



## The Impact of the Global Economic Meltdown on the Manufacturing Sector in Nigeria (2005 – 2009)

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### Article History

Received: 9 April, 2021

Revised: 11 May, 2021

Accepted: 29 May, 2021

Published: 2 June, 2021

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### Abstract

As several opinions and suggestions were made on the effect of the global economic meltdown on the Nigerian economy, however, few of these studies explored the impact of the crisis on the manufacturing sector of the economy. In this study, the effort is to provide empirical evidence of the impact on the sector. To achieve this, cross-sectional and time-series data were randomly collected from thirty-one (31) quoted firms across different sectors of the manufacturing sector and for a period of five years (2005-2009). A panel model analysis was employed as the estimating technique; it was considered as the most appropriate for the study. The objectives stated in the study were achieved, as the empirical findings revealed that the global economic meltdown had an impact on the Nigerian manufacturing sector. More so, the impact was negative on the sector and on its profitability all through the periods considered, as the impact was more severe in the year 2007. It was also revealed that profitability across the manufacturing firms in Nigeria is time-variant and cross sectionals variant. Finally, a set of policy recommendations were made as a result of the findings, in order to recognize the role of the manufacturing sector as the engine of growth, whose performance is crucial for economic dependency and transformation, these policies are to help in repositioning the sector from the bad state it was before and after the period of global economic crisis to an encouraging state: The sector need to have a strategic framework for industrial development that is domesticated, emphasis should be made on local sourcing of raw materials and technology so as to save guard the economy from the future severe impact of foreign economic shock, Government should ensure tight effective border control, power generation, transmission, and distribution should be improved, bailout funds and adequate credit should be made available. These and others, if carefully implemented, the manufacturing sector will be able to yield a positive result, possible as the driver of the economy by creating wealth, employment generation and economic prosperity.

**Keywords:** Global economic meltdown; Manufacturing sector; Nigeria; Panel model; Profitability.

### 1. Introduction

The crisis that started in the United States in mid-2007 since became a major concern for political leaders, economists, and managers of financial institutions around the globe as its impact has gone beyond the borders of the United States. Analysts noted its numerous causes, including excessive corrupt practices, particularly the ‘Sub-prime mortgage lending’ that led to high mortgage default and delinquency rates in the United States, the “hands-off approach to regulation” of George W. Bush (or greed and unregulated capitalism), massive funding of the “war on terrorism,” and erroneous belief that “free market” principle was perfect, fair and efficient ([The New York Times, 2008](#)). Also, observed by others that ‘financial instability’ was caused largely by inconsistent monetary and fiscal policy, politicians spending and borrowing excessively, inconsistent and unsustainable macro-economic policy, weak financial systems and institutions, and poor structure of international financial markets ([Eichengreen, 2004](#))

In the wake of the crisis, which began in the US as what was known as the Subprime Debacle; Nigerians’ fears were allayed with a promise that Nigeria was immune to the crisis. When the economic meltdown started, former governor of the Central Bank of Nigeria (CBN), Prof. Chukwuma Soludo, assured Nigerians that our economy and that of the banking or financial sectors were immune to the crisis. Maybe, the reason for the assuring statement that Nigeria’s economy was untouchable could be deduced from the fact that our economy has been on its knees for over a decade. The impact of the global economic crisis manifested first in the Nigerian Stock Market from March to December 2008, wiping away about 40.0 % and 45.0% of the market capitalization and value index, respectively. Between March 2008 and January 2009, the market capitalization nosedived from an all-time high of N13.5tn to less than N4.6tn. The All-Share Index also plummeted from about 66,000 basis points to less than 22,000 points in the same period. The stock prices experienced a “free-for-all” downward movement regime with more than 60 per cent

of slightly above 300 quoted securities on constant offer (supply exceeding demand) on a continuous basis (Sunday, 2010).

