What Inhibits Manufactured Exports in Sub-Saharan Africa: Firm Level Evidence?

Ogujiuba Kanayo *

Stiegler Nancy

Department of Statistics and Population Studies,
University of Western Cape, CPT; South Africa
** Corresponding author: Email kannyog@gmail.com*

Amakom Uzochukwu

Department of Economics
Nnamdi Azikiwe University, Awka, Anambra State, Nigeria

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Abstract. The poor performance of many less developed and developing countries including African economies have been attributed to low growth of exports in general and manufactured exports in particular. In trying to remedy the situation, Sub-Saharan Africa (SSA) economies including Nigeria have adopted different strategies to woo foreign investors in the form of foreign direct investment (FDI) due to insufficient domestic investment that can propel the economic growth process.This study attempts to investigate constraints to manufactured export using firm level evidence from seven SSA economies (Kenya, Nigeria, Tanzania, Cameroon, Mauritius, and South Africa). Employing probit regression and ordinary least squares (OLS), the study found that output per labour, raw materials per labour and indirect cost were the major constraints to manufactured exports. Also, high production and transaction costs (indirect costs) were found to constitute the constraints for exporting both in SSA at large. Based on findings, there is need for provision of export incentives, which may come in two parts: measures designed to increase firm-level efficiency as this would help firms to attain certain level of international competitiveness necessary for sustainable exporting; and measures designed to reduce the transaction and production costs associated with exporting.

Key Words: Manufactured Exports, Firm, Sub-Saharan Africa (SSA)

1. Introduction

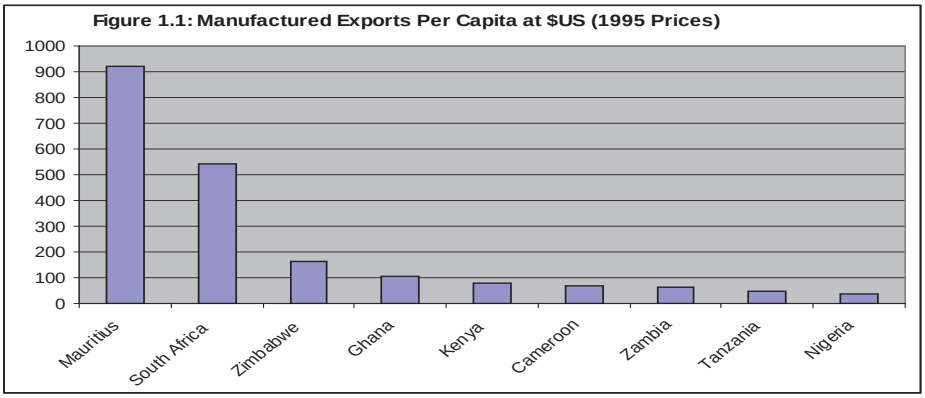
Export-Oriented Industrialization (EOI) is a trade and economic policy with main objective of speeding-up the industrialization process through export of goods for which the country has a comparative advantage. Export-led growth sometimes requires opening domestic markets to foreign competition in exchange for market access in other countries. Reduced tariff barriers, official variation of exchange rate (devaluation of national currency), and government support for exporting sectors are all examples of policies usually adopted to promote EOI, and ultimately economic growth and development. EOI was particularly the characteristic of the development of the national economies of Japan, South Korea, Taiwan and Singapore in the Post World War II period as well as China in the last two decades.

Nevertheless, the poor performance of many developing countries especially Sub-Saharan African (SSA) economies has been attributed to the low growth of exports in general and manufactured exports in particular (Soderbom and Teal 2002). The three most successful exporting countries in Africa have been South Africa, Botswana and Mauritius. In Botswana, rapid export growth followed the discovery of diamonds; South Africa has been involved in exporting both light and semi-heavy manufactured equipments while in Mauritius manufacturing exports played a major role. This low growth of exports has been explained by Harrol, Jayawickrama and Bhattasali (1996), stating that in Africa, the decrease in the share of GDP does not reflect any fundamental transformation of the production structure, or major steps towards industrialisation. According to the trio, in the 1960s, Africa's agricultural production increased at 2.7 percent a year-about the same as population growth. From 1970 to 1985, agricultural growth slowed to an average of 1.4 percent a year, about half the rate of population growth but in South Asia, the lower relative importance of agriculture reveals the path of successful structural transformation and industrialisation. In Asia, increased agricultural productivity permitted the

movement of labour into manufacturing, without a fall in agricultural output. Indeed, a comparison across developing regions suggests that the largest decrease in agriculture's share of output and employment were observed in countries where agricultural output and productivity have increased the most as a result of private investment.

