Impact of Trade Liberalization on the Performance of the Manufacturing Sector in Nigeria (1989 To 2006)

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Abstract: *This research was conducted to investigate and specify the impact of trade liberalization on the performance of the manufacturing sector in Nigeria. Based on economic theory supported by relevant secondary data from 1989 to 2006, an econometric model was developed. Ordinary least square (OLS) method was used for estimation of parameters by conducting multiple and simple regression analysis. The result of the major findings explained that there was an inverse relationship between the interest rate and exchange rate on the manufacturing sector's output. While, there is a positive relationship between domestic credit to private sector and the foreign private investment on the manufacturing output on one hand, and there is a positive relationship between the manufacturing output and the Gross Domestic Product on the other hand. This shows that the manufacturing sector plays a prominent role in the economic development of the country.*
Keywords: *Trade Liberalization, Performance, Manufacturing Sector, Nigeria*

I. Introduction

Nigeria had embarked on several trade policies throughout the post independent era. These policies include industrialization strategy base on import substitution; export promotion and all other forms of administrative procedures. The central objective of these policies is to diversify the country's export base and to continually strengthen trade with other countries. Trade liberalization is be defined as the continual elimination and/or removal of hitches created mainly by government policies, regulations and administrative procedures that hamper the free flow of goods, services, and capital from one frontier to another (Agboola, 2004)

Trade liberalization measures aimed at stimulating production, protecting efficiency and help reducing the cost of production. Thus, increase international confidence in market mechanism of the economy. Prior to trade liberalization in Nigeria, government strategy simple involved attracting and encouraging foreign capital to engage in manufacturing activities through provision of social overheads. The role of government was also limited to providing infrastructure and other public incentives (Iyoha and Oriakhi, 2003).

Trade liberalization policy was adopted to ameliorate the balance of payment crisis as a result of oil glut in the World market in the early 1980's. The development has had a modest impact on the Nigeria economy with Gross Domestic product (GDP) growing steadily and progressively (CBN, 2004). But the paradox lies that the manufacturing sector's growth declined from 20.5% in 1985 to 0.72% in 1997 (Iyaha and Oriakhi, 2003).
The history of industrial development and manufacturing in Nigeria is a classic illustration of how the country neglected a vital sector through policy inconsistencies and distortions attributable to the discovery of oil.

Since the introduction of trade liberalization, the performance of the manufacturing sector with regards to its contribution to the Gross Domestic product (GDP) has been fluctuating (CBN, 2003). This has been the major concern of different economic policy makers within and outside the country.
In view of these, and in order to achieve an accelerated pace of industrialization capable of producing and sustaining the nation's manufacturing needs, several industrial policies has been implemented, few of which includes:

- The industrial policy of 1988
- The Nigerian Export processing zone Decree No. 34 of 1991
- The foreign Exchange (monitoring and miscellaneous provision) Decree No. 17 of 1995
- The Nigerian Enterprise promotion Decree of 1989.
- In 2000, the Nigerian industrial Development Bank (NBCI), Nigerian Bank for Commerce and Industry (NBCI) and the National Economic Reconstruction Fund (NERFUND) was merged to form the new Bank of Industry (BOI), to facilitate adequate supply of funds to the manufacturing sector (Olorunshola, 2002). The performance of the manufacturing sector in Nigeria can not be over emphasis, some of the roles perform by the manufacturing sector include: the provision of employment opportunities, reduction in importation and saving in foreign exchange, the diversification of the economy, an enlarged market for agricultural products, increase export earning, increase government revenue, a higher standard of living, and training of indigenous manpower.

The Concept of Trade Liberalization:

Trade liberalization deals with the increasing breakdown of barriers and the increasing integration of the World market (Fafowora, 2000). In the works of Derossa, (2000), trade liberalization was referred to as the increasing international integration of international market for goods, tradable service and financial assets. In the real sense, it is also referred to the increasing integration of markets for major inputs to production, not only mobile physical capital but also labour in its various forms: basic labour, skilled labour and other professional services.

Trade liberalization offers countries access to the global market which affords people greater opportunity to tap more and larger market around the World, giving them access to more capital flow, technology, cheaper import and larger export markets. It equally exposes countries to new ideas, products, and economies of scale in production and makes them gain efficiency in utilization of production resources (Adenikinju and Chete, 2003). However, a more integrated World economies is prone to some adverse consequences equally as it relates to financial management, environmental degradation and pace of development. Also, trade liberalization opens an economy to some financial crisis (UNEP, 2001).