The withdrawal of the foreign investor from the market did not also help matters as their departure led to the dumping of shares. It also exacerbated the demand pressure at the foreign exchange market, arising from divestment and the repatriation of capital and dividend by foreign investor. Some lines of foreign credit enjoyed by Nigerian banks were called in, precipitating a high demand on available scarce foreign exchange. Shocked by the development, the then Director-General of the NSE, Prof. Ndi Okereke-Onyiuke (now former), revealed that available statistics showed purchase by foreign investors in 2008 to be in excess of N150.13bn, representing 6.3 per cent of the aggregate turnover. This was a decline when compared with the N256bn recorded in 2007. Concurrently, total sales during the year were in excess of N556.93bn, culminating in a net outflow of about N406.8bn (The Nigerian Stock Exchange NSE, 2009).

As reported by Bimbola (2010) of prince business, April 19, 2010, the President of MAN, Alhaji Bashir Borodo, described the manufacturing sector as one of the most sectors that were under the “heavy weight of this crisis” in Nigeria. He said the diverse problems facing the sector under the meltdown had further deepened its competitive disadvantage in the global market. He added, “The financial meltdown and its derivatives of money market is a great threat to the already depressed manufacturing capacity utilization, with the rising production cost and declining consumers’ disposable income. The nation’s manufacturing sector had been witnessing steady decline over the years, the sector was already melting before the global economic meltdown. What was the state of infrastructure, power supply, security, access to and cost of fund, educational system etc. before the meltdown? The pullout of industries from Nigeria to neighboring Ghana to operate, the closure of textile industries and partially operating ones who can hardly meet up with their operating cost, describes the poor state of the sector before the crisis. There have been steady job losses, Mokikan (2009) while the manufacturing sector in 2002, generated 2,841,083 jobs, from 2003, employment generation declined to 2,716,244 in 2004, fell to 1,172,410 in 2005, 1,043,982 in 2006, to 1,005,861 and in 2007, 1,027, 799. The Nigerian manufacturing sector lost 2million jobs in 5years (Victor, 2009). The biting effect of the global economic meltdown on the Nigerian economy and its implications on employment has been very devastating also. The economic downward spiral again exposed the nation’s weak economic foundation. The manufacturing sector accounted for about 4%, in 2008 while agriculture that has been neglected contributed 40% of the total GDP. The future of the Nigerian economy hinge in the development of the manufacturing sector.

Nigeria has only some 5 per cent of its GDP coming from manufacturing, which is low among the countries of Africa compared to the 20 per cent levels for South Africa and Mauritius (Soderbom and Teal, 2002). Some studies have investigated investment behavior and productivity in the manufacturing sector, such as Soderbom and Teal (2002), Banjoko (2009) and (Anuforo, 2010). The manufacturing sector of Nigeria has degenerated to a deplorable level as most of the manufacturing companies have been converted to warehouses for refilling and packaging of finished imported goods, symbolizing a virtual collapse of the sector in Nigeria. Banjoko (2009) admits that the Nigerian manufacturing sector is in a big crisis. He noted that the problems and challenges facing the companies in the sector are identical, emphasizing that the nature and magnitude of such problems have been compounded as a result of the recession. As the problems confronting the manufacturing sector of Nigeria still lingers, it might not be surprising that the global economic situation has compounded the problems. The problem of how the manufacturing companies in the country are faring when the economy is striving to get out of the crisis, nonetheless, is a critical policy question. In the context of recent economic slowdown at global level and its impact, there are no empirical works available as yet revealing its effect on Nigeria’s manufacturing companies and its situation. With current a vision to join the top twenty industrialized club by 2020 and the current global economic crisis one seek to review the condition of manufacturing sector. The trend started long before the global economic meltdown, unfortunately there was nothing to suggest that the trend will be arrested and reversed.

The pertinent question was how far was the manufacturing sector in Nigeria been able to perform effectively their functions in the face of global financial crisis? This paper therefore examined the impact of the global financial crisis on the manufacturing sector in Nigeria as the broad objective by determine the extent to which the economic meltdown affected the profitability of individual manufacturing companies and it examined the impact of the economic meltdown on the profit function in the manufacturing sector.

