# Trade Policy Incentives and Economic Growth in Nigeria

Emmanuel Dele Balogun

*Abstract*—This paper analyzes, using descriptive statistics and econometrics data which span the period 1981 to 2014 to gauge the effects of trade policy incentives on economic growth in Nigeria. It argues that the provided incentives penalize economic growth during pre-trade liberalization eras, but stimulated a rapid increase in total factor productivity during the post-liberalization period of 2000 to 2014. The trend analysis shows that Nigeria maintained high tariff walls in economic regulation eras which became low in post liberalization era. The protections were in favor of infant industries, which were mainly appendages of multinationals but against imports of competing food and finished consumer products. The trade openness index confirms the undue exposure of Nigeria's economy to the vagaries of international market shocks; while banking sector recapitalization and new listing of telecommunications companies deepened the financial markets in post-liberalization era. The structure of economic incentives was biased in favor of construction, trade and services, but against the real sector despite protectionist policies. Total Factor Productivity (TFP) estimates show that the Nigerian economy suffered stagnation in pre-liberalization eras, but experienced rapid growth rates in post-liberalization eras. The regression results relating trade policy incentives to TFP growth rate yielded a significant but negative intercept suggesting that a non-interventionist policy could be detrimental to economic progress, while protective tariff which limits imports of competing products could spur productivity gains in domestic import substitutes beyond factor growth with market liberalization. The main constraint to the effectiveness of trade policy incentives is the failure of benefiting industries to leverage on the domestic factor endowments of the nation. This paper concludes that there is the need to review the current economic transformation strategies urgently with a view to provide policymakers with a better understanding of the most viable options that could make for rapid success.

*Keywords*—Trade Policies, macroeconomic incentives, total factor productivity and economic growth.

## I. INTRODUCTION

THERE is the consensus among policy analysts that historically, no country has made the arduous journey from widespread rural poverty to postindustrial wealth without employing targeted and selective government policies to modify its economic structure and boost its economic dynamism. The nature of policies often employed depends on a country's economic state and structures requiring transformation and the need to adopt some kind of targeted industrial policy. These include the adoption of macroeconomic and sector specific incentives intended to spur rapid growth of key sectors such as agriculture and industry. This has often elicited the need to adopt or design some

models of industrialization strategies which relies essentially on the use of trade policies to promote the desired structure of incentives capable of driving the process of structural transformation in the desired state of economic development.

The general consensus in the literature is that the process of structural transformation remains particularly challenging for developing and emerging economies. Their efforts to upgrade and diversify away from pervasive crude indigenous firm and farming production methods, led to the adoption of some modern techniques from earlier industrializers. Among these are accumulated enabling capabilities such as individual and enterprise level know-how and skills, along with collective knowledge and sources of creativity. The tendencies among many developing countries is to supplant truly indigenous enterprise with wholesale adoption and fostering of foreign productive capacities (embodied in production factors and physical and technological infrastructure) which hitherto give foreign producers significant cost and productivity advantages that equip them to push out their technological frontier through research and innovation.

Although these advances offer developing countries many opportunities to catch up rapidly by learning to master technologies and products already available in more developed countries, the key question is: how can such learning be accelerated and what does catching up encompasses? Catching up encompasses two related processes: first, the strengthening of capabilities that enable developing economies to trigger, accelerate and manage structural and technological transformation; and, second, the accumulation of productive capacities through a sustained process of investment. In both aspects, success requires active policies that provide incentives, direction and coordination.

There is the agreement among policy analysts that historically, the State plays a proactive role in succesul structural transformation processes [1]. Among these roles are the provision of macroeconomic and sector specific incentives for creating efficient markets and nurturing enterprises, provision of innovation extension services, capacity building, infrastructure developments and provision of finance. However, the path often taken in terms of country specific approach and the outcomes differ, and depends on the adopted industrialization strategy or models. Three such models become very handy in analyzing adopted incentives structures: export-led, import-substitution industrialization strategies and a viable combination of the two.

In the case of Nigeria, which is the focus of this study, she adopted the import-substitution industrialization strategies as the main catching up policies. This entailed the provision of

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enabling environment that is conducive for the inflow of foreign direct investment via multinational corporations that sites branches in Nigeria producing principally their franchised products for the domestic market. Their main attraction was the presence of a large market and a wide range of protective tariffs concessions given Nigeria's large population coupled with rising incomes associated with being an oil exporting nation. There was a relatively less emphasis on the need to have access to raw materials such as abundant agricultural, minerals and crude oil resources. The arrays of promoted industries range from food and agro-allied industries to luxury consumables such as auto assembly plants, GSM telecommunications, building and road construction companies and financial institutions.

While from a cursory observation, it can be said that protective policy incentives spurred domestic supply, meeting the demand for the same products was predominantly augmented with imports. More worrisome is the state of catching up which these industries promise in Nigeria. It is the general belief that the domestic resource content of products of these industries is less than 30 per cent. Of concern to this study, is the extent to which protective trade policies contributed to enhancing the relative TFP of the Nigerian economy over time. This study argues that the nature and structure of trade incentives provided penalized aggregate economic growth.

The rest of the paper is structured into four sections. Sections II and III present the literature review and methodology, while Section IV discusses the results of the analysis. The final section presents the concluding remarks and policy implications.

## II. RELATED LITERATURE

The literature is replete with differing views on the effectiveness and patterns of state intervention especially trade policies incentives used to accelerate growth and development. While one school of thought believe that protective tariffs can be overdone, with negative consequences, and that "hard industrial policy" measures can be distorting; but it is also clear, as recent studies recognize [1], [2] that there are many cases where industrial policies have been successful, with substantial development impact. Examples abound in the Asian Tigers, Ireland, Brazil and Costa Rica, whereby using foreign direct investment (FDI) as a tool of industrial policy created competitive steel and aeronautics sectors, which are now generating significant exports – indeed, industrial policy is widely recognized across Latin America as having been of critical importance in launching new export activities in the region.

Although the literature on the links between trade openness, structural transformation and economic growth is vast, a majority of the evidence shows that most successful economies have used smart combinations of trade opening, export promotion, and support and protection for infant industries as part of a wider set of policies to stimulate structural transformation. Consequently, trade policies and its periodic reforms are not pursued as stand-alone goals but often accompanied by other policies: infrastructure, education and training, enterprise development, entrepreneurship, innovation, finance and indeed social policies [3].

