

Potentials for diversifying Nigeria's non-oil exports to non-traditional markets

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I. Introduction

The policy context of the study

Prior to the 1970s, agricultural exports were Nigeria's main sources of foreign exchange. During this period, Nigeria was a major exporter of cocoa, cotton, palm oil, palm kernel, groundnuts and rubber, and in the 1950s and 1960s, 3% – 4% annual output growth rates for agricultural and food crops were achieved. Government revenues also depended heavily on taxes on those exports. Thus, during the period, the current account and fiscal balances depended on the agricultural sector.

However, between 1970 and 1974, agricultural exports as a percentage of total exports declined from about 43% to slightly over 7%. From the mid 1970s, the average annual growth rate of agricultural exports declined by 17%. The major cause of this development was the oil price shocks of 1973 – 1974 and 1979, which resulted in large receipts of foreign exchange by Nigeria and the neglect of agriculture. The oil boom afflicted the Nigerian economy with the so-called "Dutch disease". The Dutch disease phenomenon used to analyse the effects of commodity booms are traditionally evaluated in terms of "spending" and "resource movement" effects (Harberger, 1983). Following Pinto (1987), we examine the Nigerian case by abstracting from the resource movement effect since the oil sector can be considered to be a separate enclave with its own capital, labour and technology; that is, it does not compete with the non-oil sector for resources.

According to Pinto (1987), the "spending effect" operates as follows: in the non-oil economy, both tradeables and non-tradeables are produced (tradeables are used here to refer to tradeables other than oil). Let r denote the relative price of tradeables to non-tradeables (the real exchange rate). Assuming tradeables and non-tradeables are normal goods, the demand for both increases following a rise in real income associated with the oil boom. Equilibrium can be described solely in terms of market clearing for non-traded goods, for which domestic demand must equal domestic supply.

The excess demand for non-traded goods that arises following the boom can be eliminated by a rise in their relative price, that is, a fall in r (real exchange rate appreciation). This draws resources out of the tradeables sector into the non-tradeables sector, so that non-tradeables output rises and tradeables output falls. The consequent decline in the tradeables sector is what is called Dutch disease. It is accompanied by real appreciation, that is, a fall in r . As pointed out by Pinto (1987), there is, strictly speaking, no "disease" since the boom enables the economy to attain a higher level of consumption and welfare. Real appreciation is necessary for an efficient adjustment to the boom, since traded goods can be imported.

The consequence of the phenomenon described above was that owing to the reduced competitiveness of agriculture, Nigeria began to import some of those agricultural products it formerly exported and other food crops it had been self-sufficient in. For example, between 1970 and 1982, Nigeria lost over 96.6% of her agricultural exports in nominal terms (Oyejide, 1986). Domestic food production also declined substantially, causing the food import bill to attain a high of about US\$4 billion in 1982. The ballooning imports were financed with oil revenues, which ensured current account positive balances in 1979 and 1980. However, beginning in 1982, the oil market plunged, reducing significantly Nigeria's ability to finance such imports, and persistent current account deficits began to emerge. Unpaid trade bills also began to accumulate and at a point, foreign suppliers began to dishonour letters of credit originating from Nigeria.

By 1986, the situation had become a crisis, dramatizing the ineffectiveness of the prevailing external sector policy of import-substitution industrialization. This strategy, which was essentially inward looking, conferred substantial protection on import-competing manufacturing activities by imposing relatively high import duties on finished products and very low or no import duties on industrial raw materials and intermediate capital inputs.

The policy also invariably taxed the exportable (agricultural) sector of the economy so that by the time the oil market crashed, many manufacturing concerns could no longer operate due to lack of foreign exchange to import raw materials.

One consequence of the failure of this policy regime to cope with the negative oil price shock was its substitution with an outward looking external policy stance under structural adjustment programme (SAP) introduced in 1986. Under SAP, emphasis was on diversifying Nigeria's export base away from oil and increasing non-oil foreign exchange earnings. To achieve the objectives of the programme, the government sequentially put in place a number of policy reforms and incentives to encourage the production and export of non-oil tradeable as well as broadening Nigeria's export market. Nominal naira exchange rate devaluation, strict fiscal discipline, controlled monetary expansion and a more liberal trade policy were initially introduced to ensure a depreciation of the real exchange rate facing exporters. These were followed by the introduction of export incentives comprising a duty draw-back scheme explicit export bonuses, currency retention scheme and other direct fiscal incentives (such as the exemption of export transactions from stamp duties). Having ensured that appropriate macroeconomic and sectoral incentives had been instituted, the government established the Nigerian Export-Import Bank (NEXIM) in 1991 to provide necessary financial and risk management support to the export sector.

A brief review of Nigeria's export sector

In the 1960's, Nigeria's export trade was largely dominated by non-oil products such as groundnuts, palm kernel, palm oil, cocoa, rubber, cotton, coffee, copra, beniseed and others. Other non-oil exports of significant value then were tin ore, columbite, hides, skin and cattle. Table 1 shows that over 66% of total exports on the average was accounted for by these commodities. The same pattern continued into the early 1970s. As a matter

of fact, cocoa was the dominant export product at that time contributing about 15% of total exports in 1970.

However, oil's dominance of the country's export basket began in 1973/74 and was greatly magnified during the 1980s. The crux of the problem was that while oil export

Table 1: Structure of Nigeria's exports 1960 - 1990

Year	Total exports	Non-oil exports	Non - oil exports as a percentage of total export	Growth rate of non - oil export (period on period)
	(N million)	(N million)	%	%
1960 - 1967	434.65	287.50 ^a	66.15	23.9
1970 - 1975	2,877.70 (3,624.76)	356.2 (448.61)	12.38	57.22
1976 - 1980	9,049.08 (11,228.54)	560.00 (694.88)	6.19	--
1981 - 1985	9,508.20 (12,888.98)	318.38 (431.58)	3.35	-43.15
1986 - 1990	47,666.24 (13,539.08)	2,335.10 (663.26)	4.9	633.43

Source: Analysis of Central Bank of Nigeria data

^a Consists mostly of agricultural produce.

Figures in brackets are in millions of US dollars.

was growing, non-oil exports were declining making the dominance much more rapid and pervasive. Teal (1983), for example, estimates that the output of export crops grew at an average annual rate of 4.7% in 1950–1957 and 7.4% in 1960–1965, then declined by 17.3% in 1970–1975. The transformation of Nigeria from a net exporter of agricultural produce to a large-scale importer of the same commodities was particularly marked during the period 1973–1982 (Oyejide, 1986). Nominal non-oil export earnings fell from ₦363.5 million in 1973 to ₦203.2 million in 1982. The decline was even more dramatic in real terms. Oil exports in contrast rose phenomenally, from about ₦2 billion to about ₦8 billion in nominal terms during the same period.

The efforts to reverse these trends (begun in 1986) seem to be yielding very few results, as oil continues to dominate the country's exports (Tables 1 & 2). Non-oil exports share of Nigeria's total exports have remained under 5% for most years since the introduction of SAP. The only noticeable improvements are that the decline of the non-oil sector seems to have been arrested and that a number of non-traditional exports seem to have emerged in Nigeria's export basket including horticultural products, garments, textiles, furniture components and other manufactures (Table 2).

Table 2: Nigeria 's non - oil exports (US\$)

Export item	1997			1988			1989			1990		
	% of Total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	% of total non-oil exports	% of Total non-oil exports	% of Total non-oil exports	
Nonallied products	468.8	96.88	6.13	423.4	87.53	6.163	252.4	80.74	3.209	202	76.255	0.55
1 Cocoa products	346.5	71.61	4.531	331.7	68.58	4.828	154.6	49.46	1.966	96.2	37.071	2.67
2 Palm products	32.1	6.63	0.42	10.8	2.233	0.157	13.8	4.42	0.175	13.4	8.059	0.365
3 Rubber	20.9	4.32	0.273	36.6	7.567	0.053	39.7	12.7	0.505	40.6	15.327	10.107
4 Rubber Products	13.6	2.81	0.178	0.5	0.103	0.007	1.7	0.544	0.022	3.3	1.246	0.09
5 Fish and shrimps	42	0.87	0.055	6.8	1.406	0.099	8.8	2.815	0.112	11.1	4.19	0.383
6 Hides and skins	4.2	0.87	0.055	6.8	1.406	0.099	8.8	2.815	0.112	11.1	4.19	0.383
7 Coffee	3.1	0.64	0.041	12.4	2.564	0.181	10.7	3.423	0.136	49	1.85	0.134
8 Ginger	2.4	0.5	0.031	1.1	0.227	0.016	1	0.32	0.013	1	0.378	0.02
9 Gum arabic	0.4	0.083	0.005	0.2	0.041	0.003	0.3	0.096	0.004	0.4	151	0.011
10 Cotton	0.2	0.041	0.003	0.3	0.062	0.004	1.1	0.362	0.014	12	4.53	0.327
11 Other Products	6.1	1.261	0.8	8.7	1.799	0.127	7	2.239	0.089	10.4	3.926	0.284
Minerals	3.3	0.682	0.043	9.3	1.923	0.135	15	0.48	0.019	4	1.51	0.109
12 Tin	0.5	0.103	0.007	8.2	1.695	0.119	0.7	0.224	0.009	3.4	1.284	0.093
13 Other minerals	2.8	0.579	0.037	1.1	0.227	0.016	0.256	0.01	0.6	0.227	0.0160	
Manufactured goods	9.2	1.901	0.12	10.3	2.129	0.15	23.2	7.422	0.295	56.0	21.14	1.527
14 Beer	0.3	0.062	0.004	0.2	0.041	0.003	0.3	0.095	0.004			
15 Soaps and detergents	0.1	0.021	0.001			0.4	0.128	0.005				
16 Textile	5.5	1.137	0.072	7.5	1.551	0.109	17.4	5.566	0.221	12.8	4.852	0.349
17 Plastics	0.1	0.021	0.001	0.1	0.021	0.002	0.3	0.096	0.004	0.1	0.076	0.005
18 Louters/Glass sheets												
19 Ures ammonia									18.3		6.908	0.499
20 Vehicles										1	0.378	0.027
21 Asbestor cement									0.5		0.189	0.014
22 Other manufactures	3.2	0.661	0.042	25	0.517	0.036	4.6	1.535	0.001	23.2	8.758	0.633
Other exports	2.6	0.537	0.034	40.7	0.841	0.592	35.6	11.388	0.453	29	1.095	0.075
23 scrap metals	0.7	0.145	0.009	1.9	0.393	0.028	1	0.32	0.013	2	0.755	0.055
24 Craft raffia baskets				0.1	0.021	0.002	0.1	0.032	0.001	2	0.755	0.055
Miscellaneous	1.9	0.393	0.025	38.7	8	0.563	34.4	11.005	0.437	2	0.755	0.055
Total non-oil exports	483.9			483.7			312.6			254.9		
Total exports	7647.5			6870.7			7865.8			3667.4		

