The Impact of Trade Liberalization on Manufacturing Value-Added in Nigeria

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Abstract: The study examines the impact of trade liberalization on manufacturing value-added in Nigeria between 1970 and 2014. Basically, the study employed the tools of quantitative empirical analysis technique to evaluate the impact of trade openness on the output of Nigerian manufacturing sector. Findings from the study reveal that the Nigerian economy has not changed its export structure over the 1970 - 2014 periods. The only changes that have taken place to its exports were just a mere shift in exported product indicating a sign of export substitution from primary agro industry-based exports to primary mining industry-based exports (i.e crude oil). It should be noted that heavy reliance of the Nigerian manufacturing firms on imported machinery and equipments is a reflection of the weak manufacturing base of the country. Also it can be adduced from the study that the inability of the Nigeria manufacturing sector to respond positively to the export potentials inherent in trade liberalization may be due to high cost of production in the country that put our manufacturing output in a disadvantageous position in international market. Generally, enough incentives for efficient resource allocation in order to promote manufactured exports within the on-going process of economic liberalization and deregulation paradigms have not been created. It was proposed that a mixture of the invisible hand of the market with the visible hand of the state should guide the process of manufacturing activities, economic diversification, trade and development similar to the case of the East Asian Tigers.

Keywords: Trade liberalization, Manufacturing value-added, Nigeria & trade openness

BACKGROUND OF THE STUDY

A central issue in development policy debate for decades has been the relative merits of import substitution and export promotion industrialization strategies. Following the classic works of Prebisch [1] as cited in Adenikinju and Chete [2], several developing countries especially those of Latin America adopted and pursued with religious zeal and tenets and propositions of import substitution. By the turn of 1970s, however, two mutually reinforcing trends emerged to force a rethink of this development path, countries of Latin America that embraced the import substitution model generally registered less than impressive economic performance, while the East Asian countries who chose and stayed the course of outward orientation recorded spectacular growth rates.

The authors further stressed that this dramatic contrast marked the formal ascendency of export promotion, more generally, trade liberalization, as a viable development route. Thus, by the 1980s, this strategy had obtained the endorsement of the World Bank and International Monetary Fund, who overtly advocated it as a crucial component of structural adjustment programmes (SAPs) recommended for countries in economic and financial difficulties.

It was clear by the end of the second half of 1986 that Nigeria had adopted hook, line and sinker; the International Monetary Fund (IMF) induced Structural Adjustment Programme (SAP), whose main thrust is liberalization among others. The wholesale adoption was predicated on the assumption that the weakness of the economics of control trade will prevent the enjoyment of the benefit of openness, [3, 4]. The usual channels through which trade liberalization could bring benefits are through improved resource allocation within and across industries (static gains) and through technical change, learning and growth leading to improved productivity growth (dynamic gains).

The conventional views that trade liberalization is necessary and has positive effects for development and on the growth performance of the industrial sector constitute an increasingly controversial issue. According to Adenikinju and Olofin [5], trade policy might affect industrial growth through several channels. First, a less protectionist trade regime increases scale efficiency by enlarging the domestic market which otherwise might be too small for the efficient production of goods that show increasing returns to scale. Second, a more liberal trade regime leads to increased competition from abroad, forcing domestic firms to adopt newer, more efficient
technology to reduce inefficiency and waste. Third, it is argued that a freer economy eases foreign exchange constraints faced by most developing countries and hence enables a country to import needed raw materials and capital goods. Finally, a more open economy results in a faster rate of technological progress. The latter point has been the focus of the endogenous growth literature [6, 9]. These works show how trade liberalization may raise growth rates in the long run by generating economies of scale, operating through research and development (R&D) and knowledge spillover, human capital accumulation and/or learning-by-doing.

Nigeria had experienced two distinct trade regimes, controlled (restricted) trade and the open trade. The philosophy of controlled trade embodied a regime of regulation that has both direct and indirect instruments of control in the conduct of external trade and payments. The basic rationale for control regime is to achieve efficiency, stability and firmness in the face of market failure, as the condition for competitive equilibrium is not satisfied, Olomola [10]. The proponents of the open trade regime often argue that openness enhances the standard of living and prosperity to the participating countries. The situation however with Nigeria over the last three decades, is that foreign trade and the cross-border movement of technology, labour and capital has been massive and irresistible. In recent years, the negative pressure which the volatile capital market of the advanced capitalist economies exerts on the developing countries has given rise to counter opinion which supports the negative aspects of openness and questions are being asked as to whether developing countries actually share in its benefits.

