

TITLE PAGE

**THE IMPACT OF FOREIGN DIRECT INVESTMENT ON THE MANUFACTURING
SECTOR IN NIGERIA, (1980-2013)**

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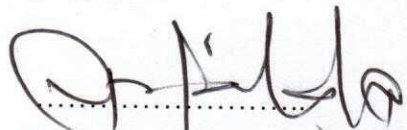
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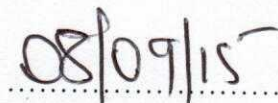
CERTIFICATION

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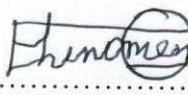


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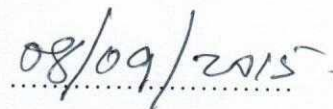
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DEDICATION

I dedicate this work to the author and finisher of our faith, the only God who knows the end and the beginning (the Almighty God); and to my renowned parents MR. and MRS. ADEGBOYE for their support throughout the pursuit of my academic career.

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My utmost appreciation goes to Almighty and most gracious God for His loving kindness upon my life. I am glad to be serving him, because of his faithfulness, love, care, and protection over my life and my family.

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I pray that almighty God will reward you all, Amen.

I love you all.

ABSTRACT

FDI accelerate the process of development in the manufacturing sector, as well as the economy at large. Yet, the macro-economic objectives such as attainment of full employment, price stability and balance of payment has not been achieved despite the level of foreign investment in Nigeria. The main objective of the study is to investigate the impact of foreign direct investment on the manufacturing sector in Nigeria, between the period 1980 and 2013. And the specific objectives are to ascertain the trends and to test for the direction of causality between FDI and manufacturing sector in Nigeria, etc. The study adopted the OLI-paradigm framework as the standard theory for analysis on foreign subsidiaries of multinational corporations. Nigeria as a country, given her natural resource base and large market size, qualifies to be a major recipient of FDI in Africa. Therefore, there is a basis for the investigation of the impact of multinationals in the Nigerian manufacturing industry. Ordinary Least Square method was adopted in the study using time series data. Again, descriptive statistics, ADF unit root test, and Granger causality test was also used to determine the impact of foreign direct investment on manufacturing value added proxy for manufacturing sector. It was revealed that foreign direct investment has negative impact on the manufacturing sector in Nigeria. Therefore, it is recommended among others that there is a need for human resource development in the country and domestic firms investing in new technologies in order to maintain significant market shares.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Foreign Direct Investment (FDI) is an investment made to acquire lasting or long-term interest in enterprises operating outside the economy of the investor. According to the World Bank (1996), FDI as an investment made to acquire a lasting management interest (normally 10 percent of voting stock) in a business enterprise operating in a country other than that of the investor defined according to residency. Foreign Direct Investment (FDI) is of growing importance to global economic growth. In 2013, for example, the world FDI increased by 9 per cent to \$1.45 trillion (Loungani and Razin, 2001). In the modern world, on the other hand, manufacturing sector is regarded as the basis for determining a nation's economic efficiency. In this case, there is a strong relationship between foreign investment and the manufacturing sector. Amakom (2012) argues that after the discovery of crude oil in Nigeria in the late 1950s, the nation shifted from its preeminent developing industrial production base and placed heavy weight on crude oil production, not only has this jeopardized its economic activities, it also aggravated the nation's level of unemployment.

One of the most remarkable trends in the world economy over the past three decades has been the increase in the global economic integration. This is significantly symbolized by the rising trend in foreign private investment. Foreign private capital can ideally accelerate the process of industrial development as well as manufacturing sector in poor countries by providing international market access, industry, capital, infrastructure, employment, revenue and technology. Nigeria as a country, given her natural resource base and market size, qualifies to be a major recipient of FDI in Africa. However, efforts made by most countries in Africa to attract foreign investment have proved unproductive. This is in spite of the obvious and desperate need for FDI on the continent. Some of the major constraints for attracting investment in Nigeria's manufacturing sector include inconsistency in government policies and other social vices such as corruption, insecurity, and political instability. Manufacturing activities have significant impact on the economy of a nation. In the developed economies for instance, they account for a substantial proportion of total economic activities (MAN, 2008). Also in Nigeria, the manufacturing sector is responsible for

about 10% of total GDP annually. In terms of employment generation, manufacturing activities account for about 12 per cent of the labour force in the formal sector of the nation's economy. This is why manufacturing statistics are relevant indices of the economic performance of a nation (MAN, 2008).

The dream of any nation that wishes to make progress is to attract investment to help in developing its economy through efficient manufacturing of goods. In Nigeria, foreign investments are reasonable, hence evidence abounds that the activities of foreign oil firms have had perverse effects on local environment (Ekpo, 2003). For example, the potential benefits of FDI includes; employment generation and growth by providing additional capital to a host country supplementing domestic savings, integration into the global economy and transfer of modern technology (Opaluwa, Ameh and Umeh, 2010). The manufacturing sector in Nigerian is almost at the verge of collapse with thousands of workers being thrown out of jobs. Also, Nigeria has been a dumping ground for all kinds of foreign products because of the low preference for locally produced goods. In spite of these traits, the controversy on whether or not FDI provides the grounds for development continues. Therefore, there is a need to investigate the impact of FDI on the manufacturing sector, and possibly to suggest how Nigeria's interest can be protected since FDI and the manufacturing sector are important areas that both relate to the economy.

1.2 Statement of the Problem

FDI can theoretically accelerate the process of development in the manufacturing sector especially in the LDCs like Nigeria through the provision of employment, capital, technology and growth. Therefore, the success and failure of LDCs is to maximize the benefits, minimize the negative externalities of foreign investment and to extend the inquiring of globalization investment beyond its theoretical frontier. The issue of how beneficial FDI is for LDCs has been empirically discussed (See for instance, Ilyas Ipek, 2011; De Mello, 1997; Aitken and Harrison, 1999; Oladipo and Vasquez-Galan, 2009). The existing body of theory and evidence establishes a significant likelihood that FDI has effect on the manufacturing sector. The basic theory postulates that the impact of FDI can results in technological diffusion among firms in host country in order to increase ownership advantages (Dunning 1993), which can exist in form of intangible assets like marketing skills, managerial and technological ability which are transferred in form of knowledge capital (Markusen, 1995). The problem from this argument is that since FDI accelerates the process

of development in the manufacturing sector, as well as the economy, the macro-economic objectives such as the attainment of full employment, price stability and balance of payment has not been achieved despite the level of foreign investment in Nigeria. This the theory also ignores the position of the sector (if it is stagnant or flowing), consistency of government policies and other social vices.

This precipitated the need to conduct this study. The theoretical explanations applied to the study of spillovers from the multinationals to host country firms will be addressed. The different theoretical explanations that developed over time have been integrated by Dunning (1993) in his OLI-paradigm, which eventually became the standard theoretical framework for analysis on foreign subsidiaries of multinational corporations (Jutta Gunther, 2002; Barz, 1998, Klagge, 1997) and to ascertain if the theory is relevant to Nigeria.

1.3 Objectives of the study

The main objective of this study is to investigate the impact of FDI on the manufacturing sector in Nigeria. The specific objectives are:

- To investigate the trend of FDI on the Manufacturing sector in Nigeria.
- To test for the direction of causality between FDI and manufacturing sector in Nigeria.

1.4 Research Questions

The objective of this research will only be achieved when the following questions are answered;

1. To what extent does foreign direct investment impact on the manufacturing sector in Nigeria?
2. What are the determinants of FDI on the manufacturing sector in Nigeria?
3. What is the history of FDI and its effects on the manufacturing sector in Nigeria?

1.5 Significance of the study

The advantages of FDI as an economic development tool have led many countries to strive for its desirability. Africa and Nigeria in particular joined the rest of the world to seek FDI as evidenced in the formation of the New Partnership for Africa's Development (NEPAD), which has the attraction of foreign investment to Africa as a major component. In other words, an increase in

investment is critical to the attainment of sustained growth and development in the country and this requires the mobilisation of both domestic and international finances (De Gregorio, 2003). Given the unpredictability of aid flows, the low share of the country in the world trade and the high volatility of short-term capital flows including the low savings rate of the country, the desired increase in investment must be achieved through an increase in FDI flows at least in the short – run (De Gregorio, 2003). Also with the vision of the country to be one of the topmost 20 economies in the world, the manufacturing sector is therefore central to Nigeria’s industrial quest. In order to accomplish this vision, it is essential to ascertain whether or not FDI impacts on the manufacturing sector in Nigeria.

1.6 Justification for the study

This study is not without justification. First, unlike loans, as Lipsey, (2002) and Dadush, et al (2000) state, FDI can bring development capital without repayment commitments. Second, FDI is far more than mere capital: it is a uniquely effective bundle of capital, contacts, managerial and technological knowledge with potential spillover benefits for host country firms, and finally, unlike other forms of capital flows, FDI has proven to be strong during crises. This had been proved in the Asian financial crisis of 1997-98 and Mexican crisis of 1994-95. The findings of the study will also illuminate the ambiguity surrounding the impact of FDI on the manufacturing sector in Nigeria. This will enable policy makers to be activated in the right direction, to maximize both FDI inflows and the gains from FDI.

1.7 Scope of the study

The main objective of this study is to investigate the impact of FDI on the manufacturing sector in Nigeria, therefore, the scope of the study, is to investigate the contributions made towards the productivity of the manufacturing sector in Nigeria through Foreign Direct Investment (FDI) for the period 1980-2013.

1.8 Organization of the study.

This study is divided into five chapters. Chapter one covers the introduction, background to the study, statement of problem, objectives of the study, research questions, significance of the study, justification of the study, scope of the study, definition of terms and plan of the work while chapter

two focuses on the conceptual issues, empirical evidence and theoretical framework of the impact of FDI on the manufacturing sector in Nigeria. Chapter three provides the research methodology and making use of descriptive analysis and multiple regression analysis to ascertain the impact of FDI on the manufacturing sector in Nigeria. Again, chapter four presents the analysis of data and findings while chapter five presents the summary of findings, conclusion and recommendation.