1.1 Challenges of Manufactured Exports in Sub-Saharan Africa

There is no doubt that manufactured exports remain one of the most powerful engines for economic growth because it acts as a catalyst to transform the economic structure of countries, from simple, slow-growing and low-value activities to more productive activities that enjoy greater margins driven by technology and having higher growth prospects (Albaledjo, 2003). Unfortunately, a look at the manufactured export per capita in SSA as shown in figure 1.1 below reveals that SSA economies are yet to meet with some of their counterparts in Middle East and North Africa (MENA) and South Asia (SA) [1] regions .



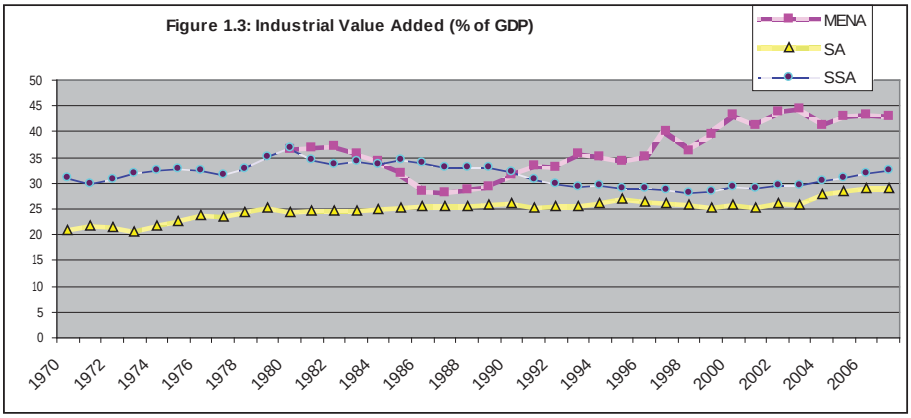
Source: Soderbom et al 2004

The situation is worse when SSA is compared to South Asia (SA) and Middle East and North Africa (MENA) regions in terms of FDI Inflows, industrial value added (% of GDP) and gross capital formation (% of GDP) as depicted in figures 1.2 &1.3 below. Figure 1.2 reveals an upward trend and almost moving at the same pace for the three regions in terms of FDI Inflows for the period 1970-2007. On the contrary when it comes to industrial value added (% of GDP) and gross capital formation (% of GDP) as reflected in figures 1.3, the opposite is the case for SSA region.

Source: Authors' Computation using data from Word Development Indicators (WDI)

[1] Average manufactured export per capita in East Asia in 2004 was more than US$1500.

A look at figure 1.3 suggests a decrease in industrial value added (% of GDP) for the SSA for the period 1990-2007 contrary to increase in FDI inflow within the same period unlike the MENA and SA regions that recorded an increasing trend in industrial value added (% of GDP) at the same period.



Source: Authors' Computation using data from Word Development Indicators (WDI).

Comparing the ratio of manufactured exports to GDP, the average (6 per cent) is just over half of the average for the low-income countries confirming that in SSA, manufactured export performance is particularly poor, hence may be one of the sources of *stagnation* other things being equal. Figure 1.3 above presents the picture of SSA industrial value added and gross capital formation (% of GDP) when compared to South Asia and MENA regions even with increase in FDI inflows (Figure 1.2). Then the BIG question remains what constrains manufactured export in Africa?

In the words of Almedia and Fernades (2006), while most of the firms improve their technology by simply initiating or adapting existing production techniques to local conditions, other firms are truly engaged in the creation of new technologies. The former is mostly found in the developing countries while the later are clearly in the highly industrialized countries. This implies that exporters acquire from their foreign customers, information on how to improve the manufacturing process, decrease production costs, improve product design, and upgrade product quality. This information, as argued, gives exporters a performance edge and that has been the case with countries like Argentina, Brazil, Colombia, Indonesia, and Vietnam where manufacturing accounts for 30% to 55% of merchandise exports while in Hungary, Mexico, Pakistan, the Philippines, and Turkey, manufacturing accounts for more than 80% of merchandise exports. However appealing these arguments may be, skeptics reject them. When Clerides et al. (1998) linked exporting to productivity they broached a debate between those who believe that exporting is truly good for firms because it increases their efficiency and those who attribute most of the positive correlation between exporting and productivity to self-selection. Evidence in favor of learning by exporting, i.e. additional productivity gains from exporting, has been found by Aw et al. (2000) in Korea, Girma et al. (2003) in UK, De Loecker (2005) in Slovenia, and Van Biesbroeck (2005) in Cote-d'Ivoire.