Source: Trade and Exchange Department, Central Bank of Nigeria.

Another characteristic of Nigeria's export trade is the continued reliance on developed countries as markets. Table 3 shows that the export promotion policy stance, which also emphasizes the diversification of markets, appears not to be yielding desired results because exports to Organization of Economic Cooperation and Development (OECD) countries still dominate. What appears to be happening is a shift from exporting to European Community to exporting to USA and Japan. The west African sub-region (Economic Community of West African States) only minimally increased its shares of Nigeria's exports, while other regions including other near (African) markets import a smaller proportion of Nigeria's exports than before.

This market concentration has been blamed, in part, for the countries misfortunes, as recessions in developed countries are usually fully transmitted to Nigeria. Negative effects

Table 3: Exports from Nigeria by country/region of destination: 1980 - 1989 (%)

Period	EEC	USA	Japan	Ecowas	Others	Total
1980	50.4	33.2	NE	1.7	14.7	100.00
1981	50.5	29.3	1.5	4.4	14.3	100.00
1982	41.8	34.8	0.1	2.4	20.9	100.00
1983	59.0	21.6	0.1	2.8	16.5	100.00
1984	62.7	13.3	0.1	4.5	19.4	100.00
1985	66.2	18.1	0.1	3.5	12.1	100.00
1986	47.8	35.0	0.1	3.9	13.2	100.00
1987	41.9	47.0	0.1	6.2	4.8	100.00
1988	36.3	49.8	0.2	7.0	6.7	100.00
1988	38.5	51.1	2.7	7.0	0.7	100.00
Average	49.5	33.3	0.6	4.3	12.31	100.00

Source: Federal Office of Statistics (FOS), Economic and Social Statistics, Digest of Statistics, and Nigerian Trade Summary.

NE = Negligible

from such shocks can be minimized by diversifying export markets, especially since the level of economic activity is likely to vary across regions.

Objectives of the study

In recognition of this situation vis-a-vis government's export drive, this study seeks to identify ways in which Nigeria can improve her export performance. The specific objectives of the study are:

- to identify new markets to target within the context of Nigeria's export diversification policy;
- to identify products for which Nigeria has comparative advantage in exporting and their market prospects; and
- to make some inferences for policy consideration based on the findings of the study.

As pointed out elsewhere, Nigeria's economic reconstruction programme, introduced in 1986, anchored its success on improved export performance. The core of this export-led strategy is the diversification of export products and export markets to minimize risks and ensure a more stable and sustainable current account position.

The reasoning behind the market diversification strategy (apart from the risk-minimizing argument) follows from Lewis' (1980) thesis that developing countries might be able to reach and maintain high rates of economic growth in spite of a slowing of the traditional engine of such growth, namely the rate of expansion in the developed countries. As pointed out by Beers (1991), the core of this argument is that there is a large potential for increasing trade among developing countries. In fact, the Agreement on a Global System of Trade Preferences (GSTP) signed in Belgrade on 13 April 1988 by 46 member countries of the "Group of 77" demonstrates the desire of developing countries to expand their mutual trade.

The benefits of exporting to developing countries appear significant in light of growing tendencies towards protectionism by the developed countries at a period when developing countries are opening up their market under International Monetary Fund (IMF) and the World Bank (WB) pressures. Payment arrangements are becoming increasingly liberalized in these countries and the non-tariff barriers (NTBs) erected in the 1960s and 1970s are coming down. In contrast, the developed countries are forging bilateral and plurilateral initiatives that are likely to constitute a barrier to exports from a number of developing countries. First, there is a consolidation of the European Community and its possible enlargement covering European Free Trade Area countries (EFTA) and association agreements with several central and eastern European countries. According to UNCTAD (1992), bilateral mechanism being adopted by the USA range from product-specific approaches such as "reciprocity" talks (e.g., the market-opening, sector-specific (MOSS) talks with Japan) to comprehensive free trade agreements with Canada and Israel and the recently concluded negotiations and signing of the North American Free Trade Area (NAFTA) treaty with Canada and Mexico. These developments affect non-participants in the arrangement in that they seek selective preferential arrangements in order to minimize potential costs to their economies. Nigeria, like other smaller developing

countries whose trade is concentrated in the developed countries, is likely to experience greater losses from the discriminating effects of such selective trading arrangements. Besides, the USA's "Super 302" provision to negotiate changes in trade practices that restrict USA access across the board threatens uncalled for and unpredictable unilateral retaliatory actions against countries like Nigeria whose exports are mostly destined for the USA, especially if persistent surpluses are run by such countries (as in the Nigerian case). According to UNCTAD (1992), a common threat has been the suspension of the benefits of the generalized system of preferences (GSP).

Another issue is the problem of tariff barriers. The incidence of high tariffs on imports from developing countries in developed countries is greater than that on imports from other developed countries as a result of bias against developing countries in most favoured nation (MFN) liberalization undertaken in the previous rounds of the Multilateral Trade Negotiations (MTN). For many products of export interest to developing countries, tariffs tend to escalate by processing stages, and according to UNCTAD (1992), products especially affected are tropical beverages, spices, oil seeds and vegetable oils, tropical fruits and nuts, tobacco, rice, manioc, roots, and tubers. Besides, a disproportionate share of non-tariff measures (NTMs) applied in developed economies is directed against developing countries from the combined effect of the selective application of NTMs and the effect of the composition of trade.

There is thus support for the belief that more potentials for market penetration exist in developing than in developed countries, a belief that the Nigerian government's decision to encourage market diversification. The question remaining, however, is which countries to target? Theory suggests that a potential for trade exists between countries so long as there are dissimilarities in factor endowment and existing patterns of production and consumption. In other words, if Nigeria's export structure matches another developing country's import structure, potentials for exporting to such a country can be said to exist. There is therefore the need to determine the extent to which commodity composition of the imports of carefully selected developing countries matches the composition of Nigeria's exports so as to guide the government agencies concerned with export promotion in designing strategies to exploit such market potentials. Some such strategies may revolve around identifying, as early as possible, country and buyer risks in identified markets and developing appropriate risk management facilities to mitigate the risks to prospective Nigerian exporters.

Related to the issue of markets is the matter of products that are likely to penetrate the markets. Potentials for trade may exist but trade may not materialize if Nigeria lacks comparative advantage in products that could be exported to such countries. The need to identify products that could further enhance the overall market diversification effort is therefore obvious. The importance of this issue to export promoting agencies in a country like Nigeria derives from the fact that it may enable them to identify special financial products that may facilitate exports. For example, it may be that such products can rarely be traded under the letter of credit (LC) payments arrangement, making it imperative that certain financial facilities be fashioned that do not rely on that mechanism for ensuring export credit repayments. Such exports as fruits and other perishables are examples.

Export incentive regime in Nigeria

As explained above, apart from macroeconomic policy measures, fiscal compensation arrangements constitute another method through which government had supported exports. In line with the objectives of the SAP, government promulgated the Export (Incentives and Miscellaneous Provisions) Decree No. 18 in 1986. The decree not only abolished import licensing, but it also introduced comprehensive incentive measures for Nigerian exporters. Some of these incentives are described hereunder.

Currency retention scheme

As initially conceived, the currency retention scheme allows exporters to keep 25% (or any percentage that government prescribes, from time to time) of their foreign exchange proceeds in their domiciliary accounts in Nigeria. This has since been increased to 100%. The foreign exchange so retained enables exporters to pay for some approved export-related activities such as overseas travel to conclude export contacts, quality determination/deterioration costs, importation of inputs, etc.

Export development Fund (EDF)

This is a special fund provided by government to give financial assistance to exporting companies to cover part of their initial export promotion activities. Such activities include advertising and publicity campaigns, export market research studies, products design and consultancy, etc.

Export expansion grant fund (EEGF)

The fund is designed to provide cash inducement to exporters who attain a minimum annual export turnover of ₦50,000 worth of semi manufactured and manufactured products. The inducement is to enable them to achieve increased volume of the export and diversify their export products.