In line with the spirit of openness for instance, the trade and exchange rate policies of Nigeria were conclusively reviewed at the close of 1986. Export duties were cancelled out. Import licensing for many imports were abolished. All of these measures resulted in uninhibited access of imported goods to the Nigerian market without obvious positive impact on domestic production in the manufacturing sector. For instance, between 1985 and 2003, the real exchange rate of the Naira had depreciated by more than 95% thereby further worsening the terms of trade. The food export-import gap which had reduced in the early part of 1980s has since been widened. According to the Manufacturers’ Association of Nigerian’s Economic Review, 2001-2002, average capacity utilization in the manufacturing sector only showed dramatic improvement of 41.9 percent in 2001 and 52.5 percent in year 2002 as against 29.7 percent in year 2000. In spite of this improvement, the balance- of- payments was under severe pressure in year 2002 as a result of adverse external shocks, particularly the reduction in Nigeria’s crude oil production quota by the Organization for Petroleum Exporting Countries (OPEC) and increase in the external service burden.

In Nigeria, despite the implementation of trade liberalization measures and despite the persistent sign of economic recovery (reduction in external debt and external debt service and reduction in final consumption), some macroeconomic indicators show a poor performances of the economy generally [11]. For instance, the economy has been characterized by infrastructure inadequacy, widespread corruption, inefficiency in the public sector and low degree of private sector participation in economic activities, low degree of savings accompanied by liquidity trap, capacity underutilization and low rate of capital formation. A closer look buttress the fact that manufacturing sub-sector of the economy is performing below expectation.

In essence, the oil boom era witnessed relative neglect of natural resource-based manufacturing such as food processing and textiles to relatively low value-added durable goods such as assembly industries. Therefore, the policies and actions pursued during the oil boom era provided a weak base and unhealthy pattern for future growth in the manufacturing sector in Nigeria. With the present situation in the oil market vis-à-vis the situation in the non oil sector, it becomes absolutely expedient to examine the relationship between trade openness and manufacturing value-added in Nigeria. In view of the above problems, the following research objectives will be capture: The principal aim of this study is to examine the impact of trade liberalization policy on manufacturing sub sector in Nigeria. Specifically, the study intends to: to examine the impact of trade openness on manufacturing value-added in Nigeria.

Against this background, the main aim of this study is to provide an empirical insight on the impact of trade liberalization policy on manufacturing value-added in Nigeria, using an error correction mechanism (ECM) technique on annual data spanning between 1970 and 2014.

RETROSPECT OF TRADE LIBERALIZATION AND MANUFACTURING SECTOR

The policy environment of trade in Nigeria was analyzed from 1970 -2014 in this section. As indicated, the inward orientation policy that Nigeria embraced after independence in 1960 were meant to stimulate the manufacturing industries in the country in order to reduce the importation of consumer goods. Consequently, the country were able to minimize importation of goods in that period. In 1986, the military regime headed by General Ibrahim Babangida introduced Structural Adjustment programme whose main thrust among others were trade liberalization. The policy objectives were to deregulate the economy in order to increase the private sector participation in the economic management in Nigeria, diversification of the economy and the shifting of resources from non-
tradable to the tradable. As a result, the country’s exports appreciated gradually but the reversal of the policy by the military junta impacted negatively on the economy, hence Nigeria incurred trade deficit within that period.

The civilian administration of Chief Olusegun Obasanjo that took over from the military in May 29, 1999 was focused on deregulation and liberalization of Nigerian economy in order to stimulate the real sector and make it export oriented. That policy regime led to growth of the export sector. However, the country’s imports were also gathering momentum. Hence a lot of work must be done by president Good Luck Jonathan especially in the area of infrastructural development such as roads, Power supply etc in order to checkmate the high cost of production in the country that forced some of the manufacturing firms to seek solace in Ghana.

For instance, the manufacturing capacity utilization reduced from 75.4 percent in 1979 to 40 percent in 1983 and remains in that range till 1998. The manufacturing sector that grew at 7.2 per cent in 1970 declined to 5.6 and 5.4 per cent in 1975 and 1980 respectively. It rose to 10.5 per cent in 1985 when its value added was 8.7 per cent of GDP and later declined to 8.1 per cent in 1990. The value - added also declined to 8.2 per cent. Thereafter, the manufacturing sector declined persistently to 6.8, 6.5, 6.3 and 6.2 per cent in 1995, 1996, 1997 and 1998 respectively, [11].