## 2. Literature Review

The nature and magnitude of the crisis in Nigerian manufacturing sector would be better appreciated with an analysis of the structure of the Nigerian manufacturing sector. The Nigerian manufacturing sector was characterized by high geographical concentration, high production costs, low value-added, serious capacity under-utilization; high import content of industrial output and low level of foreign investment in manufacturing.

The manufacturing profile in Nigeria has undergone erratic evolutions over the years. As a means of giving credence to this, throughout most of the post-independence era, especially the early independence years, Nigeria pursued an industrialization strategy based on import substitution. However, since the late 1960s the Nigerian economy has been based mainly on the petroleum industry. The initial introduction of the import substitution strategy appeared to work relatively well, with the share of manufacturing to GDP increasing from 2 per cent in 1957 to 7 per cent in 1967 (Soderbom and Teal, 2002).

Aside these, the Nigerian manufacturing companies are fraught with other challenges in spite of its immense opportunities, such as availability of raw materials and man power (even though there is poor technical know-how). But the complex business environment, slow decision making process, and customer preference for low cost

solutions regardless of the performance makes it difficult to accentuate these difficulties the manufacturing companies.

The Nigerian textile industry which used to be vibrant and, in fact, the second largest employer of labour (after the government) is presently at the verge of collapse, it has become the shadow of itself. "The garment sector, which has been the source of labour intensive exports in other countries, uses by far the most labour intensive technology across all the sectors. The firms in this sector are also relatively efficient and more oriented to exporting than other sectors. However, in Nigeria the average propensity to export even in this sector is very low" (Soderbom and Teal, 2002).

Anuforo (2010) said "the profile of the Nigerian textile and apparel exports to the United States showed that Nigeria only pegged as twenty fifth among the forty-one countries of Africa due to the fact that most textile industries have been closed down because of high cost of production". Banjoko (2009), reports that the total staff strength of the industry which stood at 200,000 in 1985 has dwindled to 24,000 as at year 2008. The number of textile industries that peaked at 175 in 1985 has reduced to 25 by 2008. Apart from the general factors that militate against business in Nigeria, the major cause of the near collapse of the textile industry is the unrestricted influx of cheap and counterfeit textiles through smuggling. It is estimated that about 80 percent of textiles available in Nigerian markets are smuggled in through our land borders. According to a media publication, despite the bans placed on importation of textile materials, majority of textile firms' owner in the past bring over N19 billion worth of fabrics and textile from Dubai alone yearly. The influx of cheap and relatively cheap textiles from China has also driven many indigenous manufacturers of textiles out of market. An example of a victim is the United Nigerian Textile Limited (UNTL), Kaduna which was forced to close down in September 2007.

In the work of Soderbom and Teal (2002), the aggregate statistics for the Nigerian macro economy and its manufacturing sector show that the 1990s was a relatively static period. The end of the decade witnessed moderate economic recovery and growth in the manufacturing sector despite a certain degree of macroeconomic instability. At the end of the 1990s Nigerian per capita value-added in manufacturing was very low at approximately USD 13, which corresponds to about 10 per cent of the level of Botswana and less than 50 per cent of that of Ghana and Kenya. He found that the average capacity utilization rate in Nigeria is about 44 per cent. There is a positive association between firm size and capacity utilization. Capacity utilization is highest in the food sector and lowest in the chemicals sector.

The research of (Obadan and Odusola, 2006) showed that productivity between 1973 and 1996 varied across the sectors. Though agricultural productivity was at its lowest ebb during the period, it however increased marginally from 2.02 to 2.11 in 1983. Productivity in both the industrial and services sectors consistently declined during the period. For instance, they declined at an annual average of 8.02 and 2.40 percent for industry and services, respectively. In spite of the improvement in real GDP between 1993 and 1996, the political upheavals experienced during the period seriously affected the overall productivity. Thus, the rate of productivity decline fluctuated between 0.24 and 2.03 during 1993-95 periods. The rates of decline were much more pronounced in the industrial and services sectors than the agricultural sector.