In terms of strategic approach, the literatures suggest that posing the policy issue as a contest between import substitution and export-led industrialization models is misleading. This is because evidences abound where FDI spurred local firms emerging successfully from an expanding domestic market and connecting with regional and global value chains [4]. This could be more effective if complemented with balanced packages of trade and competitiveness measures, the development of education and skills, and the maintenance of competitive exchange rates. Successful exporting is itself contingent on a favourable investment dynamic. As incomes increase, rising labour costs and the entry of lower-cost producers can rapidly erode the competitiveness of labour-intensive manufactures, creating a need for new investments to maintain productivity growth and to enable upgrading to higher value added activities.

In terms of economic models and frameworks, some authors [5] note that a number of different economic traditions have fed into the recent renewal and reshaping of discussions on productive transformation and industrial policy. These ranges from some of the most interesting conceptual approaches and frameworks developed recently, drawing on the neoclassical, structural, evolutionary and institutional traditions. Five discernable strands of literature provide the link between trade incentives and industrial productivity. First, is the structuralist macroeconomic model which argues that a dynamic restructuring of production and trade through macroeconomic and sector specific policies, can foster growth and address poverty concerns if it generates new jobs to keep pace with a rising labour force [1] as well as provides evidence of the link between diversification patterns and growth rates [6], [7]. It is further argued by these structuralist postulations that success is contingent on an effective combination of macroeconomic policies reforms with an adoption of a proactive industrial diversification strategy.

The second classified as "Following (latent) comparative advantages" models posit that specialization in products in which a country has comparative advantages [8], [9]; supported by public institutions, despite the strong argument against it [10], [11] holds the key to successful industrialization. This view is further supported by the neoclassical postulations [12] that recognize the role of institutions and governance in fostering latent comparative advantage based on the doctrine of factor endowments, to identify and target sectors for investment and government support in a country-specific context. Among these roles deserving of policy interventions is the need to overcome dearth of data and information for assessing the potentials and prospects of new activities and sectors.

The third, classified as "Technology, learning and innovation" models posits that high-performing economies are those that experience significant shifts in the production possibility frontiers of their economies given production characteristics and factor endowment. This school of thoughts

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[13] argue that innovation can shift the production possibility frontiers from a relatively stagnant and inelastic supply state to a fast growing economy characterized by rapid technological progress, high productivity growth and high wages. The proponents of this model further argue that success is contingent on the role of the State in fostering conditions conducive to learning[14] beyond a one-time improvements in economic efficiency and savings accumulation.

The fourth classified as a theory of capabilities and learning strategies [1] focus on the role of capabilities in shaping structural transformation. This theory which is of a more structuralist persuasion [1] focus on how capabilities influence the products and technologies that firms and economies can develop, and how a certain product and technology structure or portfolio is associated with certain capabilities for further diversification. However, some authors of this theoretical persuasions [15]-[17] caution that though mprovement in capabilities influences processes of technological assimilation and adaptation, it is unclear how it transmit to growth.

The fifth [1] can be classified as "Industrialization through global value chains" models. The proponents of this theoretical persuasion [1] posits that global value chains (multinational corporations), which account for an increasing share of international trade, output and employment has been facilitated by production process fragmentation. This process has been facilitated by globalization and trade/investment liberalization in recent decades, whereby multinationals have sought to locate labour-intensive activities in low-wage countries while retaining high value added activities in capital abundant countries.

To conclude, literature [1] notes that the various economic models and frameworks discussed so far have different implications for industrialization policy in terms of objectives, dimensions, scope and instruments. For example, the GIF approach defines industrial policies in a narrow sense, with a limited role for the State, mainly identifying new economic activities and facilitating changes in factor endowment structures, without going beyond the boundaries of comparative advantage. In contrast, the capabilities approach defines a wide scope for industrial policy, tasking it with promoting productive capabilities and learning processes as well as enhancing productive capacities, and shaping patterns and processes of productive transformation aimed at higher productivity growth that enhance the quantity and quality of jobs.

## III. THEORETICAL AND EMPIRICAL NEXUS

### A. Theoretical Nexus

The link between trade and growth is often analyzed in the context of both static and dynamic effects. While static analysis notes that if a country moves from autarky to trade, a protrade and/or ultra-protrade production and consumption growth occurs under conditions of liberalization and has little to tell us about future performance, the dynamic effects operate through their impact on competition and profitability which could be positive or negative.

While economists agree that trade liberalization will increase competition and this could affect innovation, they are divided generally on the relationship between innovation and competition [1], [18]-[22]. On the one hand, there are those [20], [21] who believe that competition is good for innovation because monopoly leads to lethargy and seeking "the quiet life". On the other hand, there are those like Schumpeter [23] who point out that some degree of monopoly is required to stimulate innovation.

In general, the consensus is that trade incentives which elicits investment in technological change and innovation will be stimulated by anticipated profits, scale of operations, degree of emulation or catch-up, degree of horizontal or vertical integration of multinational as well as adopted industrialization strategies. In this context, it is expected [1] that while trade could stifle innovation in import-competing industries, it could stimulate growth in export sectors. It is further argued that if indeed, an inverse relationship exist between import competition and the returns in certain industries, there is the likelihood that less expenditure will be devoted to R&D (depending on the scale of operation) since research has a substantial fixed cost component. In contrast, it is posited that there could be more spending on R&D in export sectors in anticipation of enlarged scale of activity because of the gains for innovation in global markets which surpasses the gains in local markets. While this gain [1] could come from catching up experience deployed to shift the production possibility frontiers of sectors with rapid growth potentials, (especially export sector industries with relative comparative advantage and factor endowments), import competing sectors could be adversely affected.

With regard to emulation, it is the belief among some policy analysts [1] that competition and exposure to superior foreign firms could spurr rapid technological acquisition and adaptation that may lead to faster economic progress. They conclude that the general expectation is that more technologically backward countries are likely to be able to grow faster than advanced countries by copying or absorbing tested new technologies. This they argued can be trade stimulating if promoted enterprises are vertically integrated and dependent on intermediate inputs sourced within a framework of global value chains located in other countries. This position is bolstered by the works [1] and [24] which argues that this can be productivity enhancing if local firms can take advantage of the scarce capital intensive technologies embodied in these foreign firms. Also, other studies [15] allude to the existence of paradigms shift away from traditional profit maximization which induces managers to innovate when international competition threatens their rents. This involves the existence of managers who satisfice rather than maximize and behave under conditions of what is sometimes termed bounded rationality. Basically, they do not innovate continuously, but do so when subject to an unusual stimulus. In this world, import competition may spur competition while the greater profitability of exports could actually do the reverse.