1.9 Definition of Terms

Manufacturing Value added (MVA): It refers to the net output of a sector after adding up all outputs and subtracting intermediate inputs. It is calculated without making deductions for depreciation of fabricated assets or depletion and degradation of natural resources. (Source; World Bank, 2015).

Total Factor Productivity (TFP): It is a means of measuring the efficiency of all inputs to a production process. Again, an increase in TFP is usually as a result of technological innovations or improvements. It also captures how efficient inputs are utilized, (Source; Business Dictionary, 2015).

Gross Fixed Capital Formation (GFCF): It is measured of gross net investment (acquisitions less disposals) in fixed capital assets by enterprises, government and households within the domestic economy, during an accounting period such as a quarter or a year. GFCF was used to proxy TFP (Source; Business Dictionary, 2015).

Trade Openness: It is defined as the level of a country's incorporation to the world economy and will be measured by Nigeria's ratio of trade to GDP. This ratio is often called the trade openness ratio, although the term "openness" may be somewhat misleading, since a low ratio does not necessarily imply high barriers to foreign trade (Source: WDI, 2011).

Interest Rate: It is defined as the price of investment and will be measured by rate of interest. The amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets, (Source; WDI, 2011).

Foreign Direct Investment (FDI): The Financial Times (2015) describes FDI as an investment from one country into another (normally by companies rather than governments) that involves establishing operations or acquiring tangible assets, including stakes in other businesses.

Multinational Corporations (MNCs): A corporation that has its facilities and other assets in at least one country other than its home country. Such companies have offices and/or factories in different countries and usually have a centralized head office where they co-ordinate global management, (Source; Investopedia, 2015).

Manufacturing Sector: This is defined as the agglomeration of industries engaged in chemical or physical transformation of materials, substances, or components into consumer or industrial goods, (Business Dictionary, 2015).

CHAPTER 2

LITERATURE REVIEW

2.0 Introduction

The objective of this study is to investigate the impact of FDI on the manufacturing sector in Nigeria. Therefore, this chapter reviews relevant literature on the types of FDI, challenges facing FDI in the Manufacturing Sector in Nigeria, FDI policy issues, theories of FDI and the impact of FDI on the manufacturing sector in Nigeria. The review (both theoretical and empirical) covers current debate and past studies on FDI and the manufacturing sector in Nigeria.

2.1 Conceptual Issues

A conceptual framework is an analytical tool with several variations and contexts. It is used to create conceptual distinctions and make ideas clear. Therefore, this section focuses on the explanation of the major concepts used in the study.

2.1.1 Foreign Direct Investment (FDI)

In facilitating the precise impact of FDI in the manufacturing sector in Nigeria, it is worthwhile to make known the meaning of FDI and its trends overtime. The importance of FDI cannot be overemphasized in both economic and political terms. However, FDI is the control of ownership of a business enterprise in one country by an entity based in another country. Despite the growing significance of FDI, its meaning still remains unclear to many scholars. A common misconception is that foreign direct investment (FDI) in a country is merely the investment that emanates from a foreign country. Thus FDI is mistakenly assumed to measure all cross-border investment. But the definition of FDI is narrower than that of cross border investment, as the later comprises both foreign direct investment and foreign portfolio investment. Therefore, there is a need to clarify the meaning of FDI.

According to OECD (2008), direct investment is “a category of cross-border investment made by a resident in one economy (the direct investor) with the objective of establishing a lasting interest in an enterprise (the direct investment enterprise) that is resident in an economy other than that of the direct investor. The ownership of at least 10 percent of the equity or voting power by the direct

investor is a necessary condition for an investment to be qualified as a direct investment” (OECD, 2008; pp.10).

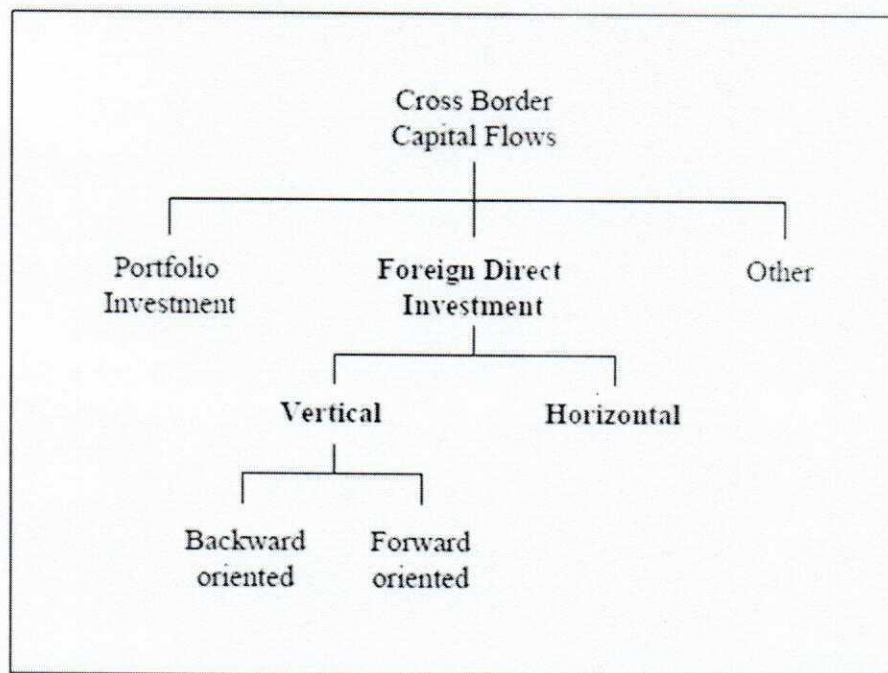
In order to understand the concept more clearly, it is imperative to shed more light on some key words in the definition. Firstly, direct investment is “*a category of cross-border investment*”. This implies that FDI is one of other categories of cross-border investment such as portfolio investment. Secondly, direct investment is “*made by a resident in one economy (direct enterprise)*”. This means that direct investor must be an enterprise whose parent or head office is in a foreign country. For instance, Shell Oil Company has its parent office in the United States of America. Thirdly, direct investment is “*with the objective of “establishing a lasting interest in an enterprise”*”. The focus of the investment is critical in distinguishing direct investment from other categories of investment. For example, the objectives of the direct investor needs to be clearly stated. The disclosure of its objectives is the necessary information required to enable the categorization of the activity of the direct enterprise (OECD, 2008).

Fourthly, the phrase “*establishing a lasting interest in an enterprise (direct investment enterprise)*” is the most crucial one. The “*lasting interest*” implies that for the investment to be characterized as ‘direct’, the direct investor must possess a significant degree of influence or control in the management of the enterprise. The evidence of this lasting interest is shown by the ownership of at least 10 percent of the equity or voting power of the enterprise. Fifthly and finally, “*direct investment involves a resident in an economy other than that of the direct investor*”. This implies that the residence of the direct investment enterprise must be different from that of the direct investor. Thus, a direct investor like Shell Oil Company in the U.S could establish a lasting interest in a direct investment enterprise in Nigeria. The direct investment enterprise could be a branch in which the direct investor owns 100 percent of the enterprise; a subsidiary, in which the direct investor owns more than 50 percent of the equity or voting power; or an associate in which the direct investor holds between 10 percent and 50 percent of the voting power (OECD, 2008). Since a firm becomes multinational by setting up foreign affiliates, the term “*multinational enterprise*” can be used as synonym for foreign direct investment. There are two main reasons for firms to go multinational. First, to serve a foreign market and second, to get lower cost inputs. This distinction is used to differentiate between two main forms of FDI: horizontal and vertical.

(a) Horizontal FDI

Horizontal FDI refers to the foreign manufacturing of products and services similar to those the firm produces in its home market. According to Caves (1971), his type of FDI is called “horizontal” because the multinational duplicates the same activities in different countries. Furthermore, horizontal FDI arises because it is too costly to serve the foreign market by exports due to transportation costs or trade barriers.

Figure 2.1.1. The Structure of International Capital Flows



Source: Adegboye, (2015).

(b) Vertical FDI

This refers to multinationals that splits production process geographically. It is called “vertical” because MNC separates the production chain vertically by outsourcing some production stages abroad. The basic idea behind the analysis of this type of FDI is that a production process consists

of multiple stages with different input requirements. If an input price varies across countries, it becomes profitable for the firm to split the production chain (Caves, 1971).

In the case of backward FDI, multinational enterprise establishes its own supplier of input goods which delivers inputs to the parent company. Conducting forward FDI, the firm builds up a foreign affiliate, which draws inputs from the parent company for own production, thus staying after the parent in the production chain. The author again submit that most FDI Statistics of different countries are recorded by the following international organizations: United Nations Conference on Trade and Development (UNCTAD), Organization for Economic Co-operation and Development (OECD), World Bank, and International Monetary Fund (IMF). However, the major undertakers of FDI are Multinational/transnational corporations (MNCs/MNCs). The activities of MNCs are becoming more relevant in the global economy. The top ten MNCs contribute about one percent of the world GDP. Despite these facts about MNCs, it should be noted that MNCs are not the only carriers of FDI. FDI can occur without any MNC as it simply involves the control of an enterprise in a country by citizens of another country (Caves, 1971). This suggests that ownership of equity is the principal requirement for FDI.

2.1.2 History of FDI in Nigeria

This section focuses on the history of FDI in Nigeria, especially the pre and post-independence era.

