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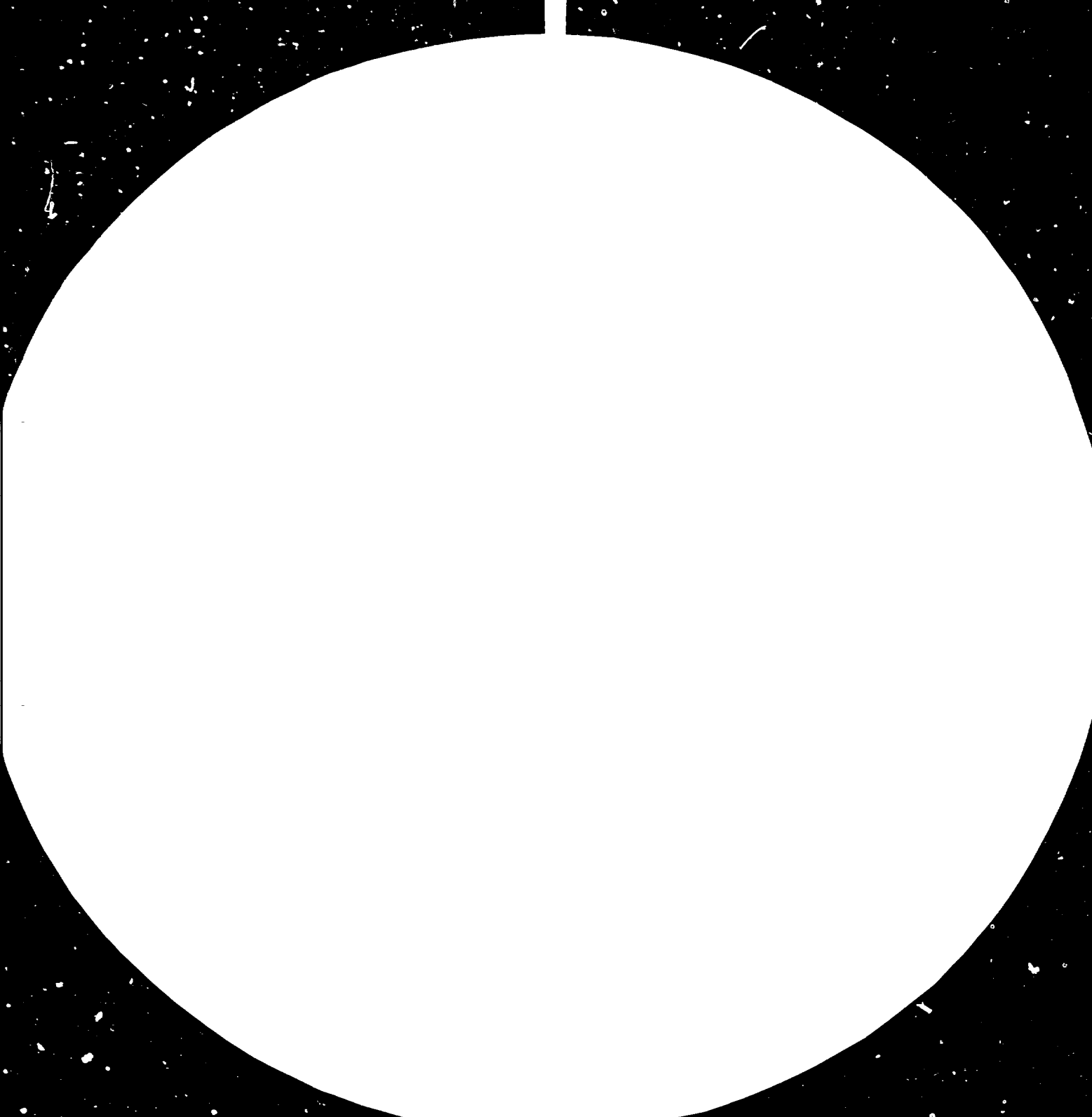
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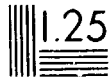
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BARRIERS TO PROCESSED FOOD IMPORTS IN DEVELOPED COUNTRIES.