Duty drawback/suspension scheme

Under the scheme, exporters can import raw materials free of import duty or other indirect taxes and charges.

Tax relief on interest income

The relief exempts from tax the interest income accruing to banks from export-lending activities. The incentive aims to encourage banks to provide credit support to the export sector.

Export credit guarantee and insurance scheme

The scheme guarantees loans granted by Nigerian banks to exporters for the production of export goods. It also provides credit facilities to foreign importers of Nigerian exports and insurance cover against default in payment by foreign importers.

Other incentives

Apart from the above incentives, the manufacture-in-bond and export processing zone schemes were introduced in 1991 with the common objective of making non-oil export goods (especially manufactures) competitive, in price terms, through a waiver of duties and/or taxes. It is important to mention, however, that the implementation of these incentives has been fraught with problems, among which are institutional inadequacy, avoidable rivalries among implementing institutions, and administrative/ bureaucratic tardiness. The abolition of the erstwhile publicly owned Commodity Boards in 1986 seems to have achieved only minimal results. The boards were abolished to enable the private sector to take over the internal and external marketing of agricultural produce and to minimize the distortion of international market price signals to farmers. This policy, coupled with currency depreciation, raised the naira prices that farmers received for their export produce. However, other internally generated problems such as inadequate storage facilities and soaring domestic production and transportation costs remained as stumbling blocks to realizing the objectives of the measures. The absence of a good quality-control system also led to export of ungraded and poor quality products.

In addition to the creation of a conducive environment for export and the adoption of an appropriate incentive structure, government also established or re-focused several institutions in the period preceding (as well as after) the inception of SAP to implement the incentives put in place to boost exports. The institutions whose functions impinge on exports directly or indirectly include the Central Bank of Nigeria, Nigerian Export Promotion Council, Federal Board of Inland Revenue, Customs and Excise Department, Nigerian Standards Organization, Nigerian Export Processing Zone Authority, the Nigerian Committee on Trade Procedures (NITPRO), and the Nigerian Export-Import Bank (NEXIM).

The plan of the study

The remainder of this study is organized as follows:

Section II reviews literature on issues relevant to the study and Section III presents the study methodology. Section IV discusses the results of the research. Section V concludes the study and proffers some policy suggestions.

II. Review of relevant literature

The central issues with which this study is concerned revolve around market and product identification. In this section, we review some theoretical and empirical issues relevant to these core question.

The export strategy question (product and market identification)

In the large volume of literature on exporting, there are disparate views on export strategy. Some schools of thought argue that export units (the country in our case) should concentrate on key market. Popularized by the influential BETRO report 1976 and reinforced by the Barclays Bank report (ITI, 1979), this principle requires that, generally, exporting units should sell to fewer markets and deal only with a small number of the “best” markets in the world. Piercy (1983/84) traces this concentration principle to Robinson (1967), who stated *inter alia*: “...logically a policy of exerting equal energy in developing each national market is obviously not possible. Stripped to its essence, the decision then is to determine which market the firm should concentrate on.”

The proponents go further to state that exporters that make the most impressive progress in their exports usually adopt a distinct policy of concentrating on 10 or 12 promising areas and deploying most of their resources there (ITI, 1979).

This strategy is flawed, however, in that it presupposes that selecting the “best” areas is possible and there are no other barriers to market penetration. Piercy (1983/84) argues that this strategy is misleading because it over estimates market stability and ability to select the “best” markets. According to Piercy, it also ignores the opportunities that may exist to compete in a world market and ignores constraints imposed by market characteristics and competitors’ actions. Piercy’s (1983/84) suggestion is that attempts should be made by the exporting country to distinguish among those practical situations where larger market numbers may be more valid.

Nigeria’s export promotion policy implementation has until today followed the key market consideration strategy, though probably by default. An exporter is more likely to be advised to find buyers in Europe or the USA than elsewhere by bankers and other trade promotion agencies. Scant attention is paid to gathering trade facilitating information that may further diversify Nigeria’s export market. Those supporting Nigeria’s concentration on developed country markets argue that risks are minimized and growth is assured.

Recently, however, it has become clear that concentrating exports to developed

countries may in fact slow the growth of the developing economy doing so. Author Lewis in his Nobel prize lecture (Lewis, 1980) also lent a word to this issue. He argued that developing countries might be able to reach and maintain high rates economic growth in spite of a slowing of the traditional engine of such growth, namely the rate of expansion in the developed countries. The core of this argument is that some developing economies are growing faster than developed countries and that there is a large potential for increasing inter-developing country trade.

Lyakurwa (1991) has argued that export diversification is important in the sense that it will play an important role in reducing the variability of the export earnings of developing countries and raising the growth rates of both exports and domestic output. He warned, however, that a country in the process of diversification will find its export growth affected not only by the growth of activity in the individual country but also by exogenous variables, such as changes in international prices of traditional commodities relative to those of non-traditional products, the composition of its exports, the income elasticity of demand of its exports, its geographical location and the export prices of its competitors. Another important issue is the country's domestic policy framework (revolving around exchange rate and trade policies).

Implicit in Lyakurwa's warning is that the composition of a diversifying country's exports has to match the import structure of the target countries. This, perhaps, is the underlying basis of most studies that have attempted to evaluate the possibilities of South-South trade. These studies have focused on testing the hypothesis that because Southern countries have similar factor endowments and climatic conditions, their production (and therefore export) patterns are too similar, and with only limited complementarity, the potential for South – South trade could be too small.

The models that have featured most in testing this hypothesis have been production and export similarity index, relative comparative advantage and comparative export performance measures, and trade overlap indicators.

The production (export) similarity is defined by the formula shown in Equation 1, which measures the similarity of the production (export) pattern of countries *a* and *b*. $X_i(ac)$ is the share of commodity *i* in *a*'s total production (export), and $x_i(bc)$ is the share of commodity *i* in *b*'s production (export). The index ranges from zero to one. The index will be zero if the production (export) patterns are completely dissimilar (Koester, 1986).

$$S^Q(ab,c) = [\sum \text{Min} [X_i(ac), X_i(bc)] / 100 \quad (1)$$

The other measures depart from the hypothesis that if the countries under consideration are really similar in production and trade patterns, coefficients for comparative advantage and comparative export performance (CEP) would be similar. The relative comparative advantage indicators can be calculated according to the following formula (Donges *et al.*, 1982):

$$CA = \ln(X_i / M_i : \sum_{i=1}^n X_i / \sum_{i=1}^n M_i) \quad (2)$$

Where X_i and M_i denote exports and imports, respectively, of n products. The higher the CA index, the more successful is the country in exporting product i . The CA index will be negative if the country is only importing product i or if the ratio of export and import values for the product is smaller than the ratio of the total exports and imports.

The measure used for calculating the CEP coefficient as defined by Koester (1986) is:

$$CEP = X_i / X_{iw}: \left[\frac{\sum_{i=1}^n X_i}{\sum_{i=1}^n X_{iw}} \right] \quad (3)$$

Where X_i are export values for product i of the country under consideration and X_{iw} are world exports of product i . An index of more than one indicates that the export product is more important from the individual country's point of view than from the world's. As specified, the CEP is the Balassa revealed comparative advantage (RCA) measure (Yeats, 1990).

Another measure that has been used extensively for determining potentials for increased South – South trade is the trade overlap (TO) indicator (Koester, 1986). This indicator can be defined as in Equation 4:

$$TO = 2 \left[\frac{\sum_{i=1}^n \min(X_i, M_i)}{\sum_{i=1}^n (X_i + M_i)} \right] \quad (4)$$

The coefficient varies between zero and unity for each of the n commodities. It will be zero if the country only exports or imports a given product. It will be one if the country's exports are actually matched by its imports of the product.

As pointed out earlier, these measures have been extensively used to empirically ascertain the potentials for South – South trade. Koester (1986), for example, used the measures to examine the scope for using intra-regional trade to improve food security in southern and eastern African countries. The study finds, among other things, that there is ample opportunity for trade among the countries studied if barriers could be removed. When exports and imports are matched, products with the greatest potential for intra-regional trade are live animals, meat, maize, vegetable oils and animal feeds. It also finds the intra-regional trade could account for 11% of total agricultural trade. To dramatize the implications of the findings, the study hypothetically showed that if in 1981, Zambia had imported maize and wheat from Zimbabwe, which had surpluses, instead of buying them on the world market, it could have saved about US\$ 14.5 million because of the difference in transport costs.

Other studies reach similar conclusions on the potentials of intra-African trade. Koester (1986), as part of a wider study, examine the possible consequences of structural adjustment for increased regional trade. Departing from the premise that capturing

additional market shares in fast-growth export markets is of crucial importance for improving the export performance of sub-Saharan Africa (SSA), the study argues that SSA countries could benefit from trading with each other in different ways. First, expanding a country's export markets supports the development of comparative advantage in production. Second, regional trade encourages export diversification away from products traditionally exported to industrial countries. Koester shows that potentials for intra-SSA trade exist – on average in 1981–1984, SSA spent 23% of the export revenue it earned from a given product to import that same product. Although trade within SSA accounted for only 9% of exports during 1981–1984 according to the study, regional trade could be more than twice that level if countries would exhaust the possibilities of trade within SSA.

Badiane (1988) using similar techniques also shows that regional potential for stabilized national food consumption in West Africa exists through intra-regional trade. He finds that trade expansion in West Africa would be greatest for the livestock and poultry, vegetables, sugar and cotton sectors.