Amos, (2000), viewed adverse effect of trade liberalization on the rate of inflation, when he said that lowering tariffs and relaxation of quantitative restriction can lead to expansionary fiscal and monetary policies knowing the goals of expansionary fiscal reform is to reduce budget deficit, the concomitant effect which is the rapid growth of money supply which will inevitably boost price inflation in an economy.

Jerome and Adenikinju (1995), opined that Nigeria's non-oil export go mainly to West European Economic Community Countries, and more so, new markets are merging in Asia and other parts of the World especially in Sub-Sahara Africa. Also, in their comparative analysis of the performance of manufactured export between Nigeria and selected countries in Asia and Africa, they analyzed that manufactured export in Korea and Hong Kong accounted for 94% and 96% respectively, while that of Nigeria was 1% of the total GDP as at 1990.

According to World Bank (2000), the Egyptian government responded to trade liberalization with impressive economic reform program that include, fiscal tightening that reduced the marginal tax rate and government budget deficit. Monetary reform adopted in Egypt also included re-controlling of interest rate, devaluation and unification of exchange rate, reducing growth of money supply and liberalizing capital account. Privatization was also introduced and thus foreign investors reacted quickly to this opportunity. In 1995, the total foreign Direct Investment (FDI) was $400 million USD followed by $800 million USD in 1996 and around $1.2 billion USD in 1997.

In the case of Nigeria, the net foreign Direct Investment was $588 million USD in 1990 and $897 million USD in 1992, then to $1.96 billion USD in 1995 and $1.53 billion USD in 1997, (Global Development Finance, 1999). Despite the reform in Egypt, and Nigeria, these countries are yet to take full advantage of the trade given their market size and border countries like Israel, Tunisia, Niger, Chad and others.

Trade liberalization is thus, a multidimensional concept and may be viewed as the forging of multiplicity of linkages and interconnectedness between States and the societies which make up the modern World called the global village. It is also a process by which occurrences, decision and activities in one part of the World come to have significance consequence on individual and communities in quite distant part of the globe.

The Impacts of Trade Liberalization on the Nigerian Economy

Anyanwu *et al* (1997), referred to the manufacturing sector as a sub-set of the industrial sector. According to Chenery and Stout (1996), pointed out that the impact of trade liberalization on the manufacturing sector deals with the enlarging the size of the market and the scope of specialization in the manufacturing sector, it also makes a greater use of machinery, encourages inventions and innovations, raise labour productivity, lower costs and leads to economic development.

Colander, (2001), stress that, the impact of trade on the manufacturing in Nigeria also leads to the importation of foreign capital and instill new ideas, technical know-how, skills, managerial talents and entrepreneurship. Usman (2000), pointed out that the impact of trade liberalization on the manufacturing sector can be seen on how it has improved the agricultural sub-sector in the country through the provision of adequate farm input such as improved seeds, fertilizer, tractors for cultivation etc. for the supply of raw materials to the manufacturing industries. Usman (2000), also stress that the impact of trade liberalization on the manufacturing sector as fostering healthy competition and checking inefficient monopolies. Healthy competition is essential for the development of the export sector of such economies and for checking inefficient exploitative monopolies that are usually established on the grounds of infant industry protection.

Performance and Contribution of the manufacturing Sub-Sector in Nigeria

The manufacturing sub-sector in Nigeria has had a mixed performance over the years, owing to the fluctuations in its contribution to the country's Gross Domestic product (GDP). In 1960, manufacturing share of

the Nigeria's GDP was 4.8% rising to 6.9% in 1965, and to 7.2% in 1970, the manufacturing sector' contribution to the GDP stood at 8.3% and started declining in 1993 form 7.2% to 6.0% in 2000 (CBN, 2003). Also, manufacturing sub-sector capacity utilization fell from 75% in 1980 to 42.7% in 1986 and to 39.0% in 1990. By 1992, the sector capacity utilization rose to 40.4% and in 1995 collapsed to 29.3%. In the same vein, growth rate of manufacturing rose from 23.6% in 1965 to 77% in 1975. But falling drastically to only 6.6% in 1980,The only rise that exceeded 10% since then was recorded at 20.5% growth rate in 1985 (CBN, 2000). By 1993, it has fallen to 4.2% in 1994, it was recorded 5%. In general, the industrial sector as a whole grew by 5.2% in 1980 to 1986 period, and also fell to 1.02% in 1996 to 0.72% in 1997 (CBN, 2000).