Protectionism and Problems of Access to Markets  
of Developed Countries in the Processed Food  
Sectors and Possible Measures  
for Eliminating Trade Barriers \*

by

Richard H. Snape

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	Page
I. Introduction	1
II. Trade in Raw and Processed Food Products	2
III. Barriers to Trade in Processed Food	12
a) Natural Barriers	12
b) International Transport Costs	15
c) Man-made Barriers	15
d) Recent and Prospective Changes in Man-made Barriers	21
IV. Transnational Corporations	25
V. Effects of Man-made Trade Barriers	27
VI. Quantitative Estimates of Effects of Protection	33
VII. The Means by Which National Objectives are Pursued	37
VIII. Strategies for Exporting Countries	39

Tables

1. Selected Food Products: Major Flows of Trade Between Developing Countries & Developed Market-Economy Countries	4
2. World Exports of Food Products, Developing Countries' Shares of Exports and Developed Countries' Shares of Imports	5
3. Imports of Raw and Refined Sugar	10
4. Direction of Exports of Soluble Coffee	11
5. Comparison of Nominal and Effective Rates of Protection for Processed Agricultural Products in the European Economic Community, Japan, Norway, Sweden and the United States	19
6. Summary of Non-Tariff Barriers Applied by Developed Market Economy Countries on Imports of Selected Processed Commodities of Export Interest to Developing Countries	22
7. Tokyo Round Offers of Tariff Reductions on Tropical Food Products by Ten Markets and Effects on Tariff Escalation	24
8. Potential Foreign Exchange Benefits to Sample Developing Countries by Commodity	34

## I. INTRODUCTION

Processing of primary products is generally regarded as a natural and desirable 'first-stage' in industrial development for primary-producing, developing countries. For many products and countries there appears to be substance to this view. Even in some cases in which the physical capital intensity of processing may suggest that it might be more appropriately located in wealthier countries, the standardised nature of the production process - which implies a low demand for 'human capital' - may make it suitable for location in developing countries. Sugar refining and the manufacture of soluble coffee may be regarded as such cases, while high-grade wine making is an example of 'processing' that requires skilled labour. There are other 'natural' characteristics - change of weight or bulk in the course of processing, 'mixing' requirements, perishability, etc. - that may favour processing in one location rather than another, and some attention is given to these below. However, the focus of this study is on man-made barriers to trade rather than those that are associated with the nature of a particular product or with the current state of technology. Where there are significant man-made barriers to imports of processed products that exceed the barriers to imports of the raw product, there is a reasonable presumption that the aim of the barriers is to retain the processing activity in the country imposing the barriers. Why else would the barriers exist? In many cases the alternative location of the processing activity would be in the country exporting the raw product.

We are concerned with barriers in the developed countries to exports of processed food products from the developing countries. Thus we do not give attention to processing for a domestic market, nor for export to other developing countries. Both of these subjects are worthy of study, but it

is in the developed economies that the largest markets exist and for which the barriers to entry are most important.

In some products the establishment of an efficient processing industry in the primary-producing country is contingent on the opening of the markets in developed countries. While there may be other problems to overcome - for example the maintenance of quality and the acquisition of managerial skills - without the opening of large external markets the returns from overcoming these other difficulties may be small. The establishment of large, technically efficient processing plants without access to large markets may be to no-one's advantage

## II. TRADE IN RAW AND PROCESSED FOOD PRODUCTS

The distinction between 'raw' and 'processed' products is to some extent arbitrary - while meat is the 'processed' product of live animals, canned meat is in turn 'processed' meat. Nevertheless some meaningful distinctions can be made. It is instructive, for example, to compare world trade in cocoa powder with that in cocoa beans and that of refined sugar with raw. It is particularly interesting to examine the differing patterns of trade in the successive stages of production when man-made barriers to trade make a distinction and thus distort trading patterns.