Following the heavy reliance of the economy on the crude oil, the manufacturing sector witnessed a persistent decline, [12]. In fact, from 1999 it moves upwards reaching its peak of 60 percent in 2003. The development might have been induced by the civilian administration that took over from the military in May 1999 and its economic reform measures that attempts to put the manufacturing sector in a right path and make it export oriented. The low contribution of the manufacturing sector to gross domestic product (GDP) suggests that trade liberalization policy is yet to stimulate the sector to make meaningful impact on the economic development of Nigeria. The Manufacturing sector represented 6.55% of total Real GDP in year 2010. It grew by 7.79% of real GDP in year 2011 and in 2012 reached a value of 7.79%. However, growth was highest in 2013, at 9.03% of real GDP, a value that had never been recorded in decades. This observed phenomenon could be ascribed to low productivity growth in the manufacturing sector, [13].

EMPIRICAL LITERATURE

Empirical findings have demonstrated that development economists have remained divided over the issue of trade liberalization. Several studies have established that trade liberalization would result in better capacity utilization and economies of scale. For instance, Amelia and Thirlwall [14] analyzed the impact of trade openness on twenty two developing countries that have adopted trade liberalization policies since the mid 1970s using time series/cross-section analysis, and generalized method of moments (GMM). They found that liberalization reduced import duties to virtually nothing for most countries and the average growth of exports rose from 6.9% per annum in the pre-liberalization to 9.8% per annum post-liberalization. In the case of imports, liberalization reduced the implicit tariff from an average of 15.4% to 12.8% and the average growth rate of imports rose from 5.2% per annum pre-liberalization to 9.5% per annum post-liberalization. This finding is similar to Kraev [15] submission. Kraev concludes that with trade liberalization, import increases and domestic demand has to reduce to satisfy the external balance constraint. Results in that scenario suggest losses in the order of 10 per cent of GDP for Sub-Saharan Africa. As the level of demand remains unchanged, the trade balance worsens considerably, resulting in growing external deficits.

Polaski [16] introduces unemployment and separates agricultural labour markets from urban unskilled labour markets in a standard Computable General Equilibrium (CGE) Model. She concludes that (1) global gains from further trade liberalization will be very modest; (2) in sharp contrast to the World Bank’s full employment models, developing countries gains come from market access for manufactured exports; and (3) the largest gains will accrue to countries such as China, while the poorest countries (mainly in Sub-Saharan Africa) will be net losers. Thus, global gains from any realistic negotiated agreement are close to negligible. She also found that developing countries aggregate GDP would decrease by $6.3 billion, while developed countries GDP would increase by $5.5 billion with an agreement dominated by agriculture. On the other hand, developing countries, GDP would increase by $23 billion, while the developed countries would increase by $30.2 billion with an agreement focusing on manufactures.

Okpoko [4] examined globalization as a potent driver of economic growth in Nigeria using the non-oil (Agricultural and manufacturing) export as reference point, unit root test (Augmented Dickey – fuller test) was exploited to check the integration order of the variables using annual time series data from 1970 – 2011 and employing ordinary least square regression, the study found that globalization had no significant impact on non-oil export within the period under study and concludes that globalization has not been a potent driver of growth of non-oil export in Nigeria.

Akinmulegun and Oluwole (2014) attempts the assessment of the contribution of manufacturing sector to economic growth in Nigeria in the era of globalization using an annual time series data for 1980 – 2009, the ordinary least square techniques was employed and the variables used are data for trade
openness and current account balance. The result shows that though the Nigerian manufacturing sector benefitted from globalization process, the level of development in the sector was found to be highly negligible. That is globalization exerts little impact on economic growth via manufacturing sector of the economy.

Based on the above review, we observed two diametrically opposed views of trade liberalization. One perspective is that trade openness will stifle industrial productivity by opening up the economy to superior foreign products, compelling infant industries to close up. The other is that outward oriented trade policy will induce over all industrial efficiency in the economy by exposing local firms to competition and thereby improving the allocation of factors across sectors and increasing the values of domestic production.

**RESEARCH METHODOLOGY**

The theoretical framework adopted for the analysis of this study is the human capital model developed by Lucas. The ‘human capital model of endogenous growth’ developed by Lucas (1988) portrays the relationship between trade liberalization and industrial growth.

In order to properly estimate the impact of trade liberalization on manufacturing value-added in Nigeria, an ordinary least squares (OLS) estimation technique is adopted. The general model adopted for this study is in line with the work of Lucas [7]. It is chosen among other methodologies because it is a useful and flexible form of adjustment technique.