Prospect of the manufacturing sector in Nigeria

The prospect of the manufacturing sector in Nigeria in providing sustainable economic development given abundance and varied resources endowment can support mass production both for local and export market there by diversifying the economy from over reliance on oil earnings (Osagie, 2004).

Developing the Nigeria industrial/manufacturing sector required a concerted effort of government and the private sector to create an environment that would encourage investment, primarily by Nigerians as a firm basis for attracting and sustaining foreign investments in the sector. A fully developed industrial sector would provide a firm basis for sustainable economic development (BPE, 2003).

Ewing (1990), asserted that industrial development is bound to be frustrated unless there is a simultaneous progress on several fronts such as; science and technology, education, energy and transportation.

Theoretical Frame work

This section examines some theories that explain and have a link with investment portfolios in an economy. Here the Harrod-Domar growth theory, Marxian orthodox scheme and Keynesian model theory will be of great impetus, (Tidero, 2003).

Harrod-Domar (1957), posits that, every economy must save a certain proportion of it national income (NI), if only to replace worn out or impaired capital goods. However, in order to grow, new investments representing net additions to the capital stock are necessary.

This can be algebraically stated, thus:

S=SY

Where: S=Savings

Y=National Income

And I=ΔK

Where: I=Net Investment

ΔK=change in capital stock

While, the Marxian Orthodox Scheme (1939), capital accumulation enjoys a glorified esteem, since it is considered as the only practical approach to the attainment of a true "Socialist State". Thus, it is impossible to conceptualize capitalism without the foundation of its survival of capital accumulation, (Tidero, 2003)

Also, the Keynesian (1960), model analysed the critical element in a well-functioning economy is "Competition" and provided that it is maintained, the competitive equilibrium is attain by the free market generates economic efficiency in the parathion sense. The government should then disown it enterprise, the government should free competition to exist, so has to achieve both allocation and productive efficiency for steady growth, (Thigan, 1997).

The linkage of Harrod-Domar, Marxian orthodox and Keynesian in view to the topic of this study lies in the fact that the establishment of trade liberalization is a capital formation, competitions and savings to channel into investment and the effect on the economy.

Basically, the neglect of the agricultural sector in Nigeria as a result of the oil boom in 1973, has denied many manufacturers and industrialists their primary sources of raw material and this absence of locally sourced input resulted in high cost of production. However, the introduction of trade liberalization in Nigeria was aimed at increasing product quality and increase expenditure on research and development that will enhance competition in production.

The objective of this study is to examine how the manufacturing sector has responded to trade liberalization

Materials and Methods
Study Area
Nigeria is located between Latitude 4^0-14^0N and Longititude 2^0-15^0E, with a total area of 923,770 km^2, the population of about 140,003,542 (NPC, 2006).

Data Collection and Analysis
The data used in this research was from Central Bank of Nigeria Statistical Bulletin, National Bureau of Statistics (NBS), Official report on the exercise, text books, Journals, News papers, and Statistical review of the Federal ministry of finance.

Techniques of Analysis
The techniques used for data analysis include; econometric and Ordinary least Square (OLS) methods. Data obtained were subjected to regression analysis with the aid of Statistical Package for the Social Science (SPSS, Version 13) was performed

Model Specification
The first step in this research work is to set the expression of the relationship in mathematical form. In other words, it entails specifying the models which the economic phenomenon will be explained empirically.

Variables of the Model
The variables of the models are divided into two major components:

Model One: MQ=F (IR, EX, DCP, FPI)……………………………………(i)
$MQ = b_0 + b_1 IR + b_2 EX + b_3 + DCP + b_4 FPI + u_t$……………………………..(ii)
Where:
MQ=manufacturing sector output
IR=Interest Rate
EX=Exchange Rate
DCP=Domestic Credit to private investment
FPT=Foreign private Investment in manufacturing sector
b_0, b_1,----------- b_4=Coefficient of the variables.
u_t=constant error term

Model Two:
GDP=F (MQ)………………………………………………………………..(iii)
$GDP = b_0 + b_1 MQ + u_t$
Where:
GDP=Gross Domestic product
MQ=Manufacturing sector output
B_0, b_1-------------=Coefficient of the variables
u_t=constant error term

II. Results and Discussion

The data collected shows Gross domestic product (GDP), manufacturing sector output (MQ), Interest Rate (IR), Exchange rate (ER), Domestic credit to private sector (DCP), and foreign private investment (FPI) from 1989 to 2006.