Between 1955 and 1974 the value of the output of processed food, beverages and tobacco in developing countries grew by 5.2 percent per annum, compared with 6.9 percent per annum for manufacturing production as a whole.<sup>1</sup> Employment in these activities grew by 3.7 percent and 4.3 percent per annum, respectively, over the period. Thus throughout the twenty years, growth in

1. UNCTAD, Review of Recent Trends and Developments in Trade in Manufactures and Semi-Manufactures: Recent Trends and Developments in Trade in Manufactures and Semi-Manufactures of Developing Countries and Territories: 1977 Review (T/E/C.2/190), 21 March 1978, Table 10. These data do not include milk products, refined sugar, non-alcoholic and alcoholic beverages, or animal and vegetable oils.

the processed food, beverages and tobacco industries in developing countries has lagged behind that of manufacturing industry as a whole. This slower growth also applies for each of three sub-periods (1953-63, 1963-70 and 1970-74) within the total period. On the other hand, imports by the major developed market economies of processed food products from developing countries have, in recent years, grown more rapidly than their imports of these products from other countries: from 1970 to 1976 the value of imports of processed food products from developing countries increased by an average of 18 percent per annum as against total imports of these products of 16 percent per annum.<sup>1</sup> As a consequence of this growth the developing countries' share in the imports of processed food products by developed market economies increased from 16.6 percent in 1970 to 18.3 percent in 1976.

Table 1 shows that the major developing country exporter of processed food products to developed market economies is Brazil, with (in 1976) more than a quarter of these exports. In turn the largest importer of processed food products from developing countries is the United States, with more than a third of these imports. (The most important commodity in Brazilian/US trade is soluble coffee.) The United States and United Kingdom together absorbed more than half the imports, the U.K. being a large importer from South America, Israel and English-speaking countries. The imports of France rank third, being largely from French-speaking countries.

Table 2 provides some data relating to trade by developed and developing countries at early stages of the production process of several products. It also provides comparisons between the early and mid-1970's.<sup>2</sup> In considering the data in this table a distinction should be drawn between those products (e.g. beef) which exporters would prefer to export in a fresh

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1. Ibid., Table 14. Values from which percentages are calculated are in \$US.
  2. For an analysis of recent trends see also Alexander J. Yeats, 'Recent Changes in Developing Country Exports', Weltwirtschaftliches Archiv, Band 115, Heft 1, 1979, pp. 149-65.



TABLE 1

Selected Food Products:<sup>a</sup> Major Flows of Trade Between Developing Countries (DC)  
and Developed Market-Economy Countries (DMEC)

1976

(Millions of dollars)

Exporting country or territory	Importing country	United States	United Kingdom	France	Fed. Rep. of Germany	Japan	Netherlands	Canada	Other DMEC	Total 21 DMEC	Percentage
Brazil		260	107	15	49	11	36	33	52	563	26
Argentina		82	50	3	26	2	9	5	19	196	9
Ivory Coast		41	2	75	14	0	4	1	10	147	7
Korea, Rep. of		32	0	0	4	64	0	5	6	112	5
Yugoslavia		45	2	4	31	0	5	0	21	109	5
Israel		5	53	11	11	1	3	2	20	106	5
Mexico		83	1	1	2	2	1	8	8	106	5
Philippines		54	3	1	6	6	2	5	10	86	4
Morocco		1	3	53	11	2	2	0	10	82	4
Ghana		4	44	1	6	14	6	0	7	82	4
Thailand		25	1	7	6	12	1	1	3	56	3
Malaysia		4	18	1	5	2	6	2	17	55	3
Hong Kong		16	3	1	2	3	2	4	4	35	2
Kenya		0	17	1	6	-	3	0	6	33	2
Nigeria		3	13	3	0	9	2	-	2	32	2
Iran		9	5	4	9	0	0	0	4	31	1
Cameroon		2	0	24	0	0	0	-	3	29	1
Ecuador		21	0	1	2	1	1	1	2	29	1
Paraguay		6	11	1	1	0	0	1	2	22	1
Other DC		64	33	53	23	13	10	6	27	229	11
Total DC		757	366	260	214	142	93	74	233	2 140	100
percentage		35	17	12	10	7	4	3	11	100	

Source: UNCTAD, 'Review of Recent Trends and Developments in Trade in Manufactures and Semi-Manufactures...' (TB/B/C.2/190), 21 March 1978, Table 19.