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Overall, some authors [19] note that theory is actually quite ambiguous on the dynamic effects of trade. They maintained that there are some reasons to expect that increased international competition could accelerate productivity growth but sometimes the reverse, lending credence to the divided beliefs on the likely impact of trade on growth. Citing the case of Japan and other developing countries, they note that for about 30 years beginning from the 1950s, import substitution and protectionist policies was seen by many as a crucial element for development. They further note that empirical literature is sharply divided on whether countries that grow faster tend to export more or whether exporting more leads to faster growth. This ambivalence posture is further amplified by several studies which attempts to link protectionist trade policies to either growth or productivity growth [25]-[29]. In general, the concensus is that protection is negatively associated with productivity growth within various industries, and that countries who followed more protective policies tended to suffer economic stagnation and reduced productivity/output growth. Also some literatures note that while relatively efficient firms become exporters, such experience did not significantly lower unit costs of production [30]. It is also not clear whether firms with high productivity levels that become exporters, have superior productivity and wage growth [31], [32]; if imports of capital and intermediate goods occassioned by the need to supply inputs which would otherwise not be available locally is a cost or benefit [33], [34]. Others [35] note that there are many grey areas with respect to the association between trade and growth especially the direction of causation - if trade leads to growth or vice versa. It is also unclear if the channels by which this effect operates - whether through the impact of exporting or import-competing activity, or spillover effects.

*B. Empirical Nexus*

The empirical literature for this study draws on the work of several authors [35]-[38] which focuses on the concept of TFP. According to these authors TFP is the portion of output not explained by the amount of inputs used in its production. As such its level is determined by how efficiently and intensely the inputs are utilized in production. The literatures notes that TFP is usually measured by the Solow residual. Let $gY$ denote the growth rate of aggregate output, $gK$ the growth rate of aggregate capital, $gL$ the growth rate of aggregate labor and alpha (α) the capital share. The Solow residual is then defined as $S\mathcal{E} = gY - \alpha * gK - (1-\alpha)gL$. The Solow residual accurately measures TFP growth if (i) the production function is neoclassical, (ii) there is a perfect competition in factor markets, and (iii) the growth rates of the inputs are measured accurately. The consensus in empirical literatures [10] and [12] is that TFP growth accounts for the long-term growth of an economy far beyond the neoclassical model postulates of rapid factor growth and savings.

The model adopted in this study draws from a work [35] that simulates control for several determinants of TFP growth and then tested for the effects of trade and industrial policy. Among the variables included in the model are: firstly,

measures of the degree of technological backwardness which they expect to converge, asserting that sectors that are relatively backward will tend to have relatively faster TFP growth. Second, the authors [39] argued further that learning-by-doing reflected in experience which generate improvements in productive efficiency and measured by inter temporal comparison of cumulative output growth in each sector is important. Third, they postulate that spending on research and development measured by R&D to sales ratio can be important sources of TFP growth. In addition to these three control variables, they also include industry and time dummies to capture cycle and sector specific determinants of productivity growth. Finally, they added variables which measure trade involvement, trade policy and industrial policies. These include the share of imports in domestic demand, the share of exports in total output, the level of tariff protection and several industrial policy measures.

Two empirical approach is adopted in this study. The first is descriptive statistics which compares the aggregate and sectoral estimates of TFP growth rates from 1981 to 2014. This is based on the sources of growth accounting technique that divides the growth in output into three different sources: increases in capital, increases in labor, and advances in technology. Thus the effect of changing technology is reflected by writing the production function as:

$$Y = AF(K, L) \qquad (1)$$

where A is a measure of the current level of technology called TFP. This is premised on the assumption that output now increases not only because of increases in capital and labor but also because of increases in TFP. If TFP increases by 1 percent and if the inputs are unchanged, then output increases by 1 percent. Reference [40] notes that by allowing for changing level of technology add another term to the Solow equation accounting for economic growth:

$$\frac{\Delta Y}{Y} = \alpha \frac{\Delta K}{K} + (1-\alpha)\frac{\Delta L}{L} + \frac{\Delta A}{A} \qquad (2)$$

whereby $\frac{\Delta Y}{Y}$ is the growth in output; $\frac{\Delta K}{K}$ is the contribution of capital to the growth; $\frac{\Delta L}{L}$ is the contribution of labor and $\frac{\Delta A}{A}$ is the growth in TFP. This key equation of growth accounting identifies and allows us to measure the three sources of growth: changes in the amount of capital, changes in the amount of labor and changes in TFP.

Because TFP is not directly observable, it is measured indirectly. This is done using data on growth in output, capital and labor and also share of capital in output. From these data and the growth accounting equation, the growth in TFP can be computed such that:

$$\frac{\Delta A}{A} = \frac{\Delta Y}{Y} - \alpha \frac{\Delta K}{K} - (1-\alpha)\frac{\Delta L}{L} \qquad (3)$$

Thus $\frac{\Delta A}{A}$ is the change in output that cannot be explained by changes in input.

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Factors that can change TFP are many. They include increased knowledge about production methods, education and government regulation. TFP captures anything that changes the relation between measured inputs and measured output, i.e. the shifts in production possibility frontiers at a given level of factor endowments. The second is econometrics which attempts to model among others the effect of trade policy incentives on the TFP for the Nigerian economy using macroeconomic data which span 1981 to 2014 such that:

$$TFP = f\left(Trf, \frac{P_m}{P_x}, \frac{P_a}{P_i}, Y_d * Y_f, \frac{Crp}{Yd}, \frac{XT+MT}{Yd}, DVar\right) \qquad (4)$$

whereby $Trf$ is the measure of weighted or unweighted annual nominal tariff level; $\frac{P_x}{P_m}$ = Terms of trade defined as the ratio of export price index $(Px)$ to import price index $(Pm)$; Yd*Yf = Product of Domestic GDP (Yd) and Foreign GDP (Yf) of a major trading partner – USA – a measure of the gravity of trade between a large and small country and income convergence; $\frac{P_a}{P_i}$ = measure of bias in sectoral price incentives derived as the ratio of agricultural GDP price deflator (Pa) to industrial GDP price deflator (Pi); $\frac{Crp}{Yd}$, is a measures of financial deepening and market fragility whereby Yd is GDP at market prices and Crp is credit to private sector; $\frac{XT+MT}{Y}$ = Measure of trade openness defined as a ratio of total trade (XT+MT) to GDP at current market prices (Y) and Dvar a dummy variable designed to capture regime shift between pre-liberalization era as 0 and post-liberalization era as 1.