But its potential benefits are even greater today due to rapid technological change, sweeping liberalization and the increased internationalization of production. Manufacturing has become the main means for developing countries to benefit from globalisation and be able to bridge the income gap with the industrialized world as is the case with China, Vietnam and India. This is clearly evident in the rapid development of Asian Tigers. South Korea's 25% of GNP derives from manufacturing industry, which has recently broadened its scope to become very successful in high-tech precision manufacturing in the consumer electronics, multimedia computers/notebooks, aerospace and defense markets. China's surging trade surplus is driven by continued increases in high-tech exports.

Manufacturing sector exhibits a 'pull effect' on the other sectors of the economy by stimulating the demand for more and better services in banking, insurance, communications and transport. An insight into the sector benefits implies that if Nigerian manufacturing sector is vibrant just like that of China or other developing economies, it can stimulate a more productive agricultural sector, making use of technological advances and a boost in human capital. The industrial sector has been confirmed the main vehicle for technological and human development. Today, the sector represents the hub of technical progress, not just in developed countries but also in developing ones. A good example is in countries like Argentina, Brazil, Colombia, Indonesia, and Vietnam where manufacturing accounts for 30% to 55% of merchandise

exports while in Hungary, Mexico, Pakistan, the Philippines, and Turkey, manufacturing accounts for more than 80% of merchandise exports (Hanson and Roymond 2007). Industry uses technology in many forms and at different levels to increase returns to investment, by shifting from low to high productivity activities. This entails a process of constant technological upgrading and learning. Apart from that, skills are a potential determinant of manufacturing exports and investment (Soderbom and Teal, 2001). According to the duo, both dimensions of skills should increase the return on physical capital and thus, the incentive to invest and export and this can be achieved through technological progress thereby making manufacturing a catalyst to technological progress and the main means to achieve higher and more sustainable industrial margins.

Apart from the above functions and features, manufacturing is less exposed to external shocks, price fluctuations (like Nigerian oil prices), climatic conditions (agricultural products) and unfair competition policies. Most SSA economies are very unstable due to their dependence on primary goods like oil and agricultural products. Economic growth has often coincided with peaks in oil prices but in the longer run however, primary goods exports face declining terms of trade due to their low value added to manufactured goods *(Prebisch-Singer hypothesis),* and the constant fluctuations in world prices. In addition, unfair competition policies have distorted primary goods markets around the world. For instance, subsidized farming in developed countries has closed down market prospects for primary goods exporters from poor nations.

Consequences of a prolonged poor state of manufacturing exports in SSA have resulted to among others: unrestricted influx of commodities into the already flooded Nigeria and regional markets; serious de-industrialization and collapse of fledgling local industries; job loses, factory closures and massive unemployment of teeming new graduates; jeopardizing of local industrialization policy and efforts; negative impacts on balance of payments; exacerbation and loss of control of exchange rates; uncontrollable interest rate regime; diminishing external reserves; nose-diving of the GDP; debt stock, and above all poverty escalation, among others.

2. Brief Theoretical and Empirical Literature

Nevertheless, much of the literature on international entrepreneurship emphasizes the importance of exporting as a learning process, consistent with the notion of absorptive capacity and the resource-based view of the firm (Cohen and Levinthal, 1989; Barney, 1991; Teece *et. al.,* 1997, Söderbom, & Teal 2001; Söderbom, & Teal 2002; Bigsten, Collier, Dercon, Fafchamps, Gauthier, Gunning, Oduro, Oostendorp, Pattillo, Söderbom, Teal &. Zeufack 2004). The process of going international is perceived as a sequence of stages in the firm's growth trajectory, which involves substantial learning through internal and external channels, so as to enhance its competency base and performance. Thus, the learning-by-exporting proposition is consistent with this literature on business internationalization. Indeed, positive learning effects for firms engaged in exporting have been identified, particularly where different econometric methodologies are adopted (e.g. *Kraay, 1999*; Castellani, 2002; and Hallward-Driemeier *et. al.,* 2002). What is more, a strand of the literature also documents evidence on the co-existence of selection and learning effects, such as Baldwin and Gu (2003), Girma *et. al* (2004) and Greenaway & Yu (2004).