(a) Pre-Independence

Nigeria's economic relationship with the global economy existed before independence in 1960. The two main regions, the northern savannas and the southern forest regions had trade relationships with countries within Africa and beyond. However, within Nigeria, there are two major navigable rivers; namely, River Niger and Benue, were the channels in which items of trade were navigated out of the region. The major items of trade in both the northern and southern regions were salt, leather goods, weapons, textiles, and slaves. These were traded by barter for items such as beads, iron, copper, and cowries. Between the sixteenth and nineteenth century, slave trade was the most important economic activity in the region (Falola and Heaton, 2008). This lucrative trade persisted till about 1850 despite its abolition by the British in 1807. With the decline of slave trade in the 1850s, attention was shifted towards "legitimate commerce" which was dominated by the trade in palm products. As a result, different firms originating from Britain, France and Germany began

expanding their operations towards the interior of the region, especially within the major rivers. The colonization of Nigeria by the British was as a result of trading interest. In order to successfully achieve their objectives, they decide to take over the government and territory of Nigeria, by coordinating, managing and controlling the political and economic affairs of Nigeria. Colonization of Nigeria had started since 1861, but the amalgamation of the Nigeria territories occurred in 1914, under the leadership of Frederick Lugard (Falola and Heaton, 2008).

In general, the main activity undertaken by the colonial administration was the exploitation/extraction of Nigeria's agricultural, mineral and human resources. Thus, by assessing the impact of the activities of the foreign firms on the indigenous citizens could be ambiguous as their operations provided employment for the indigenes in both the upstream and downstream sectors on one hand; but led to crowding out of local firms and exploitation through poor wages on the other hand.

(b) Post-Independence Era

Nigeria gained independence from British colonial administration on 1st October, 1960. The policies that were put in place to favour the foreign pioneer firms were still in effect for two years after independence. But in 1962, the liberal policies towards the activities of foreign firms began to shrink. There was a campaign that Nigerians must occupy key positions, the ownership and control of the factors of production (Aremu, 2003). Three regional indigenous universities were established, with significant R&D institutes to enhance the capability of Nigerians in scientific and industrial research and technology (Adeoti, 2002).

The lack of growth in the absolute values of FDI in Nigeria during the 1970s could be attributed to the effects of the indigenization policies. The actual indigenization decree was declared in 1971 under Gowon's administration. The basic aims of the decree were threefold: The first was to increase the opportunities of Nigerian business men; the second was to promote the retention of profits into the economy; and the third promote foreign investment in specific sectors such as intermediate and capital goods production sectors (Ogbuagu, 1983). The benefits of FDI made the National Office of Industrial Property Act of 1979 to enact law with the aim of inspecting imported technology coming into Nigeria under the leadership of General Olusegun Obasanjo. The idea was to narrow the domestic technological gap by channeling imported technology to specific priority

areas (Aremu, 2003). Thus the dynamics of FDI can also be viewed from a policy perspective. The two broad directions of FDI policies are towards liberalization and restriction or control. The most current liberalization acts that confirmed the “open” status of the country toward FDI is the creation of the Nigerian Investment Promotion Commission (NIPC), and the Foreign Exchange Monitoring and Miscellaneous Provision (FEMAMP) in 1995, among others.

2.1.3. Impact of FDI in Manufacturing Sector in Nigeria

The World Bank (2003) concluded that FDI has not had any meaningful impact on the development of Nigeria’s manufacturing sector which was due to the stagnated position of the manufacturing industry over 30 years. During this period, FDI was on a low scale either because it was unwelcome or because general business conditions were uninviting for those foreign investors who remained during the indigenization period. The development in the manufacturing industry in Nigeria depicts foreign affiliate’s progress from simple sales and assembly functions to manufacturing capacity. Also, they seek to enhance their domestic competitive position by product adaptation and development and by encouraging linkages with local suppliers. They progress further by developing an export capability, initially to regional markets and ultimately, in the case of many products, by participating in the global supply chains of their parent groups. The higher the position of foreign affiliates, the stronger and better their contribution to the country’s economic development.

In relation to *export capability*, a recent survey acknowledged that the top non-oil exporters in 2006 (Central Bank of Nigeria, 2008b), of the top 50 exporters, 13 appear to be foreign enterprises, contributing 36 per cent of export value. This is a moderate impact by foreign investors. In Brazil, for example, foreign affiliates accounted for about 50 per cent of national secondary sector exports in 2000 (Central Bank of Brazil 2001). Nevertheless, Nigeria’s manufactured exports performance is very weak. The strongest export industry is leather products (exports in excess of \$160 million in 2005) yet here, foreign investor presence appears to be minor. The footwear and textiles industry has an important foreign presence (up to 50 per cent of the industry may be foreign owned) and has clearly struggled in the last 10 years to retain export competitiveness (despite the potential boost from the United States African Growth and Opportunity Act (AGOA)). The building materials, pulp and paper and chemicals industries have been largely in the hands of State- or

nationally-owned enterprises. This is changing as the most recent round of privatization has been open to foreign investors and foreign acquisitions have taken place (e.g. in cement and aluminum), (UNCTAD, 2005).

Also, in respect to *product adaptation and design*, UNCTAD's interviews with MNCs in Nigeria suggest that, with very few exceptions, their research and development (R&D) operations are typically at the early stages of sophistication. Small departments, responsible for technology transfer or product adaptation to the local market, are maintained in support of main research departments in home countries.

2.1.4. Trends in Industrialisation in Nigeria

Trends in industrialisation in Nigeria will be discussed in the following section which include: the pre and early post-colonial era, and events since the mid-1980s.

(a) The Pre- and Post-Colonial Era

The pre-1900 economy of Nigeria represents the pre-colonial era, which was characterized by considerable craft industries in the various clans and kingdoms. Modern factory activity was then hardly known (Onyemelukwe 1983). The craft industries that featured in this era include: brass and bronze, artifacts of wood, leather, hand-woven textiles and bags, iron workings and fire burnt pottery from local clay. The forest zone, especially in and around the old Benin Kingdom, were known for their wood and bronze workings. The major characteristic of these craft industries was that they featured in the different locations in a close link with the available raw materials. Onyemelukwe (1983) notes that Nigeria has embraced the factory type industrialization as the main solution to her underdevelopment. This growth in manufacturing however witnessed a period of break following the political crisis which culminated in the civil war in the early 1970s. As a part of the reconstruction efforts, the Second National Development Plan, 1970-74, which had the objectives of a united, strong and self-reliant nation. In order to achieve these goals, the government laid down priorities and introduced measures to achieve them. These include reconstructing damaged industrial capacities, the promotion of enlargement of the intermediate and capital good industries in order to raise the contribution of value added in the manufacturing sector, and the promotion of rapid industrial development etc. The situation continued in this manner to the mid-1980s.

(b) Events since mid-1980s

The industrial sector of the Nigerian economy improved over the years. The relative share of manufacturing industry in the GDP increased from 19.8 percent in 1966–1967 to 32.4 percent in 1971–1972 (Teriba and Kayode, 1981) respectively. However, the percentage of local sourcing materials decreased to 46.0 percent by mid-1989. These authors also argued that the percentage of local sourcing of raw materials was high in non-metallic mineral products; food, beverages and tobacco; and textiles, wearing apparels and leather industry groups in descending order, and comparatively low in basic metal, iron and steel and fabricated metal products; motor vehicles and miscellaneous assembly; and electrical/electronic industry groups.

Nevertheless, earlier studies have confirmed that manufacturing activities in Nigeria are concentrated in a few states and primarily in capital cities with ports and major administrative centers (Schatzl 1973; Mabogunje 1973; Adegbola 1983; Onyemelukwe 1978; Ayeni 1981a). Thus, there are spatial disparities in the distribution of industrial establishments. Ajaegbu (1976) has shown four industrial-urban conurbations in Nigeria. These are: Lagos-Ibadan, the Kano – Kaduna – Zaria – Jos, Benin – Sapele – Warri, and Port-Harcourt – Aba – Onitsha – Enugu conurbations. In spite of the successive development plans aimed at even distribution of industrial activities in all parts of Nigeria, industrial activities are still concentrated in a few locations.

2.2 Theoretical Framework

The focus of this section will be the theoretical underpinnings of the empirical exploration of FDI effects at the firm level which originate from the theories of FDI. It will therefore examine Dunning (1993) theory which has become the standard theoretical framework for studies on foreign subsidiaries of MNCs. Also, a detailed overview of this theory and its links to productivity spillovers in manufacturing firms in Nigeria will be discussed.

2.2.1 OLI framework by John Dunning

The core theoretical explanations applied to the study of spillovers from multinationals to host country firms are from industrial organization economics. The different theoretical explanations that developed over time have been integrated by Dunning (1993), in his OLI-paradigm, which eventually has become the standard theoretical framework for analysis of foreign subsidiaries of

multinational corporations (Jutta Gunther 2002; Barz 1998, Autschbach 1997, Klagge 1997). However, the OLI- paradigm was framed as a result of the need to amalgamate the theories of foreign direct investment as previous theories focused on particular directions in their analysis. This was aimed at consolidating the reasons why a firm will decide to engage in FDI. OLI stands for Ownership-Location- Internalization advantages. According to Dunning (1979), a firm will engage in FDI if these three conditions are satisfied.

The explanations is as follows:

- **Ownership (O) Advantages**

Ownership advantages are unique advantages possessed by a firm in relation to its competitors in the foreign market. According to Dunning's theory, FDI will occur when the values of implementing the advantages are higher than its opportunity costs. However, Ownership advantages could be in different forms such as monopoly advantages and the ability of managers to detect and explore resources and potentials globally. Recently, it appears in form of alliance capitalism, which involves combining assets with comparative advantages of a firm and that of its competitors. Nevertheless, Dunning (2000) indicates that the following theories explain the "O" advantages: Product Cycle theory (Vernon, 1966), Industrial organization theories (Hymer, 1960; Caves, 1971, 1974; Dunning, 1958); Internalization theory (Buckley and Casson, 1976; Hennart, 1982).