## IV. EMPIRICAL RESULTS

This section presents in brief an overview of Nigeria's trade policy, noting the emergent incentives structure and the implications for aggregate economic performance, identifies the sources of growth especially that of TFP as well as assesses the relationship between trade incentives and TFP or relative productivity of industrial sector in Nigeria.

### A. Trade Policy and Financial Markets Regulatory Regimes

Nigeria can be characterized as a small but relatively open economy in a macroeconomic sense, as she can hardly influence global developments in trade and finance. She is a price-taker in the international markets, possesses an inconvertible currency, and currently trade with the rest of the world through major trading currencies. The main focus of Nigeria's monetary policies over the years was the promotion of economic development (stimulating growth) with less attention paid to inflationary controls. Their strategic approach to monetary policy was to adopt demand management strategies which stressed the monetary approach to internal and external macroeconomic adjustment, principally to curb excessive domestic absorption in the face of huge external debts.

The fiscal and monetary policy postures were expansionary as a result of the high degree of fiscal impetus and intervention in monetary policy formulation and implementation. This includes lack of autonomy and independence to the monetary authority which is often undermined by the statutory requirement that the central bank pursue some developmental roles. This include the provision of credit guarantees, refinancing, and funding of specialized lending institutions at concessionary interest rates; provision of retail banking services to government via automatic access to a direct credit facility of the central bank at concessionary rates, and high-powered money creation.

With regard to trade and exchange rate policies, two eras of exchange regimes are discernible in Nigeria: pre- and post-trade liberalization. The pre-liberalization regimes date back to the post-independence era during which there was a desire to use trade and exchange rate policies to promote development through import-substitution industrialization strategies. The primary policy instruments were a protectionist trade regime (restricting imports through increasingly cumbersome systems of tariffs, quotas, exchange controls, and licensing) and fixed exchange rate regimes which resulted in overvalued currencies that penalized exports. During this era, devaluations were considered politically inimical to stable governance, and as such the country reacted to the unfavourable balance of payments developments by tightening foreign exchange and trade restrictions, with adverse consequences such as the emergence of parallel foreign exchange markets, multiple exchange rates, and associated widening premiums, serious balance of payment problems, and huge external debts.

The post-liberalization regimes, which started in Nigeria with the adoption of structural adjustment program in 1986, saw the emergence of several variants of notionally flexible exchange rate regimes principally a dirty float or crawling peg of the Naira to a basket of major traded currencies dominated by the US Dollar. These rates were often heavily managed through central bank intervention, changing rules or regulations in auction or interbank markets, or the institution of temporary trade or payment controls to affect the path of the exchange rate. The Nigerian experience can be categorized as a limited start-stop approach to market liberalizations. This is characterized by periodic reversal of liberalization gains, with returns to fixed exchange rates, emergence of multiple exchange rates systems, and segmented foreign exchange markets from the early 1990s to date. This gave rise to a wide divergence in the trend in nominal and real effective exchange rate indices for Nigeria.

A major component of policy reforms in Nigeria since 1986, is institutional reforms aimed at improving the competitiveness of erstwhile state-owned enterprises, as well as deepening the financial and capital markets to support envisaged rapid transformation of the economic base. As a consequence, there emerged beginning from the year 2000, a strong telecommunications sector driven mainly by inflow of foreign direct investment on GSM and other IT innovations. Also, reforms of the financial markets especially mergers and recapitalization policies led to the dominance of banking sector, with a slowdown occasioned by the global financial crisis of 2007 to 2009, while the adoption of e-payment and e-

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commerce technologies on a large scale deepened further the financial markets since 2009 to date.

### B. Trends and Structure of Trade Policy Incentives

The trends in trade policy incentives provided to spur economic growth in Nigeria beginning from 1981 to 2014 can be categorized into two regimes viz.: pre-liberalization and post-liberalization eras. Six such eras of trade regimes are discernable. These are trade regulation era of 1981-85, onset of trade liberalization or post adoption of structural adjustment program (1986-93), era of reforms lethargy or return to regulation (1994-99), return to economic liberalization era (2000-06), era of global financial crisis (gfc) (2007 to 2009) and financial market deepening and post global financial crisis regime (2010-14).
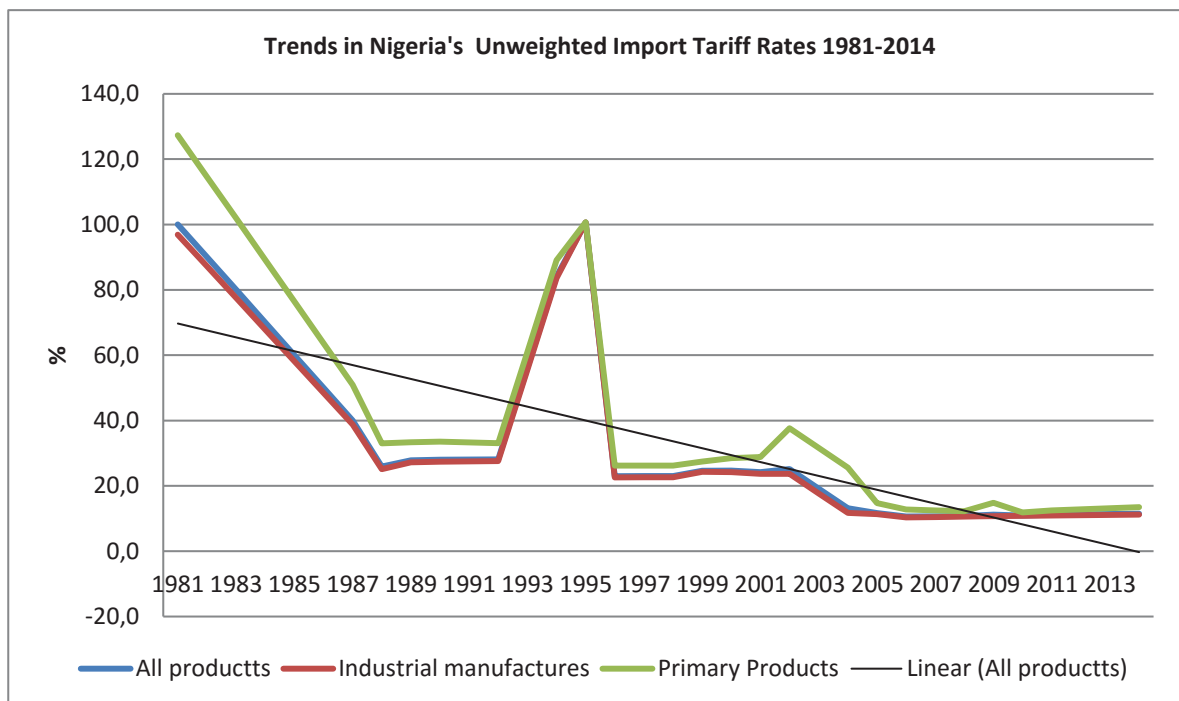
Fig. 1 Trends in Nigeria's Un-weighted Import Tariff Rates 1981-2014 [41]