In line with Cobb-Douglass production function, trade liberalization is the efficiency parameter that to a large extent; theoretically determine the level of manufacturing sector productivity. Thus trade openness is expected to have positive impact on manufacturing value added.

The above linear relationship can be translated econometrically as:

\[ MVA = \beta_0 + \beta_1 \Delta T + \beta_2 \Delta EXR, \beta_3 \Delta INTR, \beta_4 \Delta CAF + \mu_t \]

This transforms to:

\[ \Delta MVA = \beta_0 + \beta_1 \sum_{t=1}^{\Delta T} + \beta_2 \sum_{t=1}^{\Delta EXR, \Delta EXR} + \beta_3 \sum_{t=1}^{\Delta INTR, \Delta CAF} + \beta_4 \sum_{t=1}^{\Delta CAF, \Delta CAF} + \mu_t \]

Where:
\[ MVA = \text{Manufacturing value-added}; T = \text{Trade openness}; \ EXR = \text{Nominal exchange rate.} \]
\[ \text{INTR} = \text{Nominal interest rate; CAF = Capital formation} \]

The model will be estimated using OLS method. The sample consists of time series 1970-2014. The Econometric Software used in this work is Eview 8.0. The data for this study is secondary data obtained from Central Bank of Nigeria (CBN) statistical bulletin.

**RESULTS AND DISCUSSION OF RESULTS**

To present the long-run relationship between trade liberalization and manufacturing value-added in Nigeria, the ARDL test by way of a simple linear transformation was used. This integrates the short-run dynamics with the long-run equilibrium without losing any long-run information, see table 1.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-value</th>
<th>Probability</th>
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<tr>
<td>D(MVA(-1))</td>
<td>1.63193</td>
<td>7.66</td>
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<td>D(MVA(-2))</td>
<td>-0.43804</td>
<td>-2.61</td>
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<tr>
<td>D(OPENESS)</td>
<td>5340769</td>
<td>0.57</td>
<td>0.5720</td>
</tr>
<tr>
<td>D(OPENESS(-1))</td>
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<td>-2.44</td>
<td>0.0230</td>
</tr>
<tr>
<td>D(OPENESS(-2))</td>
<td>-4.23e+07</td>
<td>-4.71</td>
<td>0.0000</td>
</tr>
<tr>
<td>D(EXCH)</td>
<td>1.45e+08</td>
<td>1.74</td>
<td>0.0950</td>
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<tr>
<td>D(EXCH(-1))</td>
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<td>-0.95</td>
<td>0.3500</td>
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<tr>
<td>D(EXCH(-2))</td>
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<td>2.66</td>
<td>0.0140</td>
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<tr>
<td>D(INTR)</td>
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<td>-1.06</td>
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<tr>
<td>D(INTR(-1))</td>
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<td>0.25</td>
<td>0.8050</td>
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<td>D(INTR(-2))</td>
<td>4.72e+08</td>
<td>1.68</td>
<td>0.1080</td>
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<tr>
<td>ECM_t</td>
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<td>-2.53</td>
<td>0.0190</td>
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<tr>
<td>CONSTANT</td>
<td>-1.10e+07</td>
<td>-0.01</td>
<td>0.9930</td>
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<tr>
<td>R-squared</td>
<td>0.9670</td>
<td>R^2-adjusted</td>
<td>0.9490</td>
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<tr>
<td>F-statistics</td>
<td>53.69</td>
<td>F-probability</td>
<td>0.0000</td>
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<tr>
<td>B-Pagan Test</td>
<td>0.2414</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: The Researchers computation from E-Views 8.0.

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We found that the computed $F$-statistics exceed the critical bound at 1% and 5% significance level. This implies that long-run relationship exist between trade liberalization and manufacturing value added. Thus, we interpreted the short-run regression results associated with the long-run relationship as given in table 4.8. First and second past value of MVA has a significant impact on the current value. Trade openness an indicator for trade liberalization is positive as expected but not significant, whereas the lagged values has a significant impact on the current value of MVA. Both exchange rate and interest rate obeyed their expected signs, though not significant. The error correction coefficients at -0.713 is statistically significant with the correct sign and suggest a high speed of adjustment to equilibrium at 71.3 per cent.

The coefficient of multiple determinants ($R$-squared) with a high value of 0.967 implies that 96 per cent of the total variations in the manufacturing value added indicator are accounted for by all the explanatory variables in the regression model. The significance of the F-value implies that all the explanatory variables jointly exact significance influence on MVA.