3. Modeling Export Function Using Cobb-Douglas Production Function

The analysis here is based on the standard production theory, in other words, the Cobb-Douglas production function as shown in the theoretical framework above with the assumption that the relationship between inputs and output can be approximated by a production function that is known to the firm. The study writes the production function in general notation as

$$Y_{it} = A_{it} F(Z_{it}) \quad \ldots\ldots (1)$$

Where Y_{it} is the level of output, A_{it} is total factor productivity (TFP) and Z_{it} is an *n* order vector of inputs, where the study assumes that *F:* is continuous, strictly increasing and quasi-concave. The latter two assumptions are readily testable but were not tested in the present study. Factor demand is linked to the firm's technology and factor prices. Empirical studies based on firm level data, both from developed and developing countries, typically report substantial variation in factor intensities across firms[2]. In the first case, large firms choose more capital per employee than small ones because capital is relatively cheaper hence technology is kept constant (homothetic), while the relative price of capital decreases with size, so factor prices vary with firm size and large firms choose more capital per employee than small ones. In the second

[2] Two possible mechanisms generating such differentials have been extensively discussed in the literature (e.g. Little, Mazumdar and Page, 1987).

case, a non-homothetic technology can lead to factor choices varying while factor prices are constant. Again, large firms have higher capital-labour ratios, but this is caused by the non-homothetic technology rather than by heterogeneous factor prices.

3.1 Technical Efficiency

Equation (1) above represents the 'frontier', production function in that it defines the maximum output attainable for firm *i* at time *t*, given the technology A_{it} and the input set Z_{it}. Firms that use A_{it} and Z_{it} inefficiently, however, will not achieve their maximum potential output. The ratio between actual and potential output is conventionally defined as the level of *technical inefficiency*, where firms that use A_{it} and Z_{it} efficiently will have an inefficiency score of unity, and inefficient firms will have scores in the (0, 1) interval. There has been a continuing development of methods over the past 50 years to compute inefficiency scores, with the two principal methods being stochastic frontiers, which is based on econometric methods, and data envelopment analysis (DEA) [3], relying on mathematical programming. Stochastic frontiers accommodate statistical noise in the dependent variable by means of introducing a residual, while typically treating inefficiency as a random parameter. A general class of such models is presented in Battese and Coelli (1992); another general form is that proposed by Battese and Coelli (1993). One unattractive feature of these random effects models is that the inefficiency term typically is assumed to be uncorrelated with the explanatory variables in the frontier production function. If the inefficiency terms are in fact, correlated with firm attributes, the estimated parameters and the inefficiency scores from such models will be biased (Tybout, 1992). Given that both the inefficiency term and the residual are unobservable, there are substantive identification issues that need to be addressed. With cross-section data, it is not possible to separate the residual from inefficiency without making parametric assumptions about the distribution of the residual and the inefficiency term, which is unattractive. If panel data are available, and if it is reasonable to assume that inefficiency is approximately constant over the time-span during which the firm is observed, then the study can model inefficiency as a time invariant, firm specific effect. Contrary to most studies in the area, this study makes no assumptions about the distribution of inefficiency, and also allows the inefficiency term to be freely correlated with the arguments of the production function. Defining the inefficiency term as $U_i = exp(-\mu_i)$ and the residual as ε_{it} the study rewrites the production function as:

$$Y_{it} = A_{it}F(Z_{it}).U_i.e^{\ell_{it}} \quad \ldots\ldots (2)$$

In the empirical analysis, the study allowed for correlation between €it and the arguments of *F*, caused by, for instance, measurement errors of the kind discussed above.