The trends show that Nigeria maintained a very high tariff walls in eras of economic regulation and has since significantly reduced following adoption of trade liberalization with accent to WTO conventions. Fig. 1 shows that all products, manufactures and primary products import tariff rates fell and rose in line with trade regime shifts with a downward sloping trend line that range from about 80 per cent in 1981-85 to about 11 per cent in 2007-2014. Also, protection was disproportionately in favor of infant industries with heavy duties imposed to stop competing food and finished consumer products whose multinational producers have domestic presence.

Available data on share of total trade in GDP confirms the undue exposure of Nigeria's economy to the vagaries of international market shocks. Table I row c shows that the trade openness index ranged from 53.3 percent in 1986-95 to as high as 75.2 per cent in 1981-85 eras far surpassing the benchmark of not more than 30 per cent in the literatures. This is considered more worrisome given the structure of Nigeria's total trade in which exports is dominated by primary commodities (principally crude oil) whose price is determined by the international commodity markets, whereas she is a price taker with regards to imports of finished products as well as machineries and raw materials. Table I further shows that the undue negative exposure of the 1981-85 era may be attributable to the apparent inability of trade policies to curtail imports in the face of declining exports following the recession in the world oil market during the period. This situation was exacerbated by internal economic distortions which maintained an overvalued domestic currency despite the widening gap between international and domestic inflation. Indeed, nominal Naira exchange rate devaluation undertaken was a mere 9.0% when real exchange rate calculations suggested about 28.7%. Although the extent of nominal Naira exchange rate devaluations as well as trade restrictions was inadequate to stop imports from rising rapidly, the strong export performance in 1986 to 2006 accommodated this unsustainable behavior which became very apparent during the period of the global financial crisis of 2007 to 2009. The terms of external trade captured by the ratio of export prices to import prices remained favorable largely because of the sharp rise in the world market crude oil prices since the mid-1980s to date, Nigeria's major export.

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TABLE I
TRENDS IN TARIFFS, TRADE OPENNESS, TERMS OF TRADE AND EXCHANGE RATE INCENTIVES IN NIGERIA, 1981 TO 2014 [41]

| Policy Regime period | 1981-85 | 1986-93 | 1994-99 | 2000-06 | 2007-09 | 2010-14 |
|---|---|---|---|---|---|---|
| Nigeria's Trade Indices (2000 = 100} | | | | | | |
| Import Value Index | 172.9 | 72.0 | 87.0 | 134.7 | 425.4 | 553.0 |
| Import Volume Index | 454.7 | 136.3 | 87.7 | 126.9 | 293.0 | 339.2 |
| Export Value Index | 73.8 | 46.2 | 60.6 | 125.3 | 336.3 | 447.9 |
| Export Volume Index | 116.3 | 93.7 | 104.5 | 110.6 | 123.3 | 135.1 |
| Import Price Index | 38.6 | 69.9 | 99.2 | 104.1 | 143.0 | 161.9 |
| Export Price Index | 66.8 | 52.7 | 58.6 | 109.5 | 273.6 | 329.1 |
| a. Terms of Trade (Px/Pm) | 173.1 | 75.5 | 59.1 | 105.2 | 191.3 | 203.2 |
| b. Unweighed Tariff Heights (%) | | | | | | |
| All products | 80.0 | 35.5 | 46.4 | 18.4 | 10.9 | 11.2 |
| Industrial/manufactured Products | 77.5 | 34.7 | 46.1 | 17.5 | 10.6 | 11.0 |
| Primary/Agricultural Products | 101.8 | 42.7 | 49.3 | 25.7 | 13.2 | 12.8 |
| Trade Openness Index | | | | | | |
| Earnings from Exports | 75.8 | 89.5 | 100.1 | 137.8 | 207.8 | 349.6 |
| Expenditures on Imports | 120.8 | 49.2 | 67.3 | 125.8 | 298.5 | 213.6 |
| Total GDP expenditures | 260.3 | 259.5 | 305.7 | 453.1 | 690.5 | 903.1 |
| c. Trade Openness Index | 75.2 | 53.3 | 54.5 | 58.3 | 73.6 | 64.0 |
| Exchange Rate Devaluations Mgt. | | | | | | |
| Nominal Exchange Rate (N/$) | 0.7 | 9.4 | 33.7 | 122.7 | 131.1 | 155.5 |
| International USA Inflation Rate (%) | 5.5 | 3.9 | 2.4 | 3.2 | 1.5 | 1.8 |
| Domestic Nigeria Inflation Rate (%) | 15.4 | 19.5 | 30.7 | 12.0 | 12.0 | 8.7 |
| d. Nominal Naira Exch. Rate Devaluation (%) | -9.0 | -30.8 | -12.7 | -4.5 | -4.0 | -1.2 |
| e. Naira Real Exchange Rate Devaluation (%) | -28.7 | -189 | -37.2 | -21.6 | -30.4 | -6.6 |

Related to trade policy and foreign exchange market liberalization is financial market liberalization. Available data show that stock market capitalization grew phenomenally especially since 2000-2006 era when mobile telecommunications companies were listed in the stock market as well as recapitalization of the banking sector. This was accompanied by a rapid rise in financial deepening indicators especially the ratio of private sector credit to GDP from about 8% in 1994-99, which peaked at 27.8% in 2007-2009 before settling at 19% in 2010-14 and thus minimizing the crowding out effect of the dominance of government borrowing from the banking system which was very prevalent in trade regulation regimes (see Table II). Also interest rate liberalization widened the market premium between savings and prime lending rate from about 2% in 1981-85 to about 15.2% in 2000-06 which acted as a source of disincentives to borrowers, while there was credit apathy by lenders buoyed by availability of alternative lucrative portfolios provided by Treasury bills and bonds and foreign exchange markets.