Available data from the Manufacturers' Association of Nigeria (NAM) showed a downward trend in the manufacturing sector, especially in the last few years. Ogidan and Okere (2010), noted that although the provisional GDP growth rate for the third quarter of last year, according to the National Bureau of Statistics, was estimated at 7.58 per cent, the real sector's performance never reflected these rosy statistics. "The real sector operators bore the brunt or the economic mismanagement, describing the sector's performance as woeful". The unfavorable business atmosphere, occasioned by dilapidated infrastructure, erratic power supply, and multiple taxation, among others, forced many manufacturing industries to relocate to neighboring countries in the last few years. Recounting some of the reasons that led some industrialists to seek refuge in foreign lands, Ogidan and Okere (2010) said, "apart from daunting infrastructural challenges, which have impeded the growth of the manufacturing sector, there were also perennial challenges of corruption, politicization and misplacement of allocation or priorities when it comes to allocation of resources in Nigeria." They explained that manufacturers face "the challenge of high cost of production as a result of high cost of credit facilities, poor exchange rate of naira, parlous infrastructure, low demand for locally manufactured goods and unchecked influx of foreign goods."

A recent study carried out by Ahmad (2010) on the impact of global economic meltdown on the performance of manufacturing sector in Nigeria, using the short run analysis, specifically investment flow and output, reveals no significant shock from the global financial meltdown. A strong relationship was revealed by the study between investment and output, the linear relationship remains unaffected by the crisis. This revelation according to him conforms to neo classical assumption that investment need to reach certain level before it can be income induced. Secondly, despite various government efforts towards incentivizing the sector little is being achieved in attracting investment both locally and abroad. Lack of infrastructure as well as risk and high level of uncertainty could be the possible variables that distract investors.

In a global crisis of such historic proportion where the total bailout packages by all countries work out to some 3 trillion dollars, there is still uncertainty whether the system can be salvaged. Some critics (Ogbeifun, 2008) feel it was unnecessary to pretend that Nigeria would be immune to the systemic crisis. It was initially projected as a financial crisis or at best a precursor to a mild recession. In the real sense, no financial crisis is ever a mere crisis of the world of high finance alone. Just as the gloom on the trading floors soon spread to the shop floors in the factories, financial turbulence is just a symptom of the turmoil in the real economy.

Assessing economic meltdown in Nigeria, Ogbeifun (2008) condemned government bureaucrats who say that government has no business in business. The concepts of privatization, liberalization, deregulation and lately

globalization which took the center stage of governments' reasoning and actions did not go down well with Nigeria. "The Nigerian Government from 1999-2007 followed the IMF prescribed pills by aggressively pushing us through self-destructive liberalization and privatization policies, which to date have seen the actors and directors in frightening scams. The reasons for the privatization, deregulation and liberalization policies were hinged on government being a bad manager of resources".

Ogbeifun (2008) criticism was based on the fact that these policies were crafted without giving considerations to some peculiar drawbacks in the third world. "We have often opined that while privatization, deregulation and liberalization in theory may mean the same thing globally, the outcomes are different in various parts of the world because of differences in orientation, values, attitudes, culture, beliefs and the social safety nets available to cushion the effects on the people" (Ogbeifun, 2008). The awkward situation associated with manufacturing paradigms in developing countries is engendered by the persistent crisis of increased disequilibrium between policy formulation and implementation.

Despite great disparities among the emerging countries, the trend in the performance of their economies, particularly the real sector, provides a satisfactory explanation for overall effect of the economic meltdown. The crisis was responsible for the poor performance of the real sector of most countries while other sectors of the economy were not left out. Most of the researchers established a positive relationship between manufacturing and the crisis; that is, economic meltdown reduces manufacturing activities, the economy is mainly affected through international trade and foreign exchange. The effect on Nigeria's companies will be transmitted through foreign direct investment, external trade and the exchange rate. The manufacturing sector already burdened with huge stock of unplanned inventory is now facing rising lending rates. From an average of 17 per cent for a better part of 2007, the rates hit an average of 25 per cent in the last quarter of 2008.