3.2 The Export Function

In order to translate (2) into an expression suitable for econometric analysis, the study adopted an explicit functional form of the production function *F,* which provides a reasonably close approximation of the real technology. One flexible form which has been used extensively in studies estimating cost and production functions, is the second-order transcendental logarithmic ('translog') production function (Christensen et al., 1971; Berndt and Christensen, 1973), which the study writes as

$$InF_{it} = \Sigma_j \beta_j InX_{jit} + \tfrac{1}{2}\Sigma_k \Sigma_m \beta_{km} InX_{kit} InX_{mit}, \ldots\ldots \quad \beta_{rs} = \beta_{sr} \text{ for all s, r } \ldots\ldots\ldots (3)$$

where *Xj* is the *j*th input in the production process, *j*=1,2,…, *J*, X_k and X_m represent input processes for export and import while β_{rs} denotes parameters to be estimated. The translog specification is attractive, because it nests or approximates a number of popular models in the literature, and for our purposes, it is especially useful because output and substitution elasticities are allowed to vary with the levels of the inputs, hence homotheticity is not imposed. The following shows three key parameter restrictions on (3) which the study tests for in the empirical analysis:

In the empirical analysis, if the study was intended in detail derivation of the production function, the study would have used two definitions of the dependent variable in the production function, namely gross output and value-added[4] but

[3] While DEA is attractive, in that it does not require any parametric assumptions about the functional relationship between inputs and output, a significant disadvantage of this procedure is that the computed inefficiency scores are very sensitive to measurement errors, either in output or the input variables. Therefore, in the researcher's view, DEA is not very well suited to survey data sets and was not used in this study.

[4] Value-added production functions appear to be more common in the literature, however research by Basu and Fernald (1995) show that adopting a value added production function can yield misleading results if there is imperfect competition or increasing returns to scale.

since the study focus is on export function, it will made use of the production function with value added as the dependent variable. In the output production function, the study used four inputs: labour, denoted *L*, physical capital, *K*, raw material inputs, *M*, and indirect inputs, *I*. Because value-added is defined as output minus costs for raw material and indirect inputs, the study uses only labour and capital as inputs in the value-added specification.

$\Sigma_{ik}\beta_{km} = 0,$ *m = 1,2, ...j,* (homotheticity); ..... (4a)

$\{\Sigma_k \beta_{km} = 0,\}$ m = 1,2,...,j (Constant returns to scale); ..... (4b)

$\{\Sigma_k \beta_k = 1$ $\beta_{km} = 0$ k = 1,2,.....,j; m =1,2,....,j, (Cobb-Douglas Form) .....(4c)

From all the reviewed literature, the study found that exporters and non-exporters are, on average, different in that exporters are bigger; produce more output per employee, more capital-intensive and more likely to be foreign-owned hence this study specifies the 5b to ascertain such claims. There are differences by country and sector, regional and international exporters.

However, these differences may be due to other factors and not exporting. For example, more productive firms may be more capital-intensive, and more capital-intensive firms may be more likely to export and more capital intensive firms in developing countries especially Africa always have some foreign affiliation, and thus the relationship between productivity and exporting is because of this. This study therefore, employed control for inputs and sector specific factors including ownership (foreign or national firm) by estimating production and export functions using equation (4c) the Cobb-Douglas Production form which gives equation (5a) and (5b) thus:

$$Y_{it} = a_i + \alpha k_{it} + (\beta - 1 + \alpha + \delta + \theta)(L_{it}) + \delta m_{it} + \theta 0_{it} + sd_{it} + \eta_{it} \quad \text{..... (5a)}$$

$$\chi_{it} = Y_{it} + a_{i\,it} + \alpha k_{it} + (\beta - 1 + \alpha + \delta + \theta)(L_{it}) + \delta m_{it} + \theta O_{it} + sd_{it} + \eta_{it} \quad \text{..... (5b)}$$

where:
Y_{it} is log gross output per employee
X_{it} is whether firm exports or not
a_i is the vector of firms' specific characteristics including ownership or affiliation of the firm
K_{it} is the log of capital stock per employee
L_{it} is the log of the level of employment (hours of labour)
M_{it} is the log of the level of raw materials used in the production process
0_{it} is the log of other indirect costs such as electricity, water, transportation, etc.
sd_{it} is the sub-sectoral dummies (these are the sub-sectors in SSA manufacturing sector) as well as country dummies.
η_{it} is the standard disturbance with mean zero and variance; $\delta_\eta^2 . \eta_{it}$; is the residual or part of the log of employee not explained by firm specific characteristics, export participation and inputs. The results therefore can be interpreted as the productivity of the firm once all these factors are accounted for, while differences in productivity was the result of unobserved characteristics of the firm such as skills, technology, market structure, or managerial ability. Equation (5a) and (5b) above yield the required production and export functions in Africa from the micro perspective. While equation 5a was derived through Ordinary Least Squares (OLS) regression, equation 5b was derived through a Probit regression technique since the dependent variable takes the value 0 or 1 (binary nature). The Probit model overcomes the drawback of ordinary linear probability because it is based on the cumulative logistic probability function, which is easier to use computationally (Pindyck and Rubinfeld, 1998: 308). Meanwhile, the sign of the variables from the probit regression analysis determines whether the variable(s) is/are export potentials or constraints.