- **Location (L) advantages**

This explains the advantages of the firms' location. These "L" advantages could be in the form of complementary assets (Dunning, 2001). In fact, the idea of "L" advantages has different views in accordance with disciplines (Dunning, 2000). Economists have investigated the impact of exchange rates on the location of FDI (Cashman 1985; Froot and Stein, 1991; Rajan, 1998). In the 1990s, economists and industrial geographers explored the clustering of economic activity in certain geographic regions (Audretsch 1998; Krugman, 1999; Venebles 1998; Stoper and Scott, 1995).

- **Internalization (I) advantages**

A Firm with ownership advantage would want to invest in a country with location advantage, but the question is: why would the firm choose to engage in foreign investment rather than engaging in other arrangements such as export and licensing. The basic answer to this question was given in various forms of internalization theory. However, firms choose to engage in FDI when organization and transaction costs are higher than internalization of the market itself. These transaction costs are known to rise as imperfections in the market rises (Dunning, 2000). It should be noted at this point that one of the distinctive features of (I) advantages is that it requires (O) and (L) advantages. Dunning (2000) outlines the following theories that explain internalization advantages: Orthodox internalization theory (Caves 1996; Buckley and Casson, 1976; Ghoshal et al. 1997); Efficiency related theories (Caves 1982; Teece 1981; Liu 1998).

Nonetheless, it is important to note that the (OLI) paradigm theory assumes that all the three advantages must be present before foreign direct investment can take place. In other words, all three advantages are necessary but no one is sufficient (Sodersten and Reed, 1994).

2.2.2. Determinants of FDI

The OLI framework led to the classification of FDI into four different types, namely: natural resource seeking FDI, market seeking FDI, efficiency seeking FDI, and strategic asset seeking FDI (Dunning, 1998). Identification of these types of FDI also depicts most empirical literature on the determinants of FDI. The explanation is as follows.

Natural Resource Seeking FDI

Some countries possess natural resources in abundance such as Nigeria with crude oil. In this case, some MNCs often choose to locate subsidiaries in such locations. There are arguably different categories of natural resource seekers which Dunning (2008) classified into three groups. The first group is known as the physical natural resource seekers, (primary production and manufacturing). Africa is known to be a good location for natural resources. This could explain the recent surge in FDI flows to Africa, particularly from China and India (UNCTAD, 2006), where the main attraction of MNCs to Africa is its abundance in natural resources. The second group is known as the cheap and efficient labour seekers. Third group are the seekers of technological know-how,

managerial and organizational skills. This motive usually leads to collaborative alliances between countries and regions.

Marketing Seeking FDI

The motive for FDI could be to invest in a country due to the size/growth potential of its market, or the countries within the same region. This motive that entails seeking for market for goods and services is known as market seeking FDI. It has been noted that most MNCs that engage in this form of investment were previously exporters to the host country, who decided to carry out direct investment due to unfavourable tariffs and other barriers levied on their exports (Nicholas, 1986; Dunning, 2008).

Efficiency Seeking FDI

The motive for FDI could also be to reduce the cost of production or to achieve economies of scale. Due to structural differences among countries, firms are able to take advantage of the favourable factor costs and product prices in order to diversify risk. This type of FDI is known as efficiency seeking FDI, and it generally entails rationalization of the structure of international activities by firms in order to improve efficiency.

Strategic Asset Seeking FDI

In order to protect (O) advantages, firms may acquire or purchase the assets of existing firms. The aim is to strengthen their global competitiveness as part of their long term strategic objectives (Dunning, 2008). Thus strategic seeking FDI involves the pursuit of physical assets, R & D, market knowledge, human capital, etc., to enhance ownership advantages on one hand and subdue those of the competitors (Dunning, 2008). The existence of strategic assets stem from the imperfections of the intermediate product market.

2.2.3 Theory of FDI spillovers in manufacturing sector

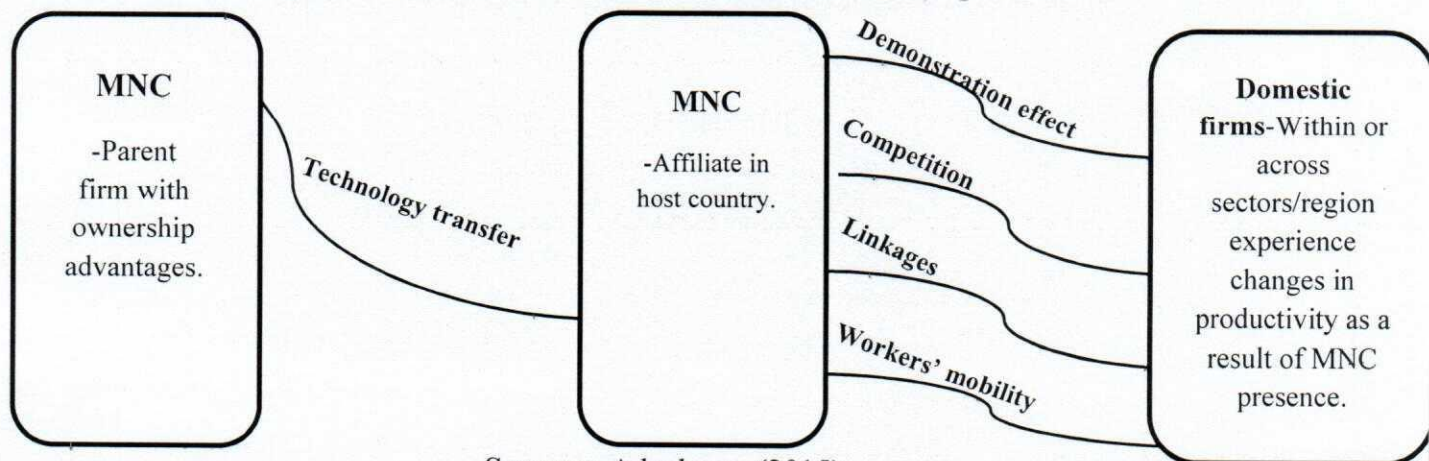
The exploration into the impact of MNCs in host country has increased recently, both in political and economic spheres. The prospective impact of FDI to growth depends strictly on the conditions in recipient countries. Certain host country situation is necessary to facilitate the spillover effects. Several theories on how MNCs generate spillover on domestic firms exist in

literature, and these theories sometimes conflict one another based on the direction of impact on each identified mechanism of spillovers. According to the FDI spillover theory (Hymer 1960; Dunning 1980, 1983), to overcome the disadvantages of operating overseas such as culture, languages barriers and established local business practices, MNCs must possess some firm-specific advantages to survive, for example, technologies and management skills.

The Theoretical literature has identified four mechanisms of productivity spillovers on domestic firms. These mechanisms include; Demonstration effect, competition, linkages and workers turnover/mobility. Technology transfer and technology diffusion are essential in studying FDI spillovers. However, both technology transfer between MNCs and technology diffusion or transfer from MNC to domestic firms, involve costs (Wang and Blomstrom, 1998), but the costs are decreasing with the age of the technology transferred. Mostly, MNCs are assumed to be superior to domestic firms, especially in developing countries (Conyon et al, 2002). It should be noted that spillovers do not occur immediately MNCs commence operation in a host country, as some time is required for the intangible assets brought about through FDI becomes internalized in domestic firms (Globerman, 1979). The speed at which spillovers occur as well as the direction, are dependent on the channel at which it occurs.

Spillover mechanisms can be explained using the four identified mechanisms of productivity spillovers.

Figure 2.2.3: The mechanisms of FDI productivity spillovers.



Sources: Adegboye, (2015).

Figure 2.3 depicts the mechanism of FDI productivity spillovers. From the above diagram, it shows that it starts with technological transfer from parent company (MNC) to the affiliate in host

country. Regardless of the fact that this transfer involves some lags but yet, they are not so difficult. However, the four mechanisms of productivity spillovers on domestic firms are explained as follows.

(a) Demonstration mechanism

Demonstration effect occurs when domestic firms observe and imitate the technological practices of parent MNCs. This process involves cost. MNC affiliate transfers technology to domestic firms through various degrees or combinations of imitation, reverse engineering, and technology adoption. Glass and Saggie (1992) demonstrated how the quality of technology transferred through imitation depends on the technology gap between MNCs and domestic firms. Their model shows that higher incentives to imitate or innovate in host countries increase the quality of technology that home countries transfer to the host country. They also submit that a host country government can therefore attract the art technology by encouraging investment on activities that promote imitation and innovation (such as R&D) through subsidies, and discourage low quality technology usage through taxation.

Therefore, Sawada (2010) extends the work of Glass and Saggie (1992) by arguing that MNCs have means of preventing spillovers while host countries have means of gaining spillovers. Javorcik (2004) points out that the means of avoiding leakages include intellectual property rights protection, trade secrecy, and strategically locating in countries with low absorptive capacities. Desirable host country characteristics such as geographical proximity and absorptive capacity are important mediating factors of demonstration effects channel of technology transfer.

(b) Competition

Kathuria, (2000) widely acknowledge in literature the effect of competition in an industry as a result of MNC presence. Competition can achieve positive spillovers to domestic firms when the MNC goods are close substitutes to domestic firm goods (Barrios and Strobl, 2002). It can also help domestic firms to be motivated to increase efficiency in use of resources in order to increase productivity. On the other hand, the competition brought about by MNC entry can adversely affect domestic firms. The study of negative spillover effect of MNC presence through competition was carried out by Aitken and Harrison (1999). They posit that in the short run, an imperfectly competitive market in a host county with fixed costs of production can experience a fall in demand

for their products on the entry of a foreign firm with lower marginal costs. The fall in demand for products of domestic firms due to foreign entry will result in higher unit cost of production as fixed costs would be borne by a shrinking market. MNCs however are in advantage position, as they are already established with higher capacity to bear the fixed costs than domestic firms (Sembenelli and Siotis, 2008). The resulting effect in such cases would be a fall in productivity of domestic firms and thus negative spillovers from FDI. Aitken and Harrison (1999) refer to this impact of MNC as the “market-stealing effect” of foreign firm entry. Buffie (1993) had earlier indicated that FDI could crowd out domestic firms, resulting in decline in aggregate capital stock of the industry, and as a consequence, a fall in employment of the industry.