The real sector performance was typically constrained by high operating cost with an estimated average industrial capacity utilization of about 40 per cent. Other challenges faced include unfair competition from smuggled and sub-standard products, high cost of fund and high energy cost. Among the myriad of problems plaguing the manufacturing sector, the energy crisis; especially as it borders on power, appears to be the most pressing. Usually, energy allows manufacturers to transform raw materials into final consumer goods. Raw materials pass through a number of intermediate stages, which all represent the bulk of industrial energy consumption. Information from MAN indicates that about 70 per cent of the energy needs of its members are sourced from generating sets

### 3. Methodology

The technique employed in this paper is the Panel Model Analysis, it was the most appropriate for this research, as about 31 firms were considered in Nigeria manufacturing sector. It combined time series and cross sectional data that was obtained across various firms. Panel data consists of observation on the same cross sectional or individual units over several time periods. Panel data have space as well as time dimension. It also enables us to study more complicated behavioral models and better suited to study the dynamics of change.

There are several types of panel data analytic models. There are constant coefficient models, fixed effect models, random effects models and the generalized least squares (GLS). Among these types of models are dynamic panel, robust and covariance structure models. Solution to problems of heteroscedasticity and autocorrelation are of interest here.

#### 3.1. Model Specification

The traditional profit function is introduced in specifying the model adopted in this paper. The Profit function show that profit maximization of a firm is a function of output produce by the firm

Given the profit function as;

$$\pi = f(Q) \dots \dots \dots \text{eq1.}$$

Where:  $\pi$  = profit; F = functional relationship; Q = Output produce

Specifying the model in profit function above, it is then expressed as; profit of a firm (PRF) is a function of the output produce, which can be represented as output/turnover ratio (TVR). Other variables are included as some of the determinants of profitability of a firm, Labor which is the input factor used in the production process is represented by numbers of employees (EMP), Earning per share (EPS) and Share capital (SHC). This is carried out in cross sectionals. Thus;

$$PRF = f(TVR, EMP, EPS, SHC)$$

$$PRF = \beta_0 + \beta_1 TVR + \beta_2 EMP + \beta_3 EPS + \beta_4 SHC + U \dots \dots \dots \text{eq2.}$$

Due to the purpose of this study, to examine the impact of the economic meltdown on the manufacturing sector in Nigeria, a dummy variable is introduced to capture the shock, which takes care of the period of the economic meltdown and it takes the value of one during the period and zero otherwise. Thus, the model is further specified as;

$$PRF = f(TVR, EMP, ESP, SHC, DU)$$

$$PRF = \beta_1 + \beta_2 TVR + \beta_3 EMP + \beta_4 EPS + \beta_5 SHC + \beta_6 DU + u \dots \dots \dots \text{eq3.}$$

Where: PRF = Profit/Loss of firm; TVR = Output / Turnover ratio of firm; EMP = Numbers of employee; EPS = Earnings per share; SHC = Share capital; DU = Dummy variable (economic meltdown); u = Stochastic variable or error term;  $\beta_1$  = constant intercept;  $\beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  = Coefficient parameters.

The profit after tax also called the retained profit is the dependent variable used as a proxy for firm performance / profitability. The other determine variables considered are the output / turnover of the firms as proxy of output (Q), numbers of employee (EMP), earnings per share (EPS), share capital (SHC) and the Dummy variable



(DU) representing the period of the economic meltdown (economic stock) are considered as the exogenous variables to be used in the model, five Dummies.

For the purpose of this paper, the data used were primarily sourced from the annual financial report of the quoted manufacturing firms in Nigerian for a period of five (5) years, 2005– 2009 respectively. The study will cover thirty-one (31) firms were selected from different sectors of the manufacturing, namely; textile, breweries, building materials, conglomerates, healthcare, industrial domestic products, food/beverages and tobacco, chemical and paints e.t.c.

