x^2 tab (i.e. 3.849435 < 5.99147).

iii) HETEROSEDASTICITY TEST

This test is basically on the variance of the error term. It helps to ascertain whether the variance of the error term is constant of nor.

Ho: Homoscedasticity Test

H_1: Heterosedasticity Test

Decision Rule

If x^2 cal > x^2 tab, reject the null hypothesis and accept if otherwise.

From our analysis:

x^2 cal = 3.1738582

x^2 tab = 16.919

From the result, x^2 cal < x^2 tab (i.e. 3.173583 < 16.919). Therefore, we accept the alternate hypothesis homoscedasticity and reject the alternate hypothesis of heteroscedasticity strictly showing that error term have a constant variance.

iv) **Multi – Co linearity Test**

Multi co linearity test means the existence of an exact linear relationship among the explanatory variable of a regression model.

Using the correlation matrix results

	GDP	**EXPT**	**FDI**	**EXR**
GDP	1.00000	9.99147	0.97219	0.502323
EXPT	0.991147	1.00000	0.961857	0.505620
FDI	0.972919	0.961857	1.00000	0.415810
EXR	0.502323	0.505620	0.41581	1.00000

Decision Rule

From the rule of Thumb, if correlation coefficient is greater than 0.8, we conclude that there is multi co linearity but if the coefficient is less than 0.8 there is no multi co linearity.

Conclusion:

Multi collinearity only exist between

GDP and EXPT

GDP and FDI

EXPT and FDI

CHAPTER FIVE

SUMMARY OF FINDINGS, POLICY RECOMMENDATIONS AND CONCLUSION

5.1 CONCLUSION

The study examines an analysis of the impact of foreign direct investment on Nigeria's economic growth over the period of 1980- 2010. The findings revealed that economic growth is directly related to inflow of foreign direct investment and it is also statistical significant implying that a good performance of the economy is a positive signal for inflow of foreign direct investment. Also from the results, foreign direct investment was statistically significant because of its t-calculated was greater than the t-tabulated value at 5% level of significance. This findings conforms the Granger causality result which shows that foreign direct investment. Granger has an impact on Nigeria economy; the ITR and EXR were not statistically significant from the findings.

5.2 POLICY RECOMMENDATIONS

In the light of the above findings, the followings, i.e. recommendations are proposed to encourage and improve the inflow of foreign direct investment in Nigeria:-

1. Government should provide adequate infrastructure and policy framework that will be conducive for doing business in Nigeria, so as to attract the inflow of FDI.
2. There is need for government to be formulating investment policies that will be favorable to local investors in order to complement the inflow of investment from abroad.
3. Given the causal link among exchange rate – export growth economically at the Nigerian economy, favorable exchange rate policies should be formulated and implemented.

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