In contrast, the negative effect of MNCs entry in the short run can be offset in the long run when domestic firms invest in new technologies in order to maintain market shares, (Blomstrom and Kokko, 1999). Blomstrom, (1986) was also of the view that the firms that exit the industry as a result of MNC entry, are mostly the inefficient firms, thus the exit of some domestic firms increases the efficiency level of the industry.

Therefore, host countries with sufficient absorptive capacities and technological know-how are likely to reap the positive benefits of competition.

(c) Linkages

Linkages are externalities that affect other domestic firms, which occur from the purchase of goods from the supplier or customer. However, in literature, there are two types of linkage spillover; they are the backward and forward linkages. Backward linkages spillover occurs when MNCs generate spillovers which benefit domestic suppliers in the upstream sector while the forward linkages spillover occur when MNCs generate spillovers to domestic customers in the downstream sector. Also, there could be negative effect of backward or forward linkages.

(d) Workers mobility

Workers mobility is the ability of a worker to move from one occupation to another. It can occur in different forms. However, workers mobility in this perspective is a channel of spillovers that occurs when workers from MNCs move to domestic firms or set up their own firms in the host country. It has been confirm with literature evidence that MNCs provides more training than the

domestic firms (Lindsey (1986), Djankov and Hoekman (1998), and Sousa (2001) among other studies show that MNCs provide more training than domestic firms in Kenya, Czech Republic, and UK respectively.

Nonetheless, the knowledge exposed to MNC workers (especially indigenous staff) is an asset that domestic firms in the host country industry would wish to exploit. The movement of local workers from MNCs to local firms therefore offers opportunities for domestic firms to acquire and adopt the knowledge in their operation, thus increase in productivity or efficiency are bound to be the case. Mobility of local workers from MNCs to domestic firms is evident in some studies.

2.3.0 Empirical Evidence

In this section, attempt will be made to explore the empirical literature on Manufacturing Industry and Foreign Direct Investment.

2.3.1 Empirical Evidence on Manufacturing Industry and Foreign Direct Investment.

The manufacturing sector is particularly important in the process of industrialization because of its multi-dimensional benefits to the development process. Nigeria's manufacturing value added (MVA) of an estimated \$3.4 billion in 1985 ranks her as Africa's largest manufacturing economy after Egypt and twelfth among developing countries, (World Bank, 1988). Yet, despite two decades of growth boosted by import substituting policies, Nigeria's manufacturing sector remains heavily import dependent.

According to Chete (1998), a couple of value might also accrue from increased FDI inflow. These comprises of the creation (or expansion) of local industries to supply inputs to the newly established plant; a rise in the total level of domestic demand increasing incomes and, through state revenues, taxation, and the change of labour (including management) skills and technology. Again, Anyanwu (1998), identified the determinants of FDI in Nigeria, they include change in domestic investment, change in domestic output or market size, indigenization policy, and change in openness of the economy as major determinants of FDI. However, he argued that the abolition of indigenization policy in 1995 stimulated FDI inflow into Nigeria and those efforts must be made to raise the nation's economic growth so as to be able to attract more FDI.

Adenikinju and Chete (2002) conducted an empirical analysis of the performance of the Nigerian manufacturing sector over a 30-year period and observed that the sector was performing with satisfactory growth levels from 1970 to 1980. However, after that phase there was a sharp decline in the growth and profitability of the Nigerian manufacturing sector. Especially after 1983, the negative effects of the oil price collapse in the international oil market can be clearly seen on the sector's performance. As a result, the manufacturing sector was badly affected because the manufacturers faced multiple problems when obtaining raw materials and spare parts for their products and processes. Also, there were massive cutbacks in raw materials and spare parts, many of the country's industries were shut down and the capacity utilization in the manufacturing sector declined. For example, between 1977 and 2007, the Nigerian bicycle manufacturing sub-sector recorded a systematic decline in capacity utilization by about a total of 485%; that is, from 948,000 units of bicycles in 1977 to 161,500 units of bicycles in 2007. The share of the manufacturing sector in the total GDP of the country also clearly declined during this era. In 1977 there was a 4% increase recorded in the manufacturing sector share in GDP and this reached the level of 13% in 1981, but after that it declined to less than 10% in just a few years, (MAN, 2008).

The introduction of the Structural Adjustment Programme (SAP) in 1985 was expected to bring an improvement to the situation, but unfortunately no notable improvement was observed. As a result of the low performance in the manufacturing sector, Nigeria is among the more poverty driven nations (Mazumdar, D and Mazaheri, 2003).

Empirically, a number of studies examined the potential of the manufacturing sector in respect of the growth of the economy. For example, Solow (1956) used the growth accounting model in Hong Kong, Korea, Singapore and Taiwan (Four Asian Tigers) established that capital accumulation and the increase in the labour force involvement rate had a relatively minor effect, whereas technological advancement instead accounted for most of the growth in output per capita. More studies have reconfirmed the cogency of these conclusions. This shows that the economies of the "four Asian tigers" have succeeded because they have learned to use technology quicker and more efficiently in their manufacturing sectors than their competitors.

In particular, Sala-i-Martin and Subramanian (2003) argue that Nigeria experienced an increase in manufacturing as the government invested heavily in the sector shortly after the oil boom in the early seventies. However, the problem faced by the manufacturing sector in Nigeria could be the

expansion public sector participation in the sector which is bound to lead to inefficiencies, rather than the negative effect of the appreciation in real exchange rate. Thus the basis for the substantial public investment in the manufacturing sector was rather linked to political reasons which resulted in gross mismanagement of oil revenue (Bevan et al., 1998). Again, Ukaegbu (1998) observes that conducting a complete analysis of the Nigerian manufacturing sector is a complex issue because there is a lack of adequate data about the productivity levels of the Nigerian economy.

In 2000, Adenikinju and Alaba conducted an empirical study which evaluated the Nigerian manufacturing sector's performance with regards to the relationship between productivity, performance and energy consumption within the manufacturing organizations. Utilizing an aggregate model, the researchers measured the changes in the total factor productivity of the sector relative to the change in energy consumption. The study conducted shows that efficiency and productivity of the Nigerian manufacturing organizations are indeed related to the energy supply and energy price. While the energy resources were found to play a critical role in the manufacturing sector though, it was also discovered that the energy source alone cannot effectively improve the performance of the manufacturing sector in Nigeria. An important point identified in the study was that the manufacturing sector is too linked to using old technology and as such, there is a great need for the adoption of more advanced energy-efficient technological devices and techniques and reform of the energy supply.

Nevertheless, Ayanwale (2007) studied the effects of foreign direct investment on the performance of the Nigerian economy and manufacturing sector, and revealed that the country is striving to attract more foreign investors. He also emphasized that while foreign investments in manufacturing could be beneficial to the economy, it is necessary that human resource issues are resolved as well so that the financial resources can be effectively utilized.

In a survey report for the United Nations Industrial Development Organization (UNIDO), Malik et al (2004) discloses that for many years the Nigerian manufacturing sector has been working with mostly unskilled and unqualified labour. Actually, to date, the qualifications and skill level of the sector's workforce is still very low. This is an important issue as it directly affects the quality of the manufactured products in Nigeria.

Mazumdar and Mazaheri (2003) submit that average wages are very low in most of the manufacturing firms in Africa as the owners settle for unskilled labour. This is because highly skilled labourers come with high salaries that the firms cannot afford, thus, they keep on employing unskilled labour on low wages. Though there were employment opportunities in the manufacturing sector, but they did not alleviate poverty levels; while the quality and standard of the labour were stagnant. The researchers suggested that the manufacturing companies must realize the importance of investing in skilled labour so as to run manufacturing processes on updated methods. Also, the overall poverty level could be raised by the stimulation of paying good wages to skilled labourers.

Again, reviewing the current situation of the Nigerian manufacturing sector, it can be concluded that it is mainly made up of a few players. These players are the multinational, national, regional and local manufacturers, investors, and companies. The Nigerian Bureau of Public Enterprises itself identified some of these main barriers that affected, and continue to affect, the growth and development of the Nigerian manufacturing sector. Their reasons include high interest rates, unpredictable government policies, non-implementation of existing policies, ineffective regulatory agencies, infrastructural inadequacies, dumping of cheap products, unfair tariff regime, and low patronage, (Dipak, M, and Ata, 2003).

Nonetheless, Alli (2008) reviewed the more current performance of the Nigerian manufacturing sector by surveying the results of a study conducted in 2007 by the Manufacturers Association of Nigeria (MAN), in which the report submit that the manufacturing sector of Nigeria has faced several challenges with about (10%) of the companies operating at a sustainable level, whereas as much as 60% are going to shut down or have already shut down after facing several series of financial and other kinds of crises.

Notwithstanding, Ojowu (2003), with his analysis of the situation of the Nigerian manufacturing sector, he suggest that capacity utilization is an important issue that must be properly addressed in all discussions and all measures to be taken in the future. The researcher argues that the sector is progressing very slowly due to low capacity utilization. Issues associated with capacity utilization such as capacity decline, capacity expansion and capacity mortality are vital to be looked at in ensuring productivity and efficiency of manufacturing sector in Nigeria. He also argues that the government is not giving enough attention towards the policies related to the manufacturing sector as compared to those of other sectors. To strive with Ojowu's last point, it

will be more productive for the government to concentrate on all sectors in order to ensure uniform sectoral growth and as such improve the country's economic growth and development.