**Table-1.** Name of selected Manufacturing firms

S/N		CODE	S/N		CODE
1	Pz Cussons	PZ	17	Ng. Enamel ware plc	NEN
2	Unilever plc	UNI	18	M & B	MB
3	Cadbury plc	CAD	18	First Alum	FAL
4	Nigeria Bottling company plc	NBC	20	Livestock Feeds	LIV
5	Gloxo SmithKline	GLS	21	Neim Plc	NEM
6	Cap plc	CAP	22	Northern Ng.Flour Mill	NNF
7	Lafarje wapco cement	WAP	23	Pepsi	PEP
8	Ashaka cement plc	ASH	24	Nigeria breweries	NB2
9	United Ng. Textile plc	UNT	25	Okomu oil palm	KMP
10	Afriprint Ng. plc	AFP	26	Universal paint	UP2
11	Vita foam	VTF	27	Presco plc	PRE
12	Bagco Ng. plc	BAG	28	Chellarams	CHE
13	John Holt	JNH	29	BOC Gases	BOC
14	Nestle	NES	30	Cement company of Ng	KMP
15	UTC	UTC	31	Beta Glass	BETA
16	Leventis plc	LEV			

## 4. Findings and Discussion

The technique of panel data estimation takes care of the problem of heterogeneity in the 31 firms selected for the study. Also, by combining time series of cross-section observation, panel data give more informative data, more variability, less co-linearity among the variables, more degree of freedom and more efficiency (Gujarati, 2003). This paper will only discuss the results of the Fixed Effect Model and the results of the Random Effect Model, while the last of the sections discussed some inferences from the results.

### 4.1. The Fixed Effect Model (Time Period Specific)

The result here allows for time effect in that, profitability across firms is affected by economy melt-down during the period of 2005-2009.

**Table-4.1.** Fixed Effect (Time Specific Effect)

Variable	Coefficient	Standard error	t-statistic	Probability
TVR	2.65004	0.8904	2.9759	0.0036
EMP	13922.78	22143.97	0.6287	0.53
EPS	340355.5	437713.3	0.7775	0.4384
SHC	9.1322	9.8374	0.9283	0.3552
D05	-1.22E+08	1.12E+08	-1.08212	0.2814
D06	1.20E+08	1.05E+08	-1.1416	0.0969
D07	-2.61E+08	1.41E+08	-1.8530	0.0464
D08	-3.98E+08	2.72E+08	-1.4655	0.1045

Source: Author's computation from E-view 7

$$R^2 = 0.744, D.W = 2.396, N = 150, \text{PROB (F)} = 0.0000$$

The result in Table 4.3, only TVR is significant, out of the four individual dummies, only D07 is highly significant. This implies that the impact of economic melt-down (Time Variation) on profitability across the companies is greater in 2007 than any other year. It is to be noted that all the time dummies show a negative relationship with profitability. This implies that rather than improving, economic melt-down has negative impact on profitability of manufacturing firms in Nigeria, and the impact is greater in 2007

The  $R^2$  value of Table 4.3 is 0.74, it can be conclude that profitability in the manufacturing companies in Nigeria is affected by the global economic melt-down and other variations in time.

## 4.2. The Random Effect Model

This is also referred to as the Error Components Model (ECM). Instead of treating the constant term ( $\beta_1$ ) as fixed, we assume that it is a random variable with a mean value of  $\beta_1$  and the intercept value for an individual company can be expressed as

$$\beta_{1i} = \beta_1 + \varepsilon_i$$

This implies that the thirty-one firms included in our sample are a drawing from a much larger universe of such companies and that they have a common mean value for the intercept ( $\beta_1$ ) and the individual differences in the intercept values of each company are reflected in the error term  $\varepsilon_i$

**Table-4.2.** Random Effect (Time Period) Estimates

Variable	Coefficient	Standard error	t-statistic	probability
C	-1.33E+08	1.29E+08	-1.03619	0.3018
TVR	0.6405	0.3978	1.610001	0.1095
EMP	6877.529	8376.34	0.821065	0.4129
EPS	689040.8	488879.3	1.409429	0.1608
SHC	0.34482	6.760166	0.054217	0.9568