Drawbacks of existing models

One thing is clear from the reviewed studies – the potential for intra-African trade exists. However, the studies appear too general to be significantly useful to particular countries seeking to expand their exports to other Southern markets. Country-specific product identifications were rarely made. This shortcoming probably arose because the focus of most of the studies was on examining the potentials for regional integration through trade.

On the methodological side, the shortcomings are obvious. Although the production (export) similarity index will show the extent to which production (export) of a pair of countries differs, it may not be totally right to conclude that such a dissimilarity is a sufficient condition of trade potential to exist. The production of export structures of such countries may differ, but the import structure of one may differ from the production (export) structure of the other. As a matter of fact, for countries with an external policy stance similar to what obtained in most SSAs – that is, protecting the domestic economy (import substitution) – differences in production structures may reflect differences in consumer preferences since import replacement is by definition intended to lead to local production of those goods the country used to import. In this kind of situation, it may even be possible that production similarity and not dissimilarity will be a valid measure of trade potential especially in cases where, despite import replacement policies, domestic production levels still lag behind domestic demand. Thus, a much better measure of trade potential is one that looks at the export structure of one country and the import structure of another country.

Other measures of trade potential used in the reviewed works suffer from similar flaws. The relative comparative advantage (CA) measure is an insufficient indicator of specialization because of its high reliance on country-specific information. The comparative export performance (CEP) measure, which is a replica of the Balassa revealed comparative advantage measure, also suffers from the problem that, as used in these

studies, it may not be a proper measure of trade potential. Koester (1986), for example, reported for the different countries studied, three products each with the highest indexes. Deriving from his result that most of those countries have different products in the “best” three, he concluded that there was enough specialization to justify trade. However, we know from Balassa’s study (Balassa, 1965) that an RCA index in excess of unity is an indicator that a given country has a comparative advantage in production of that product. Higher values may suggest better comparative advantage but do not detract from the fact that values greater than one indicate that the advantage exists.

Another limitation of the CEP (tolerable in this case due to paucity of other techniques with similar low data requirements) is that the products to which the measure was applied, namely agricultural raw materials and food, are those that face the most protection and subsidization, limiting the effectiveness of the Balassa measure. This is because protectionism in major markets could limit exports of Southern countries to a sufficient extent that the RCA index is constrained below levels it could reach in the absence of trade barriers (Yeats, 1990). Another important limitation is that government policies in the exporting countries themselves can have a major influence on RCA. Such a case would arise if specific exports were subsidized, if trade barriers (i.e., effective protection) produced major distortions in production incentives or if other government policies had a substantial export bias. It is thus obvious that the RCA may be less problematic in a one-country analysis identifying promising products (as done in this study, than as a measure of cross-country specialization as done in the studies reviewed earlier.

While the limitations cited above in no way completely invalidate the findings of the reviewed studies, it is clear that better techniques are necessary.

Beers (1991) provides such techniques in the form of measures of export-import similarity. Defined as in equations 5 and 6 the measures may be interpreted as variables reflecting the expected intensity of bilateral trade flow from exporting country *i* to importing country *j*. These techniques are described in more detail in Section III. Suffice to say, however, that these measures of trade potential take into account the export vector of one country and the import vector of the counterparty. They depend on the extent to which the commodity composition of exports of country *i* matches the commodity composition of imports of country *j*. Beers’ (1991) study not only attempted to determine the degree of potential for trade in manufactures using these techniques, it went further to estimate a gravity equation to explain factors that may influence South–South and South–North trade in manufactures. The study demonstrates the usefulness of the export-import similarity measures. It also finds that the trade-reducing effect of increasing geographical distance is stronger for South–South trade than for North–South trade. This is attributed to underdevelopment of southern trade information and communication facilities, relatively higher shipping costs as a result of limited volume of trade, and infrequent sailings and connections to more destinations.

Beers’ (1991) study was extremely useful but omitted Nigeria. It also only emphasized manufactures. Given the limitations of other studies discussed above, the methodology used by Beers (1991) was used to determine the potentials of Nigeria in exporting her major non-oil commodities to selected countries that do not represent her traditional trading partners.

III. Methodology

This section presents the sources of data used in this study and the analytical techniques used.

Data sources

The data used in this study were obtained from Nigerian Export-Import Bank, Federal Office of Statistics, Central Bank of Nigeria, Food and Agriculture Organization of the United Nations, International Monetary Fund, and World Bank publications.

Analytical techniques

Apart from simple descriptive statistics and other simple indexes, this study used other more rigorous analytical techniques. A detailed description of the techniques adopted is presented below.

Export-import similarity measures

Two alternative measures for degree of commodity correspondence between the exports of one country and the imports of another country as presented in Beers (1991) were adopted in this study. One of the measures called COS, was, according to Beers (1991), developed originally in Lineman (1966). The other one, referred to as EIS, is derived after the Finger - Kreinin export similarity index.

If the subscripts i, j and k refer to exporting country, importing country and commodity class, respectively, the two measures are defined as in equations 5 and 6.

$$COS_{ij} = \sum(K) (E_{ik} * M_{jk}) / SQ. Root [(\sum(k) E_{ik}^2) * (\sum(k) M_{jk}^2)] \quad (5)$$

and

$$EIS_{ij} = \sum(k) [min E_{ik} / \sum(k) E_{jk}, M_{jk} / \sum(k) M_{jK}] \quad (6)$$

where:

E_{ik} = exports of country i in commodity class K

M_{jk} = imports of country j in commodity class K

K = commodity class 1, ...,n

Both measures range between zero (no similarity or correspondence) and one (perfect correspondence). The COS measure is the cosine of the angle between the vector of country i 's (Nigeria's) export and the vector of country j 's imports in an n -dimensional commodity space (Allen, 1957).

The EIS measure, on the other hand, is obtained by summing over all commodity classes of the share of commodity class K in country i 's (Nigeria's) export or in country j 's import – whichever of the two is lower, implying that only the “overlap” counts since where there is no overlap the minimum of the two shares will equal zero. The two measures are obviously sensitive to the level of aggregation. Increasing the number of commodity classes n will tend to lower their numerical values. A number of facts need to be noted at this point concerning the estimation techniques.

First, in computing the similarity measures using aggregate data, perhaps aggregated under the Standard International Trade Classification (SITC) format, no information is required about the individual elements of the trade matrix at the commodity class level, that is about E_{ijk} , M_{ijk} . Only total exports of country i and in commodity class K (E_{ik}) and total imports of country j in commodity class K (M_{jk}) are needed to compute the values of the measures.

Second, the estimated export-import similarity measure can be interpreted as reflecting the expected intensity (or trade probability) of a bilateral trade flow from exporting country i (Nigeria, in this case) to importing country j . As pointed out by Beers (1991), the term “intensity” can be used to indicate that the analysis abstracts from the economic size of trade partners as reflected in the total volume or value of their exports and imports. The latter are seen as scale factors with which the “intensity” has to be multiplied in order to determine the absolute magnitude of the trade flow.

It is clear that the “intensity of trade” so defined transcends the export-import similarity measure and includes geographical distance between the trading partners as well as import tariffs and other non-tariff barriers to trade. However, without any commodity correspondence in the trade structure of a pair of countries, no trade will take place and therein lies the importance of this measure.

Another important analytical issue to be noted in the use of these measures is that, as shown in equations (5) and (6), one of them (COS) is non-linear while the other (EIS) is linear. It follows therefore that the two measures may not yield identical results (as may be expected). The COS yields numerical values than EIS when trade is concentrated due to its non-linear properties.

Revealed comparative advantage measure (RCA)

Balassa's (1965) concept of “revealed” comparative advantage was adopted in this study to identify products in which Nigeria has comparative advantage in exporting. This is measured by the share of a given product in a country's total exports relative to the good's share in total world exports. The measure can be computed as in Equation 7.

$$RCA_{ij} = (X_{ij} \div X_{it}) \div (X_{jw} \div X_{tw}) \quad (7)$$

where:

X_{ij} = the value of country i 's (Nigeria) exports of commodity j

X_{it} = total exports of the category of exports under consideration of country i (Nigeria)

W = subscript referring to world totals.

The RCA index may take values from Zero to infinity, with those above unity indicating that the country has a comparative advantage in the product. The products considered are those in SITC sections 0, 1, 2 4 and 5, which constitute over 95% of Nigeria's non-oil exports. Apart from SITC 5, these are essentially food and agricultural raw materials. The analysis was done in a disaggregated manner and includes the processed form of the food and raw materials.

Due to the category of products considered, caution is advised in interpreting the results of the analysis. This is because the high degree of subsidization and protectionism in these sectors distorts trade and limits the usefulness of this measure of RCA. Despite this limitation, the Balassa measure has been applied by researchers like Koester (1986) and Yeats (1990) in analysis of RCA for similar products.

Degree openness measure

The degree of openness of a country is defined as the sum of imports and exports as a percentage of gross domestic product (GDP) of the country. It can be mathematically written as in Equation 8.

$$D = \frac{(E + M)}{GDP} \quad (8)$$

where: D = degree of openness

E = exports

M = imports

Ncube (1991) points out that indexes such as the Nominal rate of protection and effective rate of protection are much better measures of protection or openness to imports. To obtain their estimates, however, one requires highly disaggregated data, which are sometimes difficult to come by. The degree of openness is therefore a convenient but rough indication of protection against imports and incentives to export. The larger the index, the higher the degree of openness and vice versa.