On the whole, the structure of economic incentives seemed to be biased in favor of construction, trade and services, but against the real sector (mainly agriculture and industry) despite the adoption of protectionist policies (Table III). In particular, the construction sector was most attractive because of the dominance of government contracts, while the emergence of strong telecoms and advances in improved payment technologies could perhaps explained the apparent relative lucrativeness of services sectors compared to the real sector since 2006 to date.

*C. Structure and Sources of Economic Growth*

An analysis of Nigeria's economic structure seems to suggest that the trends and patterns tended to reflect largely the outcome of policy incentives structure. During the era of trade regulation and high protective tariffs (1981-85), the manufacturing sector accounted for 36.7 percent of total GDP surpassing the contribution of the primary sectors viz.: agriculture (24.9%) and crude petroleum and gas (12.4%) as shown in Table III. However, the manufacturing sector has since begun to suffer stagnation with the commencement of economic liberalization that has made it less competitive and now accounts for less than 10% of GDP. In contrast, the trade and exchange rate reforms began in 1986 improved the competitiveness of domestic agriculture on two fronts: firstly, imported food became very expensive which resulted in increased demand for locally produced alternatives; and secondly, domestic incomes from agricultural exports were enhanced following abolition of commodity boards and exchange rate devaluations. These perhaps would explain the consistent dominance of agricultural sector contribution to total GDP which ranged from 30.6% to 35.5% (see Table IV) in the post-liberalization eras. The crude petroleum and natural gas sector became prominent following sharp rises in prices in the world oil markets since 1994 to date, while services sector now account for 35.5% in the post global financial crisis period of 2010-14, driven largely by inflow of foreign direct investments on technological innovations in ICTs as well as payments systems.

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TABLE II
FINANCIAL MARKETS DEEPENING AND LIBERALIZATION RATIOS (%) IN NIGERIA, 1981 – 2014 [42]

| Indicators | Money & Credit | | Stock Market Capitalization | Interest Rates | | | | Financial Markets Ratios | |
|---|---|---|---|---|---|---|---|---|---|
| Regimes | M2/GDP | CPS/GDP | ₦ Billion | Minimum Rediscount | Deposits | Savings | Prime | Liquidity Ratio | Loan to Deposits |
| 1981-85 | 16.2 | 10.1 | 5.6 | 8.4 | 8.3 | 8.0 | 10.0 | 52.8 | 78.3 |
| 1986-93 | 13.9 | 9.2 | 19.5 | 16.3 | 18.5 | 15.0 | 20.6 | 40.3 | 66.0 |
| 1994-99 | 11.8 | 8.0 | 229.5 | 14.4 | 12.1 | 8.9 | 19.0 | 45.5 | 68.8 |
| 2000-06 | 18.2 | 11.3 | 1913.2 | 14.7 | 11.8 | 4.3 | 19.5 | 53.8 | 63.5 |
| 2007-09 | 31.9 | 27.8 | 9925.2 | 8.7 | 10.9 | 3.0 | 17.0 | 41.2 | 79.1 |
| 2010-14 | 19.5 | 19.0 | 14189.4 | 10.3 | 6.9 | 2.1 | 16.7 | 54.6 | 51.3 |

TABLE III
PRODUCER PRICE INCENTIVES BIAS REFLECTED IN SECTORAL GDP DEFLATORS INDICES IN NIGERIA, 1981-2014 [42]

| Sectors | Agriculture | Industry | Oil & Gas | Construction | Trade | Services | Total GDP |
|---|---|---|---|---|---|---|---|
| 1981-85 | 0.93 | 0.67 | 0.16 | 3.38 | 0.76 | 1.89 | 1.03 |
| 1986-93 | 3.27 | 2.33 | 1.46 | 7.11 | 3.09 | 4.01 | 3.34 |
| 1994-99 | 23.12 | 14.04 | 10.21 | 28.37 | 24.68 | 18.92 | 21.01 |
| 2000-06 | 48.22 | 32.41 | 27.34 | 69.78 | 58.42 | 56.24 | 47.25 |
| 2007-09 | 81.10 | 57.88 | 54.53 | 94.28 | 90.91 | 98.39 | 76.71 |
| 2010-14 | 109.21 | 124.09 | 129.78 | 111.35 | 119.77 | 118.97 | 117.69 |

TABLE IV
NIGERIA'S TOTAL GDP ANALYZED BY SECTORAL COMPOSITION, 1981-2014 [42]

| Item | Total | % Share in Total by Sectors | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Regime | Billion Naira (₦) | Agriculture | Manufacture | Crude P. & N Gas | B & C | Wholesale & R Trade | Services | TOTAL |
| 1981-85 | 111.3 | 24.9 | 36.7 | 12.4 | 4.0 | 8.1 | 14.0 | 100.0 |
| 1986-93 | 476.6 | 30.6 | 19.5 | 29.5 | 1.8 | 9.6 | 9.0 | 100.0 |
| 1994-99 | 3532.9 | 35.5 | 10.6 | 34.2 | 1.1 | 11.9 | 6.8 | 100.0 |
| 2000-06 | 10843.5 | 32.8 | 5.0 | 39.3 | 1.2 | 12.0 | 9.6 | 100.0 |
| 2007-09 | 23249.3 | 34.2 | 2.6 | 34.6 | 1.3 | 15.2 | 12.0 | 100.0 |
| 2010-14 | 71688.6 | 21.9 | 8.2 | 14.5 | 3.2 | 16.8 | 35.5 | 100.0 |

The attempt to identify the sources of economic growth through the calculation of TFP concept in line with policy regime shifts is quite revealing. The Nigerian economy suffered stagnation as average annual growth rates was a mere 0.24 in 1981-85, during the era of economic regulation (see Table V). This weak performance reflected largely the sharp decline in aggregate investment which fell by 19.5% and 2.9% during the eras of economic regulation of 1981-85 and 1994-99 respectively. The estimates of TFP growth rates remained negative for 1986 to 1999 suggesting that provided policy incentives during this period tended to penalize economic growth. Beginning from 2000 to date, the Nigerian economy experienced rapid growth rates estimated at about 6.7% to 9.9% annually. Whereas the main source of economic growth is traceable to the sharp increase in aggregate investment of about 44.6% annually in 200-06, the expansion in output during the post global financial crisis era is traceable to TFP gains. This suggests that sources of economic growth in 2010-2014 may be traceable to increased efficiency of capital use following policy incentives which may have pushed Nigeria's production possibility frontier to a higher level with less capital (-15.9% annually) than was previously employed. The TFP estimate put at 5.3% annually during the period (2010-14) lends credence to this inference.