Source: Author's computation from E-view

**Table-4.3.** Random Effect (Period)

2005 – C	<b>-62077158</b>	$R^2 = 0.4324$
2006 – C	-76817824	Prob (F) = 0.000
2007 – C	-99876508	
2008 – C	-1.06E+08	Random Effect(cross)
2009 - C	3.45E+08	All coefficient = 0.000

Source: Author's computation from E-view 7

The results of ECM estimation of the profit model for manufacturing firm are presented in Table 4.2. Several aspects of the regression should be noted. First, the sum of the random effects values given for the thirty-one companies is zero as it should be. The random effects of time period (a measure of global economic melt-down) on profitability are all negative except in 2009 which is positive. The  $R^2$  is obtained from the transformed generalised least square (GLS) regression. The  $R^2$  is very small (0.43) compared to the  $R^2$  of fixed effect regression. The fixed effect model performed better than the random effect model.

## 4.3. Inferences from the Profit Function Analysis

The following inferences are made from the panel data regression analysis of the profit function of manufacturing firms in Nigeria

1. Profitability in the manufacturing companies in Nigeria is cross-sectional variant. That is, nature and managerial pattern of individual firms do affect their profitability. This is revealed by the restricted F – test under the fixed effect analysis.
2. Output – turnover ratio (TVR) coefficient is most significant of the determinants of profitability across the manufacturing firms.
3. Profitability across manufacturing firms in Nigeria is time variant. That is, profitability tends to be reduced during the period of economic melt – down. This is revealed by the restricted F- test of the fixed effect (Period Specific) which is highly significant.
4. The global economy witnessed a downward trend of economic fluctuations from recession to depression. Profitability across manufacturing firm in Nigeria responded negatively to this melt – down because of factors such as Technological changes, changes in government regulatory and / or tax policies, external effects such as wars, conflicts, etc which may probably affect the source of raw material. This impact varies from year to year. The greatest of such impact was recorded by the time dummy (D07) in Table 4.3 which is highly significant.
5. If the impact of economic melt–down is taken to be the same across firms and individual effect is taken to be random deviation from this constant impact, the impact was found to be lesser in 2009 and greater in 2007 as revealed by the result of the random effect model.

## 4.4. Summary of Findings

In summary, having concluded the analysis required and the interpretation of the result, it was revealed from the finding that the global economic melt – down has impacted on the manufacturing sector in Nigeria.

More so, the impact was shown to be negative on the manufacturing sector all through the periods considered (2005 – 2009) as the coefficients of the dummies revealed some negative coefficients. As, its impact more severe in the year 2007, which indicated the impact to be greatly significant than the rest periods.

Therefore, it can be concluded that the profitability in the manufacturing companies in Nigeria is affected by the global economic melt – down and the impact was greater in 2007. This was invariant with the view of Bashir Borodo, president of MAN (Manufacturers Association of Nigeria), describing the manufacturing sector the most

sector that was under the heavy weight of the crisis, coupled with the diverse problems facing the sector, was a great problem to the already depressed manufacturing capacity utilization, with rising production cost and declining consumers disposable income as the melt – down occasioned massive reduction in consumer purchasing power and the profitability was listed as some of the negative indices of the melt – down on the Nigerian manufacturing sector (MAN, 2009).

Also, in line with Chukwuma Soludo, Mansur Muntar and Remi Babalola late reluctant submissions, that Nigeria could not possibly remain immune to the global crisis as against, Soludo earlier stands that Nigeria is save from the crisis (Spamgirl, 2010).

However, these findings were against the recent study carried out by Ahmad (2010) on the impact of global economic melt – down on the performance of the manufacturing sector in Nigeria using a short run analysis, it revealed no significant shock effect on the sector from the global economic melt – down.