This measure was used in narrowing down countries to further study to determine Nigeria's potential for exporting to them.

An extension of this measure used in this study concerns applying the degree of openness to imports, defined as the ratio of each country's current account balance to its GDP. A high negative value indicates a high openness to imports compared with exports and vice versa.

Export diversification measure

The Gini Hirschman (GH) concentration index was used in this study to determine the concentration of Nigeria's exports, which is necessary for a proper determination of the export-import similarity measure to rely on in reaching conclusions about potential markets. According to Ncube (1991), the index is based on the ratio of the value of each exported commodity to total exports. If a country has diversified exports, the share of each exported commodity to total exports will be quite small. The index can be calculated using Equation 9.

$$HG = \left(\sum_{i=1}^n (X_i / X_e)^2 \right)^{1/2} \quad (9)$$

where:

X_i = value of the exported i th commodity

X_e = total value of exports

n = number of export commodities or export commodity classes.

When there is export diversification, the index tends to zero because X_i/X_e gets smaller. When exports are concentrated on a few commodities, the value of X_i approaches the value of X_e causing the HG to tend to unity. Thus HG ranges from zero to one.

The HG measure is useful when compared intertemporally and in this study data were obtained for 1985 and 1990. In the next chapter, the results of the application of these analytical techniques to collected data are presented and discussed.

IV. Results and discussion

Identifying the markets

The strategic thinking in export policy circles in Nigeria is that the country should target near markets and a few distant markets especially those in the Middle East. A vast array of countries could implicitly qualify under this policy thinking. Investigating all of them was beyond the scope of our study. Resource limitations dictated that we identify a limited number of countries that an objective assessment indicated were promising, so that our resources could be deployed to ensure the exploitation of the observed potentials. Note that this chosen strategy does not imply that Nigeria should adopt a “key market concentration” strategy! The review of the literature has clearly shown the pros and cons of such a strategy (see for example Piercy, 1983/84). The objective is to start from a few, and use the lessons learnt in penetrating those markets to formulate strategies for penetrating others.

Thus, 29 near (regional) markets and five far (non-regional) markets that often recur in Nigerian export policy circles as potential markets for Nigeria’s non-oil exports were examined based on their degree of openness and national income (GDP) (Table 4). This list is derived from Nigerian Export Promotion Council’s of potential non-traditional markets for Nigeria’s non-oil exports.

The criteria for selection was that the country should have a GDP in excess of US\$5 billion in 1990 (an indication of adequate purchasing power).

The choice of the GDP cut-off point is to ensure that economies selected are relatively well-off in the developing country context. Its arbitrariness is therefore recognized in this study. On the basis of 1994 data, the regional markets that qualified for further study under the chosen criteria include Morocco, South Africa, Kenya, Senegal, Egypt, Algeria, Gabon, Côte d’Ivoire, Togo, Ghana, Cameroon, Zimbabwe and Tunisia. Sierra Leone and Togo were retained due to their membership of ECOWAS and their strong historical informal trade links with Nigeria. Besides these, two far developing country markets – one from Latin America (Mexico) and one from the Middle East (Saudi Arabia) – were chosen.

The choice of Mexico is based on the fact that Nigeria could gain by selling to the market since Mexico is a member of the North American Free Trade Area (NAFTA), which is likely to increase Mexico’s income and market size. The choice of Saudi Arabia, in the Middle East, is based on the fact that there is a growing interest among Nigerians to trade with the Kingdom, evident from a large number of inquiries to that effect coming to the Research Department of the Nigeria Export-Import Bank and the Nigerian Export

Table 4: Degree of openness and current account of possible markets for Nigeria products 1990

	Country	Total trade import + export) \$M	GDP \$m	Degree of openess	Current account balance US\$	Degree of openess import ^(b)
1	Tanzania	1,235.0	2,060.0	0.59	-955	-46.3
2	Malawi	988.0	1,660.0	0.6	-462	-9.7
3	Zaire	1,887.0	7,540.0	0.25	-860	-11.41
4	Uganda	609.0	2,820.0	0.22	-434	47.93
5	Sierra Leone	284.0	840.0	0.34	-136	-16.19
6	Mali	987.0	2,450.0	0.4	-364	-14.86
7	Nigeria	19,359.0	34,760.0	0.57	5027	14.46
8	Niger	665.0	2,520.0	0.25	-247	-9.8
9	Burkina Faso	640.0	3,060.0	0.21	-383	-12.52
10	India	41,659.0	254,540.0	0.16	-9824	-3.86
11	Benin Rep.	576.0	1,810.0	0.32	-153	-8.45
12	China	115,436.0	364,900.0	0.32	11,935	3.27
13	Kenya	3,157.0	7,540.0	0.42	-684	-9.07
14	Pakistan	12,967.0	35,500.0	0.37	1,902	-5.35
15	Ghana	1,938.0	6,270.0	0.31	-442	-7.05
16	Togo	1,000.0	1,620.0	0.62	-208	-12.84
17	Egypt	1,325.0	33,210.0	0.4	-25.35	-7.63
18	Zambia	ná	ná	ná	ná	ná
19	Liberia	950.0	ná	ná	ná	ná
20	Lesotho	ná	340.0	1.51 ^(a)	ná	-18
21	Zimbabwe	ná	5,310.0	0.58 ^(a)	-266	-5.01
22	Senegal	2,403.0	5,840.0	0.41	-481	-8.24
23	Coted' Ivoire	4,700.0	7,610.0	0.62	-1,210	-15.9
24	Cameroon	2,500.0	11,130.0	0.22	-278	-2.5
25	Tunisia	8,969.0	11,080.0	0.81	-715	-6.45
26	Morocco	11,181.0	25,220.0	0.44	-520	-2.05
27	Poland	23,408.0	63,590.0	0.37	-2,762	4.34
28	Botswana	ná	2,700.0	0.97 ^(a)	-179	-6.62
29	Algeria	25,674.0	42,150.0	0.61	1,416	3.37
30	Angola	4,200.0	7,700.0	0.55	ná	ná
31	Namibia	ná	ná	1.13 ^(a)	ná	5.0 ^(a)
32	SouthAfrica	ná	90,720.0	0.51 ^(a)	2,243	2.47
33	Gabon	3,231.0	4,720.0	0.68	236	5
34	Libya	ná	18,261.0	ná	ná	ná
35	Kuwait	13,100.0	23,540.0	0.57	ná	36.77
36	Saudi Arabia	ná	ná	ná	ná	ná
37	Mexico	ná	ná	ná	ná	ná

Source: World Bank Development Report 1992 and own calculations

(a) Obtained from Ncube (1992).

(b) Ratio of current account balance to GDP. The current accounts used are figures before official transfers. These were used since the interest is on merchandise trade.

Promotion Council. To make the analysis complete, Nigeria's major traditional trading partners, the United States and the United Kingdom, were included. Japan, which is rich but to which Nigeria exports little (Table 3), was also included to determine whether the low volume of Nigeria's exports to it can be attributed to lack of correspondence between Nigeria's exports and Japan's imports. Having selected the countries for further study, the measures of export-import similarity described earlier were applied to available trade data. The results are reported in the following sub-section.

For this estimation, we used the Food and Agriculture Organization's (FAO) *Trade Year Book* of 1991. Commodity classification reported in the *Trade Year Book* of 1991 is the Standard International Trade Classification Revision 2 (SITC, Rev. 2). Because many countries in 1988 adopted the SITC, Rev 3 or the Harmonized commodity description and coding system (HS) of the Customs Cooperation Council, which correlates is one-to-one with the SITC, Rev 3, adjustments were made to figures reported under the SITC, Rev 3 to convert them to SITC, Rev 2. The actual trade flows considered are mainly food and agricultural/forestry products, fertilizers, and agricultural machinery. These items constitute over 98% of Nigeria's non-oil exports (Table 2).

A total of 25 commodity classes in the relevant SITC sections were thus used in the analysis. This number is obviously not large enough to exclude the possibility that products in each commodity class are different and non-substitutable commodities. The values of the measures are a direct function of the number of commodities considered, which will have the effect of generating relatively low values for the measures. However, the ranking of the values is not likely to differ. This is supported by the findings of Kellman and Schroder (1983).

The results of the analysis for 1985 and 1990 are presented in Table 5. The first observation to be made is the wide variance between the COS and EIS measures in 1985, which narrowed in 1990. The reason for this is that Nigeria's trade was more concentrated in 1985 than in 1990 (Table 6) causing the COS measure (which is a non-linear measure) to have higher values. By 1990, Nigeria's non-oil exports had diversified, with the concentration index falling from about 85% to about 55% (Table 6), which led to a closer value of the two measures for each country.

The second observation is the near similarity in the ranking of the countries by the two measures in 1985. This was not the case in 1990. Nevertheless, the two measures are in agreement as to the growing dissimilarity of the non-oil export and import patterns of Nigeria and her traditional markets, namely UK and USA. By 1990, both countries had, by the ranking of the two measures, lost their premier positions to some regional markets. The two measures are also in agreement on the relative low export potential of Nigeria to the Economic Community of West African States (ECOWAS) countries.

For further discussion of the result, we rely on the COS measure since it is a non-linear measure and may well be more appropriate given the high concentration of trade. Moreover, it uses more information than the EIS measure in estimating the degree of export-import similarity.