TABLE V
ESTIMATED TFP IN NIGERIA, 1981-2014 [42]

| Regime | GDP | S+I | Kshare | gL | gY | Lshare | gK | EFP | TFP |
|---|---|---|---|---|---|---|---|---|---|
| 1981-85 | 260.31 | 71.51 | 0.27 | 3.00 | 0.24 | 0.73 | -19.49 | -2.18 | 2.42 |
| 1986-93 | 259.48 | 34.98 | 0.13 | 2.74 | 1.15 | 0.87 | 2.62 | 2.81 | -1.67 |
| 1994-99 | 305.69 | 36.09 | 0.12 | 2.83 | 1.93 | 0.88 | -2.90 | 2.18 | -0.25 |
| 2000-06 | 453.11 | 30.97 | 0.06 | 2.62 | 9.89 | 0.94 | 44.63 | 6.53 | 3.37 |
| 2007-09 | 690.51 | 99.88 | 0.14 | 2.62 | 6.68 | 0.86 | 25.26 | 6.04 | 0.64 |
| 2010-14 | 903.09 | 99.86 | 0.11 | 3.08 | 6.69 | 0.89 | -15.88 | 1.36 | 5.33 |

*D. Trade Policy Incentives and TFP*

Table VI presents the regression results of (4) as specified in the adopted model for this study. It was estimated using Eviews7 software applications through the Least Square methods. Four equations were estimated in line with trade regime shifts and the parameter estimates and coefficients presented in line with eras labeled A for post-liberalization period of 2000-14; B for pre-liberalization era of 1981-85 and 1994-99 but interspersed with 1986-93 series which related to initial liberalization attempt. In order to accommodate the inclusion of both regimes in the model estimation, the equation presented on Table VI as C estimated for the same period included a dummy variable which assumed the value of 0 (1 in log function) for economic regulation eras of 1981-85 and 1994-99 and the value of 1(10 in log function) in 1986-93. The equation presented on Table VI as D was estimated for the entire data span with a dummy variable which assume the value of 0 for regulation and 1 for liberalization eras. In

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general, all the four estimated equations are in semi-log (independent) linear. That means that the parameter estimate of the explanatory variable coefficients can be interpreted as partial elasticity with respect to the dependent variable, TFP growth rates.

The equation of best fit is represented in Table VI by A which covers the post-liberalization eras from 2000-14. The overall goodness of fit denoted by the Adjusted $R^2$ is about 80% while the estimate of the coefficients of the explanatory variables are all significant at less than 5% confidence level except the variable PA/PI, the ratio of agricultural producer prices to that of industrial sector producer prices, an index designed to capture bias in protection, which is significant at the 10% confidence level.

The constant term is very significant but with negative sign. This could be interpreted to mean that the expected mean of TFP growth rate without the effect of the explanatory variable is negative, suggesting that a non-interventionist policy could be detrimental to structural transformation and economic progress.

The coefficient of the tariff variable estimated at 16.17 is significant and positive suggesting that there is a direct relationship between it and TFP gains. This result is consistent with the position of proponents of Structuralist macroeconomic model which argues that a dynamic restructuring of production and trade through macroeconomic and sector specific policies, can foster growth if it is combined with a proactive strategy for diversification of the production structure, giving particular prominence to industrialization. Thus, protective tariff which limits imports of competing products could spur productivity gains in domestically produced alternatives and economic growth beyond factor growth.

The relative trade openness, the terms of trade and bias in protection variables coefficients, exhibit a positive and significant relation to TFP growth rate. This could be explained by the strong export performance during the period which shielded the countries balance of payment position from the overexposure implicit in these indicators. The terms of external trade remained favorable largely because of the sharp rise in the world market crude oil prices, Nigeria's major export during the period. The significance of the coefficient estimate of income convergence variables lend credence to the assertion that larger country exerts gravitational pull on imports and inflow of foreign direct investments as well as a push to exports which could be growth inducing. Indeed, it is common knowledge that the USA whose income data is included as part of the trade gravity indicator, was a major destination for Nigeria's oil export during this period.

TABLE VI
REGRESSION RESULTS OF TRADE POLICY INCENTIVES AND TFP GROWTH IN NIGERIA, 1981-2014

| | Dependent Variable: TFP growth rates (%) | | | | | | | | | | | |
| Trade Regime Era | A. Post-Lib: 2000 -2014 | | | B. Pre-Lib: 1981- 1999 | | | C. Pre-Lib: 1981- 1999 | | | D. Pre/Post Lib: 1981-2014 | | |
| Variable | Coef. | t-St. | Prob | Coef. | t-St. | Prob | Coef. | t-St. | Prob | Coef. | t-St. | Prob. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| C | -425.5 | -6.91 | 0.00 | -57.59 | -0.4 | 0.70 | 170.5 | 0.60 | 0.56 | -95.86 | -1.85 | 0.08 |
| LOG(Trf-1) | 16.17 | 5.08 | 0.00 | 0.60 | 0.21 | 0.84 | -2.24 | -0.53 | 0.61 | 2.44 | 0.89 | 0.38 |
| LOG[(XT+MT)/Yn]-1 | 7.05 | 2.89 | 0.02 | 4.15 | 0.54 | 0.60 | 1.36 | 0.16 | 0.87 | 5.51 | 1.19 | 0.24 |
| LOG(Pm/Px) | 9.91 | 2.82 | 0.02 | -1.73 | -0.3 | 0.78 | 2.32 | 0.31 | 0.76 | -0.19 | -0.08 | 0.94 |
| LOG(Pa/Pi) | 3.84 | 1.87 | 0.10 | 4.70 | 0.82 | 0.43 | 4.71 | 0.82 | 0.43 | 2.16 | 0.67 | 0.51 |
| LOG(Yd*Yf) | 25.97 | 6.40 | 0.00 | 2.75 | 0.26 | 0.80 | -12.00 | -0.63 | 0.54 | 5.15 | 1.80 | 0.08 |
| LOG(Crp/Yd)-1 | -4.25 | -2.62 | 0.03 | 0.35 | 0.04 | 0.97 | -5.28 | -0.48 | 0.64 | -1.79 | -0.61 | 0.55 |
| LOG(DVAR) | | | | | | | -2.39 | -0.94 | 0.37 | 0.24 | 0.22 | 0.82 |
| R-squared | 0.88 | | | 0.14 | | | 0.21 | | | 0.27 | | |
| Adjusted R-squared | 0.80 | | | -0.33 | | | -0.34 | | | 0.06 | | |
| S.E. of regression | 1.59 | | | 5.18 | | | 5.21 | | | 4.27 | | |
| Sum squared resid | 20.33 | | | 294.7 | | | 271.0 | | | 455.32 | | |
| Log likelihood | -23.56 | | | -50.7 | | | -49.95 | | | -90.13 | | |
| F-statistic | 10.11 | | | 0.30 | | | 0.38 | | | 1.31 | | |
| Prob(F-statistic) | 0.00 | | | 0.92 | | | 0.89 | | | 0.29 | | |
| Mean dependent var | | 3.48 | | | -0.1 | | | -0.10 | | | 1.53 | |
| S.D. dependent var | | 3.53 | | | 4.50 | | | 4.50 | | | 4.41 | |
| Akaike info critrion | | 4.08 | | | 6.41 | | | 6.44 | | | 5.95 | |
| Schwarz criterion | | 4.41 | | | 6.76 | | | 6.83 | | | 6.31 | |
| Hannan-Quinn Crit. | | 4.07 | | | 6.46 | | | 6.49 | | | 6.07 | |
| Durbin-Watson stat | | 3.23 | | | 1.84 | | | 1.91 | | | 1.63 | |