Furthermore, the profitability across manufacturing firms in Nigeria is time variant, that is, the impact of economic melt – down on profitability varied from year to year, such that, the impact was found to be lesser in 2009 and greater in 2007 as revealed further by the random effect model. Also, the output / turnover ratio (TRV) coefficient is the most significant of the determinants of profitability across the manufacturing firms, as it showed a positive relationship between profitability, other determinants like Number of employee (EMNP), Earnings per share (EPS) and Share capital (SHC) all showed a positive effect on profitability too, but were insignificant. It was also confound that the profitability across firms in Nigeria is cross – sectional variant, that is, they are not the same, and this is due to the unique features of each firms, such as managerial skills, style, and talent, innovations and dynamisms but, it was confound that the economic melt – down had a significant inverse impact on individual manufacturing firms in Nigeria.

It was also shown that the fixed effect profound better than the random effect, as the coefficient of multiple determinants ( $R^2$ ) was 0.74 (74%) for fixed effect and 0.43 (43%) for random effect, it implied that the report of the fixed effect can be relied on than the random effect base on the power of the explanatory variables.

Therefore, it is conclusive that the global crisis impacted negatively on the manufacturing sector in Nigeria.

## 5. Conclusion and Policy Recommendations

In wake of the crisis, Nigerians' fears were allayed with a promise that Nigeria was immune to the crisis when the economic melt – down started, former governor of the central bank of Nigeria (CBN), prof. chukwuma soludo assured Nigerians that our economy was immune to the crisis. This assuring statement maybe deduced from the fact that our manufacturing sector has been on its knees for over a decade, while, it has been growing from bad to worse. Fact and figures from reviewed literatures showed that the Nigerian manufacturing sector has degeneration to such a deplorable level even before and during the economic melt – down (Ahmad, 2010; Banjoko, 2009; Isola, 2006; MAN, 2009; Ogbeifun, 2008). In order to make the manufacturing sector forward and to ensure economic growth and sustainability, priority attention should therefore be given to the development of the manufacturing sector, with a view to alleviating the current challenges arising from the harsh macroeconomic and operating business environment. Finding adequate solutions will leapfrog the sector out of the woods and offer it the necessary impetus to contribute its expected quota to wealth creation.

From the findings of this research paper, much been said, the following policies are hereby recommended, in order to recognize the role of the manufacturing sector as a lending sector, an engine of growth in the development process of the Nigerian economy.

The manufacturing sector and the economy at large need to have a strategic framework for industrial development that is domesticated. Emphasis should be on local technology and local sourcing of raw material so as to save guard the economy from future severe impact of foreign economic shock. Government should ensure tight control on the quality of locally made products, ensure effective boarder control and punitive measures to smugglers, to protect the sector from foreign goods and reduce the billion of naira unsold stock inventories suffered by most firms in the manufacturing sector.

Power generation, distribution and transmission should be decentralized and deregulated, and the on – going power reforms should be accelerated and implemented to a logical conclusion so as to reduce the cost of production, which have being the major reasons while more company close down and relocate outside the country, as MAN indicated that about 70 per cent of the energy needs of its members are present sourced from generating set.

Government should eliminate multiple taxation in the country by having a consolidated tax regime to be administered by one government tier and distributed to all other. Government should demonstrate serious commitment to the revival of the manufacturing sector, promises of bailout fund for this sector should be fulfilled on time in order to curb the plethora of problems the sector has been bedeviled with before and after the global economic crisis. More funding windows should be opened for SMEs apart from adequate funding of the banks of industry; SME bank should be established as done in other developing countries of the world such as India, Malaysia, Indonesia e.t.c.

Government should put in place an effective transport system management by providing adequate and reliable infrastructure for road, rail, air and water ways transportation in order to achieve supply chain efficiencies. Also the present government should endeavour to see through the vital reform programmes it has started in order to further open the economy and improve in the investment climate of the country.

It is believed that if the above policy recommendations are carefully studied and implemented, the manufacturing sector will be able to position itself effectively as the driver of the economy by creating wealth,

employment and asset in the eradication of poverty. As the sector will also be able to compete favorably in the global economy.

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