The COS measure, also allows us to see that export-import similarity is not a static thing. In 1985, for example, the United States and United Kingdom were the countries whose import patterns of the relevant SITC sections correspond to Nigeria's export

Table 6: Concentration of trade of relevant countries

No.	Country	Gini-Hirschman	index for imports
		1985	1990
1	Nigeria ^a	0.849	0.55
2	Algeria	0.388	0.364
3	Cameroon	0.324	0.403
4	Cote D'Ivoire	0.349	0.429
5	Egypt	0.388	0.396
6	Gabon	0.356	0.334
7	Ghana	0.375	0.351
8	Kenya	0.316	0.568
9	Morocco	0.526	0.333
10.	South Africa	0.294	0.303
11.	Togo	0.439	0.296
12.	Zimbabwe	0.362	0.258
13.	Siera Leone	0.506	0.504
14.	Senegal	0.396	0.348
15.	Saudi Arabia	0.346	0.325
16.	Mexico	0.318	0.328
17.	UK	0.322	0.352
18.	Japan	0.269	0.365
19.	US	0.353	0.364

Source : Calculated from FAO Trade Year Book, 1991.

^a Represents exports

structure. Among regional markets, which Nigeria may want to target in her export diversification drive, Kenya, South Africa and Morocco seem to be the ones with appropriately matching import structures. The countries of the West African sub-region have the lowest export-import correspondence with Nigeria except for Senegal and Gabon.

By 1990, however, there appeared to be a major shift in the commodity correspondence between Nigeria's exports and the import of countries under study. For one, regional markets appear to have import structures that most match Nigeria's export structure. Nigeria's traditional markets' UK and the USA imports appear less similar to Nigeria's exports relative to other markets. This may be a result of the greater diversification of Nigeria's exports in 1990 than in 1985, which expanded its export list to include processed items, fertilizer and other non-traditional exports (Table 2). These new exports, having undergone some processing, are likely to compete more with exports of the developed countries in some of these markets. Japan on its own appears, by 1990, to have an import structure that is closer to Nigeria's export structure than in 1985. Of all countries studied, the ECOWAS countries seem to have non-oil import structures that least match Nigeria's export structure, although the level of commodity correspondence appears to have improved between 1985 and 1990, given the higher COS measures obtained for each of the countries (with the exception of Sierra-Leone) in 1990 when compared with 1985.

Having seen the pattern of commodity correspondence between Nigeria and each of the countries, a more pragmatic approach to market selection will allow for a further examination of the liquidity and capacity to import positions of the selected countries to identify those countries with import structures that match Nigeria's export structure and purchasing power to buy Nigeria's exports.

In terms of the capacity to import of Nigeria's non-traditional markets, the "best" six countries (Table 7) are Japan, Mexico, South Africa, Algeria, Côte d'Ivoire and Zimbabwe. When Japan is excluded, Egypt enters. It must be noted that the capacity to import figures used for this ranking are for 1988, the latest year for which information is complete. Saudi Arabia was not ranked due to lack of data.

As for the international liquidity of relevant countries, for 1990 (measured by the size of reserves) it is again obvious from Table 8 that Japan is extremely liquid. Ignoring Japan and other developed countries calculations, the "best" six countries are Saudi Africa, Mexico, Egypt, Morocco, South Africa and Algeria. It is recognized that a more useful indicator of liquidity than the size of reserves is the number of months of normal imports that the observed reserves can support. However, the reported ranking based on absolute reserve values is a fair enough measure of liquidity. It is clear that apart from Côte d'Ivoire and Zimbabwe, the "best" countries in terms of capacity to import are also the "best" in terms of the measures of ability to pay for imports. As discussed previously, excluding the traditional markets of Nigeria, that is US and UK, only Morocco, South Africa, Japan, Saudi Arabia and Egypt also made the "best" five in terms of export-import correspondence (COS measure) for 1990. If Japan is excluded, Algeria also features.

It would thus appear that any step-by-step approach to targeting new markets should start with the five countries mentioned above, Morocco, South Africa, Japan, Saudi Arabia and Egypt. One remaining question is how the markets are growing in relation to the

Table 7: Capacity to import* for selected items

Country	Capacity to import			Country ranking by capacity to import (1988)	Developing country ranking (1988)
	1980	1988	1990		
Algeria	12.51	6.48 (-48.20)	5.77 (-10.96)	6	3
Cameroon	3.15	2.04 (-35.21)	2.7 (32.35)	10	7
Cote d'Ivoire	5.77	2.99 (-48.18)	3.43 (14.72)	7	4
Egypt	21.46	22.09	7.65 (-65.37)	9	6
Gabon	5.16	1.01 (-80.43)	--	12	9
Ghana	54.55	0.83 (-98.48)	--	13	10
Kenya	4.29	1.74 (-59.44)	1.36 (-21.84)	11	8
Mexico	1505.19	17.16 (-98.86)	13.97 (-1.11)	4	1
Senegal	1.09	0.06 (-94.50)	0.15 (150.00)	15	12
Togo	0.76	0.59 (-22.37)	0.68 (15.25)	14	11
Zimbabwe	4.26	2.25 (-47.18)	1.45 (-35.56)	8	5
Saudi Arabia	77.7	--	--		
South Africa	28.55	9.2 (-67.78)	--	5	2
United Kingdom	146.1	140.22 (-4.02)	--	3	
United States	350.9	512.4 (46.02)	--	2	
Japan	158.19	583.48 (268.85)	--	1	

Sources: Trends in Developing Economies 1991; World Table 1989-91 Edition; FAO Trade Year book 1990; International Financial Statistics, (various issues).

..... Indicates full data are not available

* Capacity to import is defined as import value deflated by export prices index.

- The original figures for capacity to import reported in local currency units were reconverted to the US dollars, as the prevailing exchange rates in the relevant years.

- Figures are at constant 1989 prices.

- Figures in brackets represent percentage changes.

Table 8: International liquidity of selected countries

Country	Millions of US dollars			Growth rate of reserves			
	1985	1988	1990	Country ranking by level of reserves (1990)	Percentage change (%)		
					1985	1988	1990
1 Algeria	2819	900	725	6th	-	-68.07	-19.44
2 Cameroun	132.46	175.85	25.54	12th	-	32.76	85.48
3 Côte de Ivoire	4.7	10.4	-15th	-		121.28	-61.54
4 Egypt	792	1263	2684	3rd		59.47	112.51
5 Gabon	192.55	67.44	273.76	8th		-61.95	305.93
6 Ghana	478.5	221.3	218.8	9th		53.75	1.13
7 Japan	26719	96728	78501	-		262.62	-18.84
8 Kenya	290.6	263.7	205.4	10th		-32.42	22.11
9 Mexico	4906	5279	9863	2nd		76	86.83
10 Morocco	1667	651	3864	4th		-60.95	493.55
11 Nigeria	1667	651	3864	-		-60.95	493.55
12 Saudi Arabia	25004	20553	11668	1st		-17.81	-43.23
13 Senegal	51	10.5	11	13th		105.88	4.76
14 Sierra Leone	10.8	7.4	5.4	14th		-31.48	-27.03
15 South Africa	315	780	1008	5th		147.62	29.23
16 Togo	269.6	232.1	353.2	7th		21.75	52.18
17 United Kingdom	12.86	441	35.85			242.92	-18.71
18 USA	32.1	36.74	72.26			14.45	96.68
19 Zimbabwe	93.4	178.6	149.2	11th		91.22	-16.46

Source: International Financial Statistics 1992 and authors' calculations

(a) International liquidity comprises SDRs, reserve position in the fund, and foreign exchange reserves.

(b) Figures for the United Kingdom and the United States of America are in billions.

import of these countries. Table 9 shows the nominal growth rates in imports of the countries (between 1985—1990) by the relevant SITC sections. Excluding Zimbabwe and Senegal, whose growth rate of imports of fish and fishery products and oil seeds, respectively, grossly distorted the average growth rate of their imports over the period considered, the fastest growing of the “best” markets is Mexico. This is followed in order by Morocco, Japan, South Africa, Algeria, Egypt and Saudi Arabia. The growth rates in imports of Algeria, Egypt and Saudi Arabia appeared dismal, especially that of Saudi Arabia.

In contrast, however, those regional markets whose imports have less correspondence with Nigeria’s exports showed encouraging growth rates (Table 9). Such growth rates appear to be dominant in those commodities in the SITC sections that Nigeria does not export. It would thus appear that based on the evidence available, Nigeria should concentrate efforts on Mexico, Morocco, Japan, South Africa and to a lesser extent, Algeria and Egypt. Kenya is another important country to consider, especially on the basis of the correspondence of its import structure to Nigeria’s export structure as well as growth rates of the market. It should also be noted that growth rates of the relevant imports in Nigeria’s traditional markets, the UK and the USA, are not very encouraging especially for the commodity classes that, constitute Nigeria’s major exports.

Identifying products

Having identified the markets that hold promise in the country’s non-oil export diversification drive, we next identified promising products from the SITC sections used to determine the markets. The RCS index (Equation 3) was adopted for this. This index was calculated for all commodities within the SITC sections contained in the *FAO Trade Year Book*, 1991. To make the estimates more meaningful, they were calculated for 1985 and 1990 to enable inter-temporal comparison. It is important to repeat here that the RCA index may take values from zero to infinity, with those above unity indicating that the country has a comparative advantage in the product. The results of this analysis are presented in Table 10. From the results, Nigeria can be said to have had comparative advantage in exporting palm kernel in 1985 followed by cocoa beans. The only processed exports for which it had comparative advantage in exporting were cocoa butter, cocoa powder, oil seed-cake meal and oil seed cake.