The sample forecast of the endogenous variable is made and the actual and forecast value is reported. The model is not capable of tracking the historical values of endogenous variables with reasonable accuracy. The fits were not quite impressive and they did not track the actual data. The inability of the model to capture turning points was remarkable. The model did not forecast the actual variables well.

In the second stage short-run equation, model 3 showed that there is no evidence of autocorrelation using the Bgodfrey test (LM test) since the dependent variable has it’s lagged as independent variable, we cannot use the normal Durbin Watson test. The model passed the normality test (jarque bera normality test-0.772) which suggests that the errors are normally distributed.

Stability test: We tested for the stability properties of the model using the cumulative sum of residual (CUSUM) test and cumulative sum of Residual Square (CUSUMSQ) test. The existence of parameter instability is established if the cumulative sum of the residuals and CUSUM square go outside the area between the two critical (dotted) lines.

Findings from the study reveal that the Nigerian economy has not changed its export structure over the 1970 - 2009 periods. The only changes that have taken place were just a mere shift in exported product indicating a sign of export substitution from primary agro industry-based exports to primary mining industry-based exports (i.e. crude oil). It should be noted that heavy reliance of the Nigerian manufacturing firms on imported machinery and equipments is a reflection of the weak export base of the country. Also it can be adduced from the findings that the inability of the Nigerian manufacturing sector to respond positively to the export potentials inherent in trade liberalization may be due to high cost of production in the country.
that put our manufacturing output in a disadvantageous position in international market.

In addition, the findings from the analysis suggest that the manufacturing sector of the economy is performing below expectation ever since the country embraced open trade policy. This may be traced to the fact that our manufacturing industries were still in embryo stage when the country liberalize its economy, which in turn lead to the closure of some of the manufacturing firms and relocation of others to other countries especially Ghana.

POLICY RECOMMENDATIONS AND CONCLUSIONS

Findings in this study suggest that the Nigeria economy is highly monolithic, hence the dominance of crude oil in the export sector. Also, enough incentives for efficient resource allocation in order to promote manufacturing exports within the on-going process of trade liberalization have not been created. Furthermore, the sector is faced with challenges of trade and stiff competition at both regional and global level. Thus, a set of recommendations that will make our manufacturing outputs to be export oriented are suggested in what follows.

Nigerian government should continuously and consistently introduce further deregulation or reform measures aimed at eliminating an anti-trade bias through removals of export restrictions and increases in domestic competition. This approach will reduce market distortions and raise efficiency in the manufacturing industry. For instance, removals of non-tariff barriers and associated domestic regulations of manufacturing sector will stimulate exports of manufacturing outputs in the economy.

In addition to the above measures, government should adopt positive manufacturing and trade policies in which resources should be allocated to important sectors through persuasion by directing banks to offer credit to local manufacturing firms. In order, to really spur massive investment in the manufacturing sector, government should lead in providing access to long-term funding at concessionary interest rates as commercial banks are not suitably placed to offer such facilities. In order to encourage and persuade commercial banks to voluntarily provide a large part of their credit facilities and also allocate a large part of the foreign exchange acquisitions from the official market to manufacturers. Government patronage of these banks should be conditional on acceptable performance of the banks in these regards.

There is need to quickly revitalize the industrial base of the economy and promote backward and forward linkages among all categories of industries in the Nigerian manufacturing sector. Besides, manufacturing firms should be encouraged to source their production machinery locally.

Moreover, despite the current global emphasis on privatization and deregulation, a mutual mixture of the invisible hand of the market with the visible hand of the state should guide the process of manufacturing activities, economic diversification, trade and development similar to the case of the East Asian Tigers. In this regard, Nigerian government should:

(i) Support the manufacturing sector by providing incentives such as subsidized loan and transitory tax exemption to encourage both indigenous and foreign entrepreneurs.

(ii) support other sectors of the economy such as transport and public utility which are crucial to manufacturing sector by reducing their service costs; and

(iii) Support manufacturing and skilled labour training and technological progress by providing the necessary technical support to the existing manufacturing firms.

Also, manufacturers should make more effort to compete directly through raising product quality, efficiency, and productivity and maintaining minimum input costs. Finally, domestic enterprises should exploit fully local sourcing of their inputs in order to minimize over reliance on foreign raw materials that raises their cost of production.

In conclusion, given the recent trend towards trade liberalisation policy, it is imperative for the Nigerian government to formulate appropriate manufacturing and trade policies as suggested above. These policies will foster healthy competition among manufacturing firms and make Nigeria to enjoy the emerging opportunities and sufficiently compete in the international market without adopting protection measures.

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