Model One

Table 1: Statistical Significance using standard error for a linear multiple regression analysis

Predictor	Coefficient	Standard Error	t-statistic	Probability
b_0	-2257.1	8869.5	0.25	0.803
b_1IR	-541.9	405.6	-1.33	0.206
b_2EX	21.075	121.1	0.17	0.865
b_3DCP	0.065	0.01	4.71	0.000
b_4FPI	3.55	0.50	7.10	0.000
R^2=0.99				
AdjR2=0.99				
F-Ratio (cal)=448.0				
DW=1.989				

Source: (Data Analyses, 2008)
Note: Significant (P<0.05)

Model equation is expressed by model analysis as follows:
MQ= -2257.1+-541.9IR+21.0EX+0.6DCP+3.5FPI
    (8869.5) (405.6) (121.2) (0.01) (0.5)

Table 1 shows a multiple regression analyses; all the coefficients were correctly signed. The b0, b1, b2, b3, and b4 coefficients which represent the manufacturing sector output (MQ), Interest Rate (IR), Exchange Rate (EX), Domestic credit to private sector (DCP), and foreign private investment (FPI), were positively signed, which is in line with the prior expectation on the study.

In the test for the statistical significant for the intercept, the calculated t-ratio of 0.254 is less than the tabulated t-ratio of 2.042, this indicates that the other variables not captured by the model has no effect on the dependent variables, that is the manufacturing sector output. While for the domestic credit to private sector (DCP), and the foreign private investment (FPI), the calculated t-value of 4.71 and 7.10 respectively are greater than the tabulated t-ratio of 2.042 ($P<0.05$). This means an increase in the domestic credit to private sector and foreign private investment will aid economic growth and development through mobilization of capital (Saving and investment), employment, promote competitions and specialization.

The t-value of Interest Rate (IR) t=-1.33, is statistically not significant ($P<0.05$). Therefore, interest rate (IR) has no effect on the output of the manufacturing sector. More so, the exchange rate (EX), the t-value of 0.17, it is statistically significant and therefore, there is a positive relationship between the exchange rate (EX) and the manufacturing sector output.

The test of goodness of fit (R^2), the result indicates that 99% change in manufacturing sector output is explained by the explanatory variables included in the model, while only 1% of the residual term. This can also be confirmed by ANOVA, the F-ratio calculated f-ratio of 2.29. With DW of 1.98 serial correlation is minimal, meaning the model can be used for prediction with high degree of accuracy.

Model Two

Table 2: Statistical Significance using Standard Error for a linear regression analysis

Predictor	Coefficient	Standard Error	t-statistics	probability
b_0	-112323.8	185790.0	-060	0.55
b_1MQ	24.94	1.49	16.72	0.00
R^2 = 0.94				
Adj R^2 =0.94				
F-Ratio (cal)=279.7				
DW=1.29				

Source: (Data Analyses, 2008)
Note: significant ($P<0.05$)
Model equation is expressed by model analysis as follows:
GDP=b_o+b_1MQ
GDP== -112323.8+24.94MQ
      (185790.46)   (1.49)

In the simple linear regression analysis, all the coefficients were correctly signed. The b_0 and b_1 coefficients which represent changes in the manufacturing sector output (MQ) was positively signed, which is in line with the prior expectation of the study. The test for the statistical significance for the intercept, the calculated t-ratio = -0.60 was less than the tabulated t-ratio of 2.04. This indicates that the other variables not captured by the model have no effect on the dependent variable that is GDP. While, for the manufacturing sector output (MQ), the calculated t-value = 16.72 was greater than the tabulated t-value of 2.04 ($P<0.05$). This indicates a rise in the manufacturing sector output of a country. The test of goodness of fit (R^2), the result indicates that 94% change in GDP is explained by the explanatory variables included in the model. While, only 6% was the residual term. This can also be confirmed by ANOVA, the F-ration calculated of 279.765 is greater than the tabulated F-ratio of 4.17. With DW of 1.29 serial correlation is minimal meaning the model con be used for prediction with high degree of accuracy.

III. Conclusion

The analyses conducted shows that most of the result are favourable in relation to the manufacturing sector, it also shows that the performance of the manufacturing sector is likely to generate sufficient income, if measures are taken to invest in the right path. Further improvement is necessary to enhance the manufacturing sector.

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