By 1990, some changes were observed in the form of new products in which comparative advantage had emerged, those in which it had been lost or eroded, and promising commodities. One striking thing is the erosion of comparative advantage for cocoa and cocoa products. For cocoa beans, the RCA fell from 57.71 in 1985 to 16.43 in 1990. For cocoa butter, the index dropped from 34.66 to just 2.24, reflecting lower Nigerian exports of the items relative to world exports. For cocoa powder and cake, comparative advantage was lost. However, there appears to be a tendency towards attaining comparative advantage in the export of cocoa paste. Other commodities in which comparative advantage was eroded include cottonseed cake, palm kernel cake and palm kernel. Those in which it was lost include oil seedcake meal and palm kernel oil. Comparative advantage was gained over the period in sesame seed, palm oil, rubber and cottonseed. Other

Table 9: Growth rate of imports of selected markets products (1985 - 1990)

Item	Nigeria	Senegal	Sierra Leone	South Africa	Togo	Zimbabwe	Mexico	United States	Saudi Arabia	Senegal	Kenya	Morocco	Gabon	Ghana	Japan	United Kingdom	Algeria	Cameroon	Togo Coast	Export	Average growth rate of imports of each commodity
1. Live animals	-	13.14	-	78.99	7.05	-28.32	-39.38	87.74	-8.23	16.22	233.45	-17.22	5.88	89.66	289.36	64.47	-41.5	96.63	-	-	48.30
2. Meat & meat preparations	-	331.76	814.7	57.96	1466.67	191.16	29.18	29.43	37.34	341.96	500.00	221.95	-13.61	379.22	160.22	88.23	65.2	-21.16	0.82	-79.56	229.06
3. Dairy products and eggs	-	67.94	14.57	-1.49	315.87	315.87	20.48	20.48	39.03	131.37	-96.15	161.21	5.13	101.14	112.74	98.06	16.06	111.86	187.34	-42.88	61.29
4. Cereals & preparations	-	35.07	35.48	68.01	69.18	68.01	80.90	80.90	17.74	23.54	-5.85	-29.41	6.47	116.39	16.33	4.49	9.20	168.66	3.85	38.97	25.86
5. Fruits and Vegetables	576.92	-3.82	-1.75	64.48	63.95	63.95	167.77	66.81	8.49	96.26	-9.55	99.21	-4.22	201.28	100.40	99.77	0	71.98	39.29	-6.49	46.83
6. Sugar and honey	100.01	-	55.01	18.76	48.85	7387.41	0.49	80.98	3524.03	289.47	104.87	104.87	-28.24	429.33	119.79	90.83	0	253.79	77.61	-9.14	655.75
7. Coffee, tea, cocoa, spices	44.12	6.01	-8.94	27.73	27.73	371.14	-32.01	-35.42	112.04	-42.75	22.66	22.66	33.68	-6.15	8.99	2.72	-99.9	-6.95	-33.29	-9.12	17.21
8. Feedings & stuff	72.30	9.81	102.40	-	78.27	228.47	128.67	128.67	44.39	418.30	20.20	-7.03	16.39	163.99	76.95	72.9	72.9	278.10	-49.26	-1.25	89.44
9. Miscellaneous	-	16.36	-21.13	25.47	30.04	81.87	11.04	20.41	119.75	105.61	39.25	4.69	105.69	50.21	120.48	324.22	324.22	4.99	85.24	71.90	71.90
10. Beverages	-	157.49	60.04	99.37	129.44	3983.33	19.58	44.73	92.84	176.67	326.40	1.01	-0.60	516.68	142.39	-53.8	-10.89	-5.55	262.86	326.19	326.19
11. Fibre and skins	1538.30	-	36.06	-	77.79	17.62	561.31	48.28	-0.34	108.35	108.75	35.91	66.47	-30.34	222.85	24.70	-66.3	115.96	29.28	-51.09	104.92
12. Hides and skins	1538.30	-	36.06	-	77.79	17.62	561.31	48.28	-0.34	108.35	108.75	35.91	66.47	-30.34	222.85	24.70	-66.3	115.96	29.28	-51.09	104.92
13. Oils, seeds	5.88	-	36.65	-	284.69	-19.65	-29.74	0	60.47	-42.23	270.00	603.36	-	-	60.47	-42.23	270.00	47.83	0	35.73	108.17
14. Natural rubber	181.82	-	24.33	-	33.08	121.78	9.63	34990.00	-96.00	-42.72	-	-	-	-	10.50	60.15	317.40	1700.0	1206.53	35.73	23529.57
15. Synthetic fibres	-	-	105.63	-	24.62	26.03	5.33	-40.00	37.94	-	63.31	-	-	-	31.15	26.67	-6.20	-	-	29.87	15.03
16. Other minerals & MS	700	4.76	23.31	83.33	54.27	24.16	41.31	-40.65	16.67	920.00	6.03	85.58	-	220.09	19.85	-12.53	-60.00	854.39	-50.93	64.93	138.25
17. Animal fats	-	25.64	-	25.64	-	14.13	27.38	89.47	-42.86	2.97	9.37	-46.06	-	-	0.87	-35.95	14.70	1490.00	-64.91	-89.19	965.51
18. Fats & vegetable	-87.60	463.81	-22.47	282.46	-54.15	178.64	11.89	-4.18	-44.37	-33.67	62.75	13.38	-	-57.47	9.68	-8.28	19.10	261.79	139.19	19.02	54.70
19. Processed oil	-34.81	-34.81	-	150.00	147.49	70.83	-6.45	-65.05	9.95	87.76	-	11.11	9.23	11.11	46.14	320.25	79.37	320.25	79.37	-70.96	281.56
20. Fishery & fish products	219.15	-68.33	53.94	174.83	33685.71	273.43	37.36	8.85	87.90	-4.31	3886.02	3.79	93.49	124.90	98.47	80.90	88.70	88.70	88.90	25.89	20.31
21. Fertilizers	-72.41	4.01	-	0	-63.96	31.46	39.05	-27.46	-	0	68.84	35.59	0	-3.75	136.71	99.37	10.48	126.35	2.03	2.71	21.77
22. Other fertilizer	-	-8.82	-	-8.82	-	1956.67	66.03	72.22	-47.86	-	-	72.42	9.09	0	-13.10	-39.11	-	-6.73	-57.72	0	-121.47
23. Manufactured fertilizer	-	171.60	38.75	175.00	7.14	-8.29	17.86	24.53	-40.13	-9.09	15.86	-46.58	115.63	46.83	46.83	-42.65	-50.22	50.10	135.95	-	22.43
24. Pesticides	-	-5.05	21.16	0	20.82	214.80	24.29	28.87	-9.09	-9.09	83.31	7.60	12.50	131.07	64.44	-84.30	36.13	14.80	217.29	-	40.61
25. Agricultural medicines	-	13.89	28.14	13.08	60.52	-53.72	73.96	-49.05	-	22.61	39.60	36.36	9.83	359.00	56.23	24.12	-23.60	13.06	-6.10	-	15.21
Total	3090.26	1426.71	1174.18	37330.89	14302.16	1019.8	6.17	395402.31	2190.88	5952.36	53.93	1940.71	2806.69	1319.03	340.81	19727.86	1237.91	316.7	49.52	789.11	76.67
Average growth rate of imports	123.61	57.07	53.45	46.97	1493.24	572.09	40.79	0.25	14216.09	87.64	238.09	1.76	73.63	112.27	52.76	52.76	52.76	13.63	789.11	49.52	76.67

calculated from PPO Trade Year book (various issues)

Table 10: Revealed comparative advantage of Nigerian exports (1985 and 1990)

No.	Product	Years	Revealed comparative advantage (RCA)
1.	Milk condensed	1985	0.002
	dry and fresh	1990	0
2.	Coffee	1985	0.013
	green and roasted	1990	0.017
3.	Cocoa	1985	57.709
	bean	1990	16.431
4.	Cocoa powder	1985	30.56
	and cake	1990	0.626
5.	Cocoa	1985	0
	paste	1990	0.607
6.	Cocoa	1985	34.657
	butter	1990	2.244
7.	Oil seed	1985	1.472
	cake meal	1990	0.34
8.	Cotton seed	1985	17.779
	cake	1990	3.219
9.	Palm kernel	1985	67.022
	cake	1990	14.614
10.	Cotton	1985	8.766
	seed	1990	11.564
11.	Palm	1985	245.02
	kernel	1990	95.976
12.	Natural	1985	6.502
	rubber	1990	46.097
13.	Palm kernel	1985	9.052
	oil	1990	0.344
14.	Beer	1985	0
		1990	0.028
15.	Sesame	1985	0
	seed	1990	3.036
16.	Cotton	1985	0
	lint	1990	0.136
17.	Palm	1985	0
	oil	1990	6.517
18.	Manufactured	1985	0
	fertilizer	1990	0.701

Source: Calculated from FAO trade year book (various issues).