Based on the issue of interest rate and manufacturing productivity, Sundararajan (1987) reported the relations among interest rates, total cost of capital, the debt-equity ratio of firms, savings, investment and growth in the Korean economy during 1963-81. He used a dynamic framework that recognizes the multifaceted interactions among these variables. According to him, a change in the administered interest rate affects the unregulated rate, the total cost of capital, the real interest rates and the debt-equity choice of firms. This thereby sets in indication that a chain of responses influencing the desired level of the capital stock and its profitability, as well as the availability of savings and the consequent speed of adjustment of the actual capital stock to the desired level.

In summary, the literatures on the manufacturing sector could serve as a lesson to the developing countries, so as to know the relevance of human resources and proper management of a vital sector (manufacturing) in ensuring the growth and development of an economy. Thus, there is a tendency for Nigerian firms to rely heavily on expatriates to contribute their superior managerial and technical skills (NISER, 1997).

2.4 Conclusion

The review of relevant literature shows that developing economies appear to often rely on foreign assistance to augment their economic development. It is apparent that the presence of Multinationals Corporations in host economies can be risky, especially in developing economies. As a result, host economies will be able to influence the extent private investments from internationals impact on their economy. Also, these investments should be judiciously directed to areas where comparative advantage exists, so as not to lead to the downfall of the capability of nationals. Lastly, foreign private investments should supplement the production efforts of the labour force in host economies, in terms of skills, technical know-how and wages; but not to erode them by unemployment (for instance unnecessary importation of labour), or provision of asymmetry information or knowledge (that is, the importation of half-hazard skills or partial training) or underemployment (underutilization of nationals or ill-positioning).

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The objective of this study is to investigate the impact of FDI on the manufacturing sector in Nigeria. This section, therefore, explains how the data for the study was collected. This includes the research instruments and data analysis. Research requires the use of data. The quality of data used in a research work, however, goes a long way in determining the validity of the research. Therefore, methodology is a collection of agreed processes, methods and tools to accomplish a research objective.

3.2 Sources and Methods of Data Collection

The data used in this study was sourced from the Central Bank of Nigeria annual statistical bulletin (CBN), Manufacturing Association of Nigeria (MAN), World Bank, academic journals, internets, etc. The implementation of the model made use of macro-economic data covering the time between 1980 and 2013.

3.3 Model Specification

For the purpose of this study, a descriptive and regression analysis was adopted to confirm whether or not FDI has any impact on the manufacturing sector in Nigeria during the 1980-2013 period. Therefore, the Manufacturing Value Added (MVA) was used to proxy the performance in the manufacturing industry. Furthermore, a model specification was conducted and took into consideration the effect of FDI, gross fixed capital formation (GFCF) which was used to proxy total factor productivity, trade openness (TO) and the rate of interest (INT) on MVA. Following the work of Ilyas et al (2010), the model specification proved to be beneficial to this study. Therefore, the model is specified in the following forms:

$$MVA = f(FDI, TFP, TO, INT) \dots\dots\dots 1$$

The stationarity test was computed using the Augmented Dickey Fuller (ADF) test. The equation is as follows;

$$MVA_t = \rho MVA_{t-1} + FDI_{t-1} + TFP_{t-1} + TO_{t-1} + INT_{t-1} + U_t \quad -1 \leq \rho \leq 1 \dots \dots 2 \quad \text{Where}$$

U_t is a white noise error term. This is part of the statistical diagnostic to make sure the result is not spurious.

The following equations are specified in econometric form to estimate the effect of TFP, INT, TO and FDI on MVA. In order to make the model robust and to capture the impact of the lagged values of both the explained and the explanatory variables simultaneously, the researcher adopted Autoregressive-Distributed Lag (ARDL) technique for the regression analysis. This is owing from the fact that the real world is dynamic.

$$\text{The ARDL model is specified as: } \Delta MVA = \beta_0 \sum_{i=1}^q + \beta_{1i} \Delta MVA_{t-i} + \sum_{i=0}^q \beta_{2i} \Delta FDI_{t-i} + \sum_{i=0}^q \beta_{3i} \Delta TFP_{t-i} + \sum_{i=0}^q \beta_{4i} \Delta TO_{t-i} + \sum_{i=0}^q \beta_{5i} \Delta INT_{t-i} + \beta_6 MVA_{t-1} + \beta_7 TFP_{t-1} + \beta_8 TO_{t-1} + \beta_9 INT_{t-1} + \varepsilon_t \dots \dots \dots 3$$

Where Δ is the first-difference operator, q is the optimal lag length, $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 represent short-run dynamics of the model while $\beta_6, \beta_7, \beta_8,$ and β_9 represents the long-run and ε_t is a random error term.

3.4 Identification of Variables

MVA is the manufacturing value added and proxy for manufacturing output

FDI is the foreign direct investment and is proxy for the investment in flow into Nigeria

TFP is the total factor productivity measured by the gross fixed capital formation in Nigeria

TO is the trade openness and measured by the sum export and import as the share of gross domestic product (GDP)

INT is the real interest rate and proxy for the price of investment

ε_t = Error term

3.5 Estimation Techniques

Data gathered was presented and analysed using table distribution and the computer software to run descriptive statistics using Stata 11.1 and the Ordinary Least Square, precisely the multiple regression version using the E-view 7.2 econometric software to estimate the parameters of the equation because it enables the correction of the serial correlation in the data. The model was tested to confirm whether the estimated parameters agree with the apriori expectation which states that FDI will significantly and positively influence the growth of the manufacturing output.

3.5.1 Multiple Regression: Multiple regression analysis of Ordinary Least Square (OLS) is the econometrics technique adopted for this study to reflect the predictive and explanatory nature of the investigation. The OLS was selected for the following reasons.

- a) OLS is an essential component of most other econometrics method.
- b) OLS is fairly simple and the data requirements are not labourious.
- c) OLS is the best linear unbiased estimator having a minimum sum of squares.

3.5.2 Co-efficient of Multiple Determinations (R^2): Here, the adjusted (R^2) was used to test for the goodness of fit. The value of R^2 lies between 0 and 1. The closer the R^2 is to 1, the better the goodness of fit while the closer of the R^2 is to 0, the worse the goodness of fit.

3.5.3 F-Test: this is the test of the overall significant of the entire variables used in the regression model. It was used to denote whether the joint impact of the explanatory (exogenous/independent) variables actually have a significant influence on the dependent variable.

3.5.4 T-Test: this was used to test for the statistical significance of the individual regression co-efficient. When this is done, the computed or calculated ratio (t-cal) was compared with the theoretical, tabulated or critical value (t-tab) with the n-k degree of freedom.

3.6.5 Descriptive Analysis: The summary of statistics such as the mean, median and standard deviation of the data was explored. Again the correlation matrix was also examined to ascertain the pattern of distribution of the data.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.0 Empirical Results

The main objective of this study is to investigate the impact of FDI on the manufacturing sector in Nigeria. This section now presents the data and analysis of findings using econometrics and statistics to describe the basic features of the data used in the study.

4.1 Descriptive Statistics

This focuses on the presentation of descriptive analysis, which are in form of a summary of statistics in table 1. This includes the mean and the standard deviation of the distribution. Also the correlation matrix of the variables were generated. Thus, it was based on the specific objective of investigating the trends of FDI on manufacturing sector in Nigeria. Again, basic inferences were also drawn from the findings of the analysis.

Table 4.1a Summary of Statistics of the variables

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
MVA	34	4.017647	12.02012	-30.9	26.2
FDI	34	3.011765	2.348793	-1.2	10.8
TFP	34	1.42e+10	2.09e+10	2.02e+09	7.55e+10
TO	34	52.52941	15.52561	24	82
INT	34	-1.147059	16.73809	-43.6	25.3

Source: Self computation

Table 4.1a shows the descriptive analysis in terms of the summary of the statistics for all the variables. The means and the standard deviations of the variables are computed as well as their various limits. Firstly, when the values of the mean and standard deviation of manufacturing value added (MVA) was compared, it was revealed that the standard deviation (variance) is higher than

the mean. The implication of this is that manufacturing value added in Nigeria has been mostly unstable during the periods under consideration. This can be attributed to the fall in the output of the sector as a result of a decline in FDI flows into the primary sector (raw material and resource based manufacturing etc.) in the late 80s. Again, FDI flows into the services sector began to increase. World Bank, in 2003 also confirmed the instability in the sector over 30 years.

Nevertheless, FDI which was proxy for the investment inflow into Nigerian economy appears to be very low on the average during the period. This could also be attributed to the political instability, corruption and inconsistency in government policies. This same distribution is shared by other variables.

Table 4.1b: Correlation Matrix of the Distribution

	MVA	FDI	TFP	TO	INT
MVA	1.0000				
FDI	0.0736	1.0000			
TFP	-0.3068	0.3350	1.0000		
TO	0.0547	0.3487	-0.2319	1.0000	
INT	-0.2085	-0.0375	0.0030	0.2017	1.0000

Source: Self computation

Table 4.1b presents the correlation and covariance nature of the variables used in the model. On the whole, there appears to be more of positive correlation among all the variables than negative correlations. Nonetheless, there are some negative correlations noticed in the table. For example manufacturing value added (MVA) and foreign direct investment (FDI) revealed relatively positive correlation which is of less significance. Trade openness (TO) have a positive correlation with manufacturing value added (MVA).

On the other hand, the rate of interest has a negative correlation with manufacturing value added (MVA). This is justifiable because increase in the price of investment (INT) will lead to a decline

in investment inflows (FDI) and in turn, reduce the sectoral output. Again, TFP has a negative correlation with MVA.