Production and Export Functions in SSA's Manufacturing Sector

Productivities and Export Coefficients in Selected African Countries using Firm Level Data

This study made efforts to develop a production and export functions using the Cobb-Douglas as appeared in 5a and 5b above towards finding major constraints to export of manufacturers among SSA countries and the effect of foreign ownership on the propensity to export. Three equations; Production Function, Probit Export (Regional), Probit Export (International) were estimated simultaneously, using maximum likelihood. Dummy variables for time were included in all the regressions. The numbers in parenthesis are t-statistics based on standard errors robust to hetroskedacticity and

intra-firm autocorrelation. Significance at the 1 percent and 5 percent level were indicated by **, *. $ is the estimated correlation between residuals in equation 1.

Table 1.1: Firm-Analysis of Productivity and Exporting in Selected African Countries

	(1a) Prod. Function	(1b) Export Probit	(1c) Export Probit	(2) ln Capital/Employment
		Regional	International	
ln Capital/Employment	0.04	0.16	0.10	
	(4.31)**	(4.02)**	(2.32)*	
ln Raw Material/Employment	0.67	-0.17	-0.32	
	(43.31)**	(4.76)**	(2.19)*	
ln Indirect Costs/Employment	0.18	-0.75	-0.87	
	(14.43)**	(3.28)**	(2.84)**	
ln Employment	0.02	0.33	0.34	0.49
	(2.35)*	(5.52)**	(6.13)**	(12.02)**
Firm Age/100	0.12	-0.10	-0.10	0.01
	(1.80)	(0.27)	(0.23)	(3.37)**
Food	-0.01	-0.26	-0.85	0.59
	(0.13)	(1.21)	(4.27)**	(2.94)**
Metal	0.00	0.24	-1.47	0.18
	(0.04)	(1.25)	(7.38)**	(0.90)
Textile, SSA	0.09	0.36	-0.93	0.19
	(1.48)	(1.35)	(3.39)**	(0.83)
Garment, SSA	0.04	0.16	-0.49	0.69
	(0.81)	(0.67)	(2.00)*	(2.94)**
Textile, South Africa	-0.07	0.37	0.351	0..37
	(0.94)	(0.40)	(2.59)**	(3.04)**
Furniture	0.04	-0.23	-1.13	-0.55
	(0.73)	(0.86)	(4.87)**	(2.63)**
Kenya	-0.10	0.021		1.39
	(3.16)**	(3.57)**		(9.76)**
Cameroon	-0.34	-0.65	-0.56	-0.09
	((2.23)*	(2.3)*	(2.09)*	(0.97)
Tanzania	-0.08	0.27		0.59
	(2.57)*	(1.40)		(3.51)**
Nigeria	-0.10	-0.82	-0.71	1.01
	(2.45)*	(3.27)**	(2.39)*	(4.68)**
Mauritius	0.26	0.69	0.90	0.87
	(3.21)**	(2.18)*	(4.21)**	(3.65)**
South Africa	0.22	0.93	0.92	0.90
	(3.71)**	(3.79)**	(3.07)**	(3.30)**
Residual Correlations$:	0.08	0.05	0.46	
	(2.38)*	(1.43)	(7.04)**	
Log Likelihood value		-2679.20		
Sample Size	4,029			
R^2				0.87