Table 11: Export unit values for commodities in which Nigeria has comparative advantage 1988 - 1990

S/N	Product	Year	Unit value (\$)	Growth of unit value (Year on year)
1	Milk (condensed dry and fresh)	1988	not available	
		1989		
		1990		
2.	Coffee (Green and roasted)	1988	1,168.51	
		1989	1,296.30	
		1990	1,000.00	-22.85
3.	Cocoa beans	1988	1,615.68	
		1989	1,338.41	-17.15
		1990	1,104.00	-17.55
4.	Cocoa powder and cake	1988	395.24	
		1989	451.60	14.26
		1990	348.00	-22.94
5	Cocoa paste	1988	1,418.18	
		1989	1,000.00	-29.49
		1990		
6	Cocoa butter	1988	3,159.02	
		1989	2,749.43	-12.97
		1990	2,675.00	-2.71
7	Oil seed Cake meal	1988	76.73	
		1989	71.72	-6.52
		1990	64.58	-9.96
8	Cottonseed cake	1988	164.82	
		1989	181.82	10.74
		1990	169.90	-6.56
9	Palm kernel cake	1988	70.06	
		1989	72.14	-11.15
		1990	56.15	-9.64
10	Cottonseed	1988	200.00	
		1989	268.97	34.49
		1990	291.67	8.44
11	Palm nut kernel	1988	136.04	
		1989	124.67	-8.35
		1990	111.11	-10.88
12	Natural rubber	1988	992.09	
		1989	897.23	-9.56
		1990	720.93	-19.65
13	Palm kernel oil	1988	509.85	
		1989	500.00	-1.93
		1990	363.64	-2.67
14	Beer	1988	1,428.857	
		1989	1,093.75	-23.44
		1990	1,200.00	9.71
15	Sesame seeds	1988	207.61	
		1989	350.00	68.54
		1990	400.00	14.29
16	Cotton lint	1988		
		1989	1,467.50	
		1990	1,500.00	2.22
17	Palm oil	1988	400.00	
		1989	400.00	
		1990	300.00	-25
18	Manufactured fertilizer	1988	not available	
		1989		
		1990		

Source: Calculated from FAO year book, 1991.

manufactured items with promising trends include beer and manufactured fertilizer. A gain in comparative advantage indicates higher Nigerian exports of the commodity relative to the world export of the same commodity.

Relating these results to observed growth of imports of the relevant SITC sections (see last column of Table 9), it can be seen that it is only with oil seeds, beverages (beer) and textile fibres (cotton lint) that observed gains in comparative advantage may favour increased exports since they fall within the SITC sections with relatively high average import growth rates. One important issue is that cocoa and cocoa products, which dominate in terms of comparative advantage, are some of the slowest growing in the key markets. Beverages, textile fibres and to some extent rubber are the promising products. Another point is the issue of the unit values of these commodities in which the country has comparative advantage. From Table 11, it can be seen that except for beer, sesame seed, cotton lint and cottonseed, all the others have declining unit values reflecting declining prices. The worst hit appear to be cocoa and its products and rubber – commodities with highest RCA indexes. The implication of this is that Nigeria's exports are dominated by commodities whose prices have been declining over the period under study.

V. Summary, conclusions and some inferences for policy

This study attempted to achieve three main objectives.

- identify potential markets for Nigeria's exports;
- identify products in which Nigeria has comparative advantage in exporting; and
- make some inferences for policy considerations based on the finding of the study.

Analysis of trade data obtained from different sources in Nigeria and elsewhere using techniques such as export-import similarity measures, revealed comparative advantage and other indexes reveals the following:

1. The market that hold the "best" promise for Nigeria (among the countries considered by the study), as far as diversifying her non-oil exports markets, are Mexico, Morocco, Japan, South Africa and to a lesser extent, Algeria, Egypt and Kenya. These countries' import structures correspond relatively well with Nigeria's export structure. They are also relatively fast growing and, by and large, seem to have the necessary liquidity for import payment.
2. Between 1985 and 1990 there appears to have been a noticeable change in the products in which Nigeria has comparative advantage in exporting. Comparative advantage diminished (although it was not lost) in the export of cocoa and cocoa butter. For other cocoa products like cocoa powder and cake, comparative advantage was lost over the period. Comparative advantage was eroded (not lost) in the export of cottonseed cake, palm kernel cake and palm kernel oil. Gains in cooperative advantage were made in sesame seed, palm oil, rubber and cottonseed, while promising trends were observed for beer and manufactured fertilizer.
3. Most of the products in which Nigeria had comparative advantage in exporting in 1990 were those in which demand had been declining and whose unit values were also falling. However, a number of products in which comparative advantage is emerging appear to have bright prospects especially beer, sesame seed and textile fibers.

These conclusions form the basis of the policy suggestions made hereunder. However, before proceeding with the suggestions, it is important to point out some of the limitations of the analysis from which the suggestions emanate.

For one thing, the degree of similarity in the commodity composition of exports and imports of the product considered is only one of the factors determining the intensity of

trade between a pair of potential trade partners. The calculated measures refer to expected, rather than actual, trade intensity and are static, reflecting a situation of the past (in this case 1985 and 1990). The values of the measures may change overtime.

The measures were computed using SITC commodity classification adopted by the *FAO Trade Year Book*. This has two major limitations. One is that at the level of disaggregation, many commodity classes may still consist of quite different products. The other is that some countries report in terms of “general trade” while others report in terms of “special trade”. This use of different modes of reporting may have introduced biases to trade data used.

Further, the countries identified as the “best” in terms of commodity correspondence may after all not be the “best”. The sub-set of countries from which the “best” were identified by this study might possibly exclude some others that could be the actual “best”. This problem may be accommodated, however, if one conceives of this study as empirically testing the conventional wisdom that Nigeria should attempt to diversify to certain countries. All the countries considered in this study are frequently cited in export policy circles in Nigeria as potential markets.

As for the measures of comparative advantage adopted, the major limitation is connected with the fact that the values are sensitive to the level of subsidy in exporting countries, or protection in importing countries. Since for most of these products, tariff levels are direct function of processing levels, the measures calculated for some processed commodities may have been lower than they would have been otherwise. Allowing for these limitations, a number of policy issues emerge from the study.

First, it must be noted that this study has been able to identify export potential to selected markets. The next logical step is the assessment of the identified markets. This will involve carrying out market studies to identify products to target in each market based on the demand for the product in that market and Nigeria’s potential to produce the product at a comparatively cheaper cost. Other issues such as a survey should determine are the nature of the competitors and their marketing strategies in such countries including packaging techniques and so on. The results of the survey should be made available to the organized private sector who will then be assisted in tailoring their production programmes to identified niches. The funding of the survey should come from the Export Development Fund of the government. This fund, which is a financial aid to exporters, covers the following export promotion activities (Onah, 1983/84):

- participation in training courses, symposia, seminars and workshops in all aspects of export promotion;
- advertising and publicity campaigns in foreign markets;
- export market research and studies;
- product design and consultancy;
- participation in trade missions, buyer-oriented activities, trade fairs, exhibitions and store promotions;

- costs of collecting trade information; and
- organisation of joint export groups.

The next step may be to initiate trade missions to these countries, and in the process attempts to identify importers of selected Nigerian products identified by the market research. Identification of the importers will create opportunities to listen to them about particular problems they may face in marketing Nigerian products and hence enable the authorities to design facilities to ameliorate the problems. While the above are going on, a strong public enlightenment programme should be started to educate exporters that selling to non-traditional markets is as good as – if not better – than targeting traditional markets.

To quicken the pace of market diversification, a further impetus to product development is needed. This is because the commodities in which Nigeria has comparative advantage in exporting appear to be those facing bleak market prospects in terms of the growth rates of their prices and demand. Diversification into fast-growing commodities is necessary. Necessary production policies to attaining this objective should be articulated and followed.

To facilitate diversification, an export diversification fund (EDF) is suggested. This fund, which should be financed by the federal government, Central Bank of Nigeria, Nigeria Export-Import Bank (NEXIM), the state government and other bodies that may be identified, should be managed by NEXIM. The purpose of the fund will be to ensure that export credit for exports going to identified new markets is given at lower rates than for those going to traditional markets. The rationale is that exports going to traditional markets are passing through beaten paths while those to non-traditional markets are still trying to make inroads. The efforts of selling to such markets should be compensated with lower interest rates. This EDF may also be used in a discriminatory fashion to encourage the production for exports of promising non-traditional export commodities.

From the result of this study, it can be seen that new markets identified, except for Japan and Saudi Arabia, are not as liquid as the traditional markets, implying that risks of exporting to them may be higher. To improve exports to such countries, some kind of credit facility may need to be extended to the importer. Trading under such deferred payment terms increases the risks of default. Thus, appropriate risk bearing and financing facilities such as export credit insurance, guarantees and forfeiting are needed to support the diversification effort. These facilities should be provided by NEXIM with active support of the government, which must introduce a special risk fund to protect NEXIM from the risks inherent in providing these services.

Overall, Nigeria's export diversification drive should be operated in the spirit of mutual trade. Deliberate efforts should be made to buy from the markets Nigeria wishes to diversify into.

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Nigeria is well diversified in terms of people, culture, resources and government revenue expectations. But the actual scenario is that we depend mainly on revenue from crude oil sales for foreign exchange earnings. However, I firmly believe we can achieve more by expanding our foreign exchange earnings capacity. While Nigeria is agreeably the most significant oil-exporting country in Africa, the big issue is that the country's foreign earnings from crude oil consistently experience high volatilities. Moreover, the national budget of Nigeria depends mainly on the earnings from this commodity for the high percentage of the budget implementation. "This study seeks to identify ways in which Nigeria can improve her export performance. The specific objectives of the study are: to identify new markets to target within the context of Nigeria's export diversification policy; to identify products for which Nigeria has comparative advantage in exporting and their market prospects; and to make some inferences for policy consideration based on the findings of the study. "