4.2 Unit Root Test (Augmented Dickey Fuller Test)

In autoregressive time series models, the existence of unit root causes a violation of the assumptions of classical linear regressions. A unit root means that the observed time series is not stationary. When non-stationary time series are used in a regression model, significant relationships may be obtained from unrelated variables. This phenomenon is known as spurious regression. Therefore, Table 4.2 was analysed using the Unit Root Test (Augmented Dickey Fuller Test), to examine whether a time series variable is stationary or not. Below is the result of the unit root test.

Table 4.2: Result of Unit Root Test (Augmented Dickey Fuller Test)

Variables	t-Statistic	Probability	Level of Significance	Level of Integration
FDI	-3.7236	0.0082	1%	I (0)
INT	-5.9200	0.0000	1%	I (0)
MVA	-4.3911	0.0018	1%	I (1)
TO	-7.8923	0.0000	1%	I (1)
LNTP	-3.9021	0.0051	1%	I (1)

Source: Self computation

Table 4.2 above shows that FDI is stationary at level and is significant at 1%. This is because probability value is less than 1%, 5% and 10% (0.0082). Again, INT is integrated of order zero, since the probability value is less than 1% (0.0000).

On the other hand, MVA is stationary at first difference and is significant at 1%. This is justified because the probability value is less than 1% (0.0018). In the same vein, TO is stationary at first difference and is significant at 1%. This can also be seen in table 4.2 above, as probability value is less than 1% (0.0000). Finally, LNTP is integrated of order 1 and this result is significant at 1%. This is because the probability value is less than 1%.

4.3 Regression Analysis (Ordinary Least Square Method)

Generally, regression analysis is mostly used for predictions and forecasting. The OLS estimating technique was adopted, precisely the multiple regression version. Again, regression analysis helps to understand how the typical value of the dependent variable changes when any one of the independent variables is varied, while the other independent variables are held constant. In order to make the model robust and to capture the impact of the lagged values of both the explained and the explanatory variables simultaneously, the researcher adopted Autoregressive-Distributed Lag (ARDL) technique for the regression analysis. Below are the result of the regression.

Table 4.3 Regression Result (Ordinary Least Square Method)

DMVA(-1)	0.343769	0.175025	1.964112	0.0671
TFP(-1)	-2.15E-10	2.36E-10	-0.908414	0.3771
TO(-1)	-0.411887	0.210366	-1.957952	0.0679
INT(-1)	-0.108176	0.164522	-0.657520	0.5202
FDI(-1)	-1.240958	0.979796	-1.266548	0.0234
Adjusted R-squared	0.533909	S.D. dependent variable	11.16848	
S.E. of regression	7.624814	Akaike info criterion	7.205418	
Sum squared residual	930.2047	Schwarz criterion	7.859310	
Log likelihood	-94.08127	Hannan-Quinn criterion	7.414603	
F-statistic	3.555358	Durbin-Watson statistic	2.164610	
Probability (F-statistic)	0.009259			

Source: Self computation

Table 4.3 shows the regression result of the independent variables impacts on the dependent variable. The result shows that the lag of the first difference of the Manufacturing Value Added is positively related with the first difference of the Manufacturing Value Added. This means that one year of DMVA (-1) accounts to a large extent the changes in the DMVA (Dependent variable). Hence, a unit increase in DMVA (-1), increases DMVA by 0.34 unit, holding other variables constant. This result is significant at 10% (0.0671).

Total Productivity (TFP) on the other hand has an inverse relationship with DMVA. This means that a unit increase in TFP reduces DMVA by 2.15×10^{-10} . This result is not significant at 10%. This might be as the result of the fact that the total factor productivity in the economy is accounted more by oil and agricultural export. Again, Ukaegbu (1998) contend that conducting a complete analysis of the Nigerian manufacturing sector is a complex issue because there is a lack of adequate data about the productivity levels of the Nigerian economy.

Trade Openness (TO), is negatively related to DMVA. This means that 1 unit increase in TO, DMVA falls by 0.41 units. This connote that the more Nigeria open-up her economy, the manufacturing value added falls. This might be because Nigeria is an import-dependent country. So runs trade deficit especially as regards manufactured goods. This result is significant at 10%.

Also, Interest Rate (INT) has a negative relationship with DMVA. This is shown in the regression result as a unit increase in INT results to 0.11 unit fall in DMVA. The above finding is in line with *apriori* expectation, which states that as interest rate increases, funds for investment becomes expensive to acquire and as a result investment falls leading to fall in DMVA. Unfortunately, FDI is inversely related with DMVA. Meaning that a unit increase in the flow of FDI, leads to 1.24 unit decrease in DMVA. This is because FDI in most cases comes in form of services; security, construction, telecommunication, education, health, mining and agriculture. This result supports the work of Hadad (1993), Aitken and Harrison (1995), Zukowska – Gagelmann (2002) among others which revealed minor or negative spillover effects of foreign direct investment in the performance of domestic firms and is significant at 5% and 10% levels.

Further investigation from table 4.3 shows that the R-Squared (R^2) is highly robust at 0.7428. This shows that over 70% of the variation in the dependent variable is explained by the independent variables in the model. Only less than 30% are captured by the error term. Again, the good of Fit

of the model as shown by the probability value of the F-statistic is very good at probability (F-Statistic) 0.0093. This is because probability (F-Statistic) value (0.0093) is less than 1%.

Finally, the Durbin-Watson, which is a second order of econometric test shows the absence of first order serial-correlation. Meaning that the independent variables does not have perfect correlation with the error term.

4.4 Pairwise Granger Causality Test

The Pairwise Granger causality test is a statistical test for determining whether one time series is useful in forecasting another. Granger causality relationship is defined based on two principles. Firstly, the cause that happens prior its effect and secondly, the cause has a unique information about the future values of its effect.

Table 4.4: Granger Causality Test Result

MVA does not Granger Cause FDI	30	0.01705	0.9831
FDI does not Granger Cause MVA		1.75132	0.1942

Source: Self computation using E-view 7.2

Table 4.4 shows the Granger causality test result, which examines the direction of the causality between two paired variables. This result shows that MVA does not Granger cause FDI and FDI does not Granger cause DMVA. This is in line with the findings in table 4.3.

On the other hand, there is uni-directional causality between TP and MVA, running from TP to MVA. The other results are presented in the Appendix.

4.5 Research Findings

- Based on the above analysis, the findings show that the one year lagged value of DMVA is directly related to changes in the DMVA; i.e. DMVA (-1) accounts, to a large extent, changes in DMVA.
- The findings also reveal that FDI does not Granger Cause MVA. This could result from the fact that FDI comes mainly in the form of services.
- Again, in the correlation matrix, it was revealed that FDI has little or no impact on MVA. The regression result also showed a negative relationship between FDI and MVA. This could be resulting from the fact that FDI comes mainly in the form of services; security, transport, automobile assembly, power generation, construction, mining etc.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The summary of any study is an overview of the content that provides a reader with the overarching theme, but does not expand on the specific details. Therefore, the main objective of this study has been to investigate the impact of FDI on the manufacturing sector in Nigeria. Chapter One of the study presented the introduction while Chapter Two reviewed relevant and authentic academic references. This was done in order to provide the study with theoretical foundation. Chapter Three presented the methods utilised for the data collection process. Chapter Four presented and analysed the study findings. The present chapter, therefore, presents the summary, conclusion and recommendation to the study.

FDI is known as an investment made to acquire lasting interest in enterprises operating outside of the economy of the investor. The manufacturing sector is the establishments engaged in the mechanical, physical, or chemical transformation of materials, or components into new products. This is why improvements in economic policies are needed to augment macroeconomic performance, hence an increase in investment is critical to the attainment of sustained growth and development in the country.

However, Nigeria as a country, given her natural resources base and large market size qualifies to be a major recipient of FDI in her manufacturing sector and Africa at large. The focus on FDI is not without justifications because unlike loans, FDI can bring development capital without repayment commitments and also FDI is far more than mere capital: it is uniquely potent bundle of capital, contacts, managerial and technological knowledge with potential spillover benefits for host country firms. Nigeria's economic relationship with the global economy existed before the independence of the country in 1960. With the decline of slave trade in the 1850s, attention was shifted towards "legitimate commerce" which was dominated by the trade in palm products. Also, the colonization of Nigeria by the British was as a result of trading interest, resulting to the economy of the country being managed by minimum number of Nigerian indigenes. This led to a campaign that Nigerians must occupy key positions, the ownership and control of the factors of production (Aremu, 2003). Three regional indigenous universities were established, with

significant R&D institutes to enhance the capability of Nigerians in scientific and industrial research and technology (Adeoti, 2002) and FDI policies towards liberalization and restriction or control.

The manufacturing sector in Nigeria remains heavily import dependent. Adenikinju and Chete (2002) contend that the sector perform at satisfactory growth levels from 1970 to 1980 and after that time there was a sharp decline in the growth and profitability of the sector, especially the oil price collapse in the international oil market in 1983. In 2000, Adenikinju and Alaba, also conducted an empirical study which evaluated the Nigerian manufacturing sector's performance with regards to the relationship between productivity, performance and energy consumption within the manufacturing organizations. Their results show that efficiency and productivity of the sector are related to the energy supply and energy price. An important point identified in the study was that the manufacturing sector is closely related to old technology and as such, there is a need for the adoption of more advanced energy-efficient technological devices, techniques and reform of the energy supply. Again, Mazumdar and Mazaheri (2003) submit that average wages are low in most of the manufacturing firms in Africa as the owners settle for unskilled labour. Though there were employment opportunities in the manufacturing sector, but they did not bring about a reduction in poverty levels; while the quality and standard of the labour were stagnant.