Finally, the coefficient of the index of financial deepening which is captured in the model by the ratio of credit to the private sector to GDP is significant but negatively signed. This is consistent with theoretical expectation, if improvement in capital use creates production efficiency which lowers cost or working capital needs that ought to be financed through borrowing from the financial market. Also, availability of new equity capital which accompanies adoption of innovation and new technology, as was the case of GSM telecoms, banking sector recapitalization and improved payment technologies could lead to economic efficiency with limited recourse to borrowing from the financial markets.

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The regression results presented in Table VI as equations B and C which span the period 1981-99 (predominantly pre-liberalization era) are not significant both in terms of overall goodness of fit and with respect to the coefficients of the explanatory variables. It could be inferred that stagnating economic as well as negative TFP growths recorded for the period 1981-99 were the product of internal economic distortions which was prevalent under economic regulation prior to the adoption of SAP (1981-85) and the era of return to regulation (1994-99). As for the regression result presented as D on Table VI, the parameter estimates are all insignificant like equations B and C on the same table. This could be explained by the sharp structural breaks in the entire data span for most of the explanatory variables following the shifts and vacillations in policy regimes. It also points to the conclusion that the adverse effects of defective policy pursuits may take far longer time to be rectified for the process of economic transformation to resume.

## V. CONCLUDING REMARKS AND POLICY IMPLICATIONS

The discussion of the results so far show that trade policy incentives designed to spur economic growth in Nigeria yielded a less than satisfactory outcomes especially during the pre-liberalization eras compared to the post-liberalizations period. The main policy challenge is the failure of adopted economic transformation strategy to leverage on the domestic factor endowments of the nation. Whereas Nigeria is very rich in labor and natural resources, especially crude oil and associated gas and petrochemicals, she promoted with policies, industries that relied (often times exclusively) on foreign resource contents. The erroneous perception is that the process of economic growth could be fast-track by the attraction of multinational enterprises whose franchised products dominate Nigeria's import basket to site factories in Nigeria, a major market in Sub-Sahara Africa for basic necessities and luxury consumer goods. The expectation is that their presence could give fillip to public policy effort to upgrade and diversify the economy away from pervasive crude indigenous firm and farming production methods, to modern practices capable of shifting the production possibility frontiers of the nation. This outcome is premised on the assumption that these enterprises would tap on the abundant human and mineral resources as a major component of their production systems which is also expected to provide on-the-job training and skills that could become valuable in transforming the traditional production systems. Instead, the experience so far shows that these multinationals that are highly capital intensive have tended to be labor-displacing and have indeed supplanted the indigenous production methods and enterprises.

More worrisome is the apparent lack of linkages between intended beneficiaries of trade policy incentives and the actual recipients. The incidence of the benefits of the proactive role of the State in promoting modernization (through trade policy incentives: tax or tariff concessions, subsidies and transfers) accrued largely to foreign owned enterprises which dominate the industrial sector, while the smallholder agriculture and

SMEs that requires transformation have no access. While it can be acknowledged that in terms of goods supply, the activities of the domestic branches of multinational companies have tended to deepen the domestic market, it however gave very unhealthy competition to products of indigenous smallholder farm and firm enterprises, reputed for providing support to a significant proportion of the economy's labor force. Also, there is very little evidence especially in agricultural and industrial sector to show that the support for learning processes and accumulation of capabilities exist, and where they do, it is targeted at enterprises in which the country lacks factor endowments or comparative advantage. For instance, evidences abound to show that a significant proportion of the capital budget of the central government for agriculture is often devoted to financing fertilizer inputs subsidies, capital intensive irrigation schemes and farm machineries imports which hardly benefits the smallholder farms. Also, industrial sector incentives such as tax holidays, access to specialized lending facilities as well as protective trade policies benefits the medium to large scale industries rather than the smallholder firms.

In conclusion, it is worthy to note that constraints which gives rise to this apparent disconnect could be linked to the failure of promoted policy intervention, institutions and governance to identify sectors and enterprises capable of stimulating inclusive growth. This may explain why the dominant reliance on import-substitution industrialization strategies which targeted the whole economy failed to yield desired result. Evidence abound to show that these approaches, which helped to propel economic growth among the Asian tigers, Brazil and others, was successful because they promoted sectors with promise of factor endowments and relative comparative advantage. It is therefore imperative to agree [12] that there is the need for Nigeria to address this shortcoming by adopting growth stimulation strategy targets which recognizes a proactive role for the State in overcoming information, coordination and externality issues inherent in the development of new activities and sectors as a precondition. There is therefore the urgent need for a paradigm shift from past industrial policy efforts that failed because they were based on a strategy that defied the concept of comparative advantage. Indeed, several promoted industries as well as transformation technologies would not have qualified for support such as motor assembly plants and the myriads of consumer products that depended mainly on foreign resources as main inputs, which pervades the Nigerian economy.

In terms of policy implications, there is the need to urgently review the current economic transformation strategies with a view to provide policy makers with a better understanding of the most viable options that could make for rapid success. There is also the need to make a case for the importance of a number of key lessons and principles that have proved valuable in promoting productive transformation. These include the need for coherent, integrated, multi-sectoral frameworks, setting about targeting in the right way, pursuing a better marriage between trade, macroeconomic and industrial policies, and promoting learning and productive

transformation as interrelated processes. Such an approach should also explore the link between productive transformation, job creation and employment growth, a link which tends to be weak in the current literature.

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