Source: Authors' Computation

4. Results and Discussion of Findings

To have a better understanding of the constraints of exports in SSA using a six country sample, a probit regression (columns 1b and 1c) was applied in modeling the decision to export as a function of technical efficiency (output per worker), materials per worker, indirect cost, firm age, dummy variables for industry, location and foreign ownership (foreign direct investment), and size measured as the number of employees. The probit result as reported in Table 1.1 (columns 1b and 1c) above suggests that larger firms are more likely to export than smaller ones. This finding supports the findings of some other studies. There is a positive and significant relationship between exports and efficiency from the capital/employment coefficient implying that firms that are more efficient are more likely to export from the results. The major constraints to export propensity for African firms from the result were *output per labour*, *raw material per labour and indirect costs*. Other variables such as employment level, physical capital, and output growth, capital per worker and output per worker were potentials for export among SSA firms. This result corroborated with the findings from UNIDO 2004 for Nigeria. The results further reveals that South Africa and Mauritius firms have the highest propensity to export both regionally and internationally everything else equal, followed by Kenya firms for regional export only. In the case of international export, Kenya and Tanzania firms were dropped from the list[5]. There is no significant difference in the underlying export propensity for Nigeria and Cameroon for regional and international export.

Finally, the estimated ρ_{ac}, which measures the correlation between the unobserved component of productivity and the unobserved component driving *international* exports, is positive and highly significant for the production function and international export. This indicates that, even conditional on factor inputs and control variables, *international exports and productivity are correlated.* This is consistent with having a link between unobserved efficiency and exporting. It was also noted that while there is *a positive correlation between efficiency and exporting regionally, this was not significant.*

The case of SSA economies – high production and transaction costs in other words, high cost of doing business as a result of poor infrastructure or inefficiency of institutions constituted the indirect cost component and this was found to be stifling SSA's manufactured exports. This is true for a country like Nigeria. A telling indicator to this is the alarm recently raised by the Bureau for Public Enterprises (BPE), indicating that Nigeria loses ₦340bn (over US$2 billion) yearly to power outages. This has been observed to have the greater part of the incidence borne by the manufacturing sector (The Guardian May 5, 2005:17 and 63). This is a very significant constraint to manufacturing export as electricity costs constitutes more than 50 percent of the indirect costs in the Nigeria data. Exports may be constrained because SSA firms are inefficient or less productive than their international competitors.

The coefficients for Nigeria in terms of export propensity was -0.82 for regional export and -0.71 international exports which implies that Nigerian manufactured regional and international exports are lower than those of Mauritius, and South Africa. Such results suggest that Mauritius .and South Africa fared better than Nigeria in terms of manufactured exports for the period under study from firm level evidences both for regional and international exports. On the other side, Nigeria's manufactured export is almost at par with Cameroon for regional and international exports. The central question then, is whether Nigerian firms are productive enough to be able to compete in the international market. The comparative productivity analysis in Table 1.1, revealed that Nigerian firms are not atypically unproductive than Tanzania or Kenyan firms yet when it comes to exporting they appear a long way behind firms with similar characteristics in these other SSA countries.

4.1 Policy Implication and Conclusion

One of the major constraints to manufacturing exports in Africa is indirect cost. The most recurrently cited item that increases the volume of indirect costs was physical infrastructure, which includes electricity, road networks, communication, water, etc. Putting the above mentioned physical infrastructures in place will reduce the cost of doing business, and hence promote the competitive level of "made in" Africa commodities. This has been recommended by most studies, including the Regional Programme Enterprises Development (RPED) study by the World Bank. According to ITC (2004), poor road network has greatly increased transportation cost especially in Nigeria where it has been noted that the cost of transportation of some exportable leather commodities from Kano to Lagos (both within Nigeria) is equivalent to the cost of transportation of some imported commodities from Amsterdam (Belgium) to Lagos (Nigeria).

Even with high cost of doing business, the study result reveals that Nigerian firms would be competitive abroad, at least to the same extent as firms in Tanzania and Kenya. Based on the above finding, there is need for provision of export incentives. Some of these costs are induced by unstable government policies. There is strong evidence that sound economic policies help economic development, while poor policies result in an array of constraints from which escape is

[5] insufficient data on the required variable

difficult, if not impossible. Policies that can reduce indirect costs will be an asset to SSA manufacturing sector. This, aside from reducing both the production and transaction costs may also increase profitability, which will increase the fund at the disposal of the firms. With such funds, firms should be able to invest more in Research and Development (R&D), which is currently non-existent among most firms because they barely break even at the end of every fiscal year. Clearly improving macroeconomic policy, reducing the level of risk and the size of transaction costs are key ingredients of policy.

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