The OLI framework which was one of the theories adopted, which classified FDI into four different types, namely: Natural Resource, Marketing, Efficiency, and Strategic Asset Seeking FDI. Identification of these types of FDI also depicts most empirical literature on the determinants of FDI. Again, the exploration into the impact of MNCs in host country has increased recently, both in political and economic spheres. Several theories on how MNCs generate spillover on domestic firms exist in literature, and these theories sometimes conflict one another based on the direction of impact on each identified mechanism of spillovers. Theoretical literature has identified four mechanisms of productivity spillovers on domestic firms. These mechanisms include; demonstration effect, competition, linkages and workers turnover/mobility. Technology transfer and technology diffusion are essential in studying FDI spillovers. However, both technology transfer between MNCs and technology diffusion or transfer from MNC to domestic firms, involve costs (Wang and Blomstrom, 1998), but the costs are decreasing with the age of the technology transferred. It should be noted that spillovers do not occur immediately MNCs commence

operation in a host country, as some time is required for the intangible assets brought about through FDI becomes internalized in domestic firms (Globerman, 1979). The speed at which spillovers occur as well as the direction, are dependent on the mechanism at which it occurs. The mechanism of FDI productivity spillover starts with technological transfer from parent company (MNC) to the affiliate in host countries. Regardless of the fact that this transfer involves some lags but yet, they are not so difficult.

Nonetheless, the dream of any nation that wishes to make progress is to attract investment to help in developing its economy through efficient manufacturing of goods and provision of services. The manufacturing sector in Nigerian is almost at the verge of collapse with serious implications for its entire workforce who may likely be thrown out of jobs. Also, Nigeria has been a dumping ground for all kinds of foreign products because of the low preference for locally produced goods. Therefore, this has led to controversies on whether or not FDI provides the ground for development. The limitations of Nigeria manufacturing sector includes inconsistency in government policies and other social vices such as corruption, insecurity, and political instability.

Given the volatility of aid flows, the low share of the country in the world trade and the high instability of short- term capital flows including the low savings rate of the country, the desired increase in investment must be achieved through an increase in FDI flows at least in the short – run (De Gregorio, 2003).

From the methodological section, descriptive statistics were used to test the correlation and variance nature of the variables. The unit root test, using ADF was also used to ensure that the times series data were stationary at level. Nevertheless, in order to make the model robust, the Autoregressive Distributed Lagged (ARDL) model was adopted to run the regression analysis, in order to ascertain if FDI has impact on the manufacturing sector in Nigeria or not, within the study period of 1980 and 2013. Therefore, the Manufacturing Value Added (MVA) was used to proxy the performance in the manufacturing industry. Further, a model specification was done which takes into consideration the effect of FDI, total factor productivity (TFP), trade openness (TO) and rate of interest (INT) on MVA. Following the work of Ilyas et al (2010), the model specification is beneficial to the study.

The findings revealed that FDI is inversely related to DMVA in Nigeria. This could result from the fact that FDI comes mainly in the form of services; security, transport, automobile assembly, power generation, construction, mining etc. Again, DMVA does not Granger cause FDI and FDI does not Granger cause DMVA, which also results from the fact that FDI comes mainly in the form of services.

5.2 Conclusion

The objective of this study has been to investigate the impact of FDI on the manufacturing sector in Nigeria. In order to achieve the objective, several tests were carried out using statistics and econometrics to describe the basic features of the data used in the study, among which are the Augmented Dickey-Fuller, Granger causality test and descriptive analysis. The result of the tests revealed that there is poor performance of the manufacturing sector which are caused by the trend of the independent variables, especially the trends of FDI flows into the sector. The researcher tried using bounds test in carrying out the empirical research but due to some technical issues, the use of bound test in ascertaining the cointegration of the variables but it was not feasible. This made the researcher to call on other researchers who has strong interest in this area to re-investigate the long-run relationship between this two variables using bounds test approach.

Therefore, it can be concluded from the findings that FDI has an inverse (negative) relationship with the manufacturing sector in Nigeria, evidence from the Nigerian data used during the study period, and this confirms that the business environment is not conducive enough for the manufacturing sector to increase and contribute significantly to economic growth of the country. The insignificant contribution of FDI to the manufacturing sector is evidence of the fact that FDI in the manufacturing sector are mainly in form of services, inconsistency in government policies and other social vices. Aitken and Harrison (1999), contend that there is “market-stealing effect” of foreign firm entry, which can lead to low productivity and a decline in employment of an industry. Finally, this finding is consistent with those of Aitken and Harrison (1995), Hadad (1993), Zukowska – Gagelmann (2002), Akintoye (2009), among others which revealed insignificant or even negative spillover effects of foreign direct investment in the manufacturing sector.

5.3 Recommendation

Recommendations emanating from any study are suggestions as per the best course of action that could be embarked upon to ensure growth and development in the manufacturing sector, especially in the economy at large. As a result of the findings of this study, the following recommendations are made.

- The imbalance in the manufacturing sector could be rectified by ensuring that FDI are not only in form of services but also in the manufacture of finished goods.
- Again, technological policy aimed at developing local engineering industry should be formulated, so as to build the manufacturing capacity of the sector in the country.
- The negative effect of MNCs entry in the short-run could be offset in the long run when domestic firms invest in new technologies in order to maintain market shares, (Blomstrom and Kokko, 1999). The negative effect could also be amended by the provision of an enabling environment for the sector to thrive and contribute significantly to economic growth of the country, and also through consistency in government policies, high level of security and political stability.
- Investments should be judiciously directed to areas where comparative advantage exists. This will ensure that capacity utilization is maximized.
- Finally, there is a need for human resource development in the country. This is essential, in order to enable the manufacturing workforce contribute significantly to the economic growth wherever they find themselves employed, either in foreign or domestic firms.

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APPENDIX

Dependent Variable: MVA
 Method: Least Squares
 Date: 06/01/15 Time: 07:23
 Sample (adjusted): 1982 2013
 Included observations: 32 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	-0.236278	0.872212	-0.270895	0.7885
INT_R	0.106582	0.106470	1.001050	0.3257
TFP_GFCF_	2.14E-10	8.77E-11	2.440222	0.0215
TO	0.080092	0.123418	0.648950	0.5219
C	-1.492050	6.849127	-0.217845	0.8292
R-squared	0.232567	Mean dependent var		4.828125
Adjusted R-squared	0.118874	S.D. dependent var		10.54484
S.E. of regression	9.898267	Akaike info criterion		7.565197
Sum squared resid	2645.343	Schwarz criterion		7.794219
Log likelihood	-116.0432	Hannan-Quinn criter.		7.641111
F-statistic	2.045562	Durbin-Watson stat		2.008473
Prob(F-statistic)	0.116147			

TABLE 2: REGRESSION RESULT

Dependent Variable: DMVA
 Method: Least Squares
 Date: 06/01/15 Time: 08:41
 Sample (adjusted): 1984 2013
 Included observations: 30 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
DMVA(-1)	0.343769	0.175025	1.964112	0.0671
TP(-1)	-2.15E-10	2.36E-10	-0.908414	0.3771
TO(-1)	-0.411887	0.210366	-1.957952	0.0679
INT(-1)	-0.108176	0.164522	-0.657520	0.5202
FDI(-1)	-1.240958	0.979796	-1.266548	0.0234
D(TO(-1))	0.177012	0.167477	1.056931	0.3062
D(FDI(-1))	0.835325	0.883259	0.945731	0.3584
ECT(-1)	-1.495920	0.295094	-5.069295	0.0001
@TREND	0.791196	0.483133	1.637635	0.1210
R-squared	0.742847	Mean dependent var		1.756667
Adjusted R-squared	0.533909	S.D. dependent var		11.16848
S.E. of regression	7.624814	Akaike info criterion		7.205418
Sum squared resid	930.2047	Schwarz criterion		7.859310
Log likelihood	-94.08127	Hannan-Quinn criter.		7.414603

F-statistic	3.555358	Durbin-Watson stat	2.164610
Prob(F-statistic)	0.009259		

Source: By Author

TABLE III- GRANGER CAUSALITY TEST

Pairwise Granger Causality Tests
 Date: 06/01/15 Time: 10:49
 Sample: 1980 2013
 Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
INT does not Granger Cause FDI	32	1.06208	0.3597
FDI does not Granger Cause INT		0.80550	0.4573
MVA does not Granger Cause FDI	30	0.01705	0.9831
FDI does not Granger Cause MVA		1.75132	0.1942
TO does not Granger Cause FDI	32	0.66664	0.5217
FDI does not Granger Cause TO		1.82212	0.1810
TP does not Granger Cause FDI	31	0.80030	0.4600
FDI does not Granger Cause TP		0.89450	0.4210
MVA does not Granger Cause INT	30	0.07073	0.9319
INT does not Granger Cause MVA		0.15306	0.8589
TO does not Granger Cause INT	32	2.21919	0.1281
INT does not Granger Cause TO		1.89909	0.1692
TP does not Granger Cause INT	31	0.35225	0.7064
INT does not Granger Cause TP		1.49109	0.2438
TO does not Granger Cause MVA	30	0.15414	0.8580
MVA does not Granger Cause TO		0.12069	0.8868
TP does not Granger Cause MVA	30	4.64985	0.0192
MVA does not Granger Cause TP		0.49016	0.6183
TP does not Granger Cause TO	31	3.14730	0.0597
TO does not Granger Cause TP		0.58296	0.5654

_____ (R)
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.*(6 variables, 34 observations pasted into data editor)

Summary of mva fdi tfpgfcf to intr

Variable	Obs	Mean	Std. Dev.	Min	Max
mva	34	4.017647	12.02012	-30.9	26.2
fdi	34	3.011765	2.348793	-1.2	10.8
tfpgfcf	34	1.42e+10	2.09e+10	2.02e+09	7.55e+10
to	34	52.52941	15.52561	24	82
intr	34	-1.147059	16.73809	-43.6	25.3