- (a) Includes processed meats and fish, flour, processed fruits, nuts and vegetables, confectionary, cocoa powder, paste and butter, chocolate, coffee essences and extracts, margarine and lard and other food preparations. Does not include oil-seed oils, refined sugar or roasted coffee.

TABLE

World Exports of Food Products, Developing Countries' Shares of Exports and Developed Countries' Shares of Imports

Annual Averages for Stated Years

	World Exports		Developing Country Exports as percentage of World Exports		Developed Country Imports as a Percentage of World Imports	
	US\$m.		%		%	
	1970-72	1975-77	1970-72	1975-77	1970-72	1975-77
<u>Meat: Fresh, Chilled or Frozen (011)*</u>	4215	8694	22	13	94	88
Dried, Salted or Smoked, whether or not in Airtight Containers (012)	402	665	4	3	92	89
Canned, n.e.s., and meat preparations (EX014)	1031	1885	25	20	88	85
<u>Milk and Milk Products: Fresh milk and cream (022.3)</u>	93	323	3	1	73	85
Evaporated, condensed and dried (022 excluding 022.3)	1024	2079	3	3	41	41
Butter (023)	783	1666	2	1	85	79
Cheese and Curd (024)	902	2250	1	1	92	90
<u>Fish: Fresh or Simply Preserved (031)<sup>a</sup></u>	2456	4174 <sup>c</sup>	22	36 <sup>c</sup>	90	90 <sup>c</sup>
Tinned, Prepared (032) <sup>a</sup>	639	1197 <sup>c</sup>	15	20 <sup>c</sup>	83	80 <sup>c</sup>
<u>Meat or Fish Meal Fodder: (081.4)<sup>d</sup></u>	n.a.	762 <sup>d</sup>	n.a.	36 <sup>d</sup>	n.a.	89 <sup>d</sup>
<u>Wheat and Wheat Products:</u>						
Wheat (041)	3538	9733	4	5	53	53
Wheat flour (046)	409	1030	5	5	15	16
<u>Cocoa: Cocoa Beans, Raw or Roasted (072.1)</u>	776	2024	99	97	96	97
Cocoa Powder (072.2)	47	184	23	21	89	93
Cocoa Paste (072.31)	26	200	73	82	93	92 <sup>e</sup>
Cocoa Butter (072.32)	195	610	49	48	98	93
Chocolate & Products (073) <sup>a</sup>	325	914	2	12	91	91
<u>Sugar and Products: Raw (061.1)</u>	2140	6228	86	83	89	82 <sup>e</sup>
Refined (061.2)	730	2345	27	40	53	46 <sup>e</sup>
Sugar Confectionary (Non-Chocolate) (062.01) <sup>a</sup>	n.a.	401 <sup>b</sup>	n.a.	1 <sup>b</sup>	n.a.	83 <sup>b</sup>
<u>Coffee:</u>						
Green, Roasted, etc. (071.1) <sup>a</sup>	3024	4305 <sup>b</sup>	97	94 <sup>b</sup>	96	95 <sup>b</sup>
Coffee Essences, Extracts (071.3) <sup>a</sup>	n.a.	577	n.a.	44	n.a.	93
<u>Fruit and Nuts (excluding Oil)</u>						
<u>Nuts: Fresh (051)<sup>a</sup></u>	2841	4890 <sup>c</sup>	42	40 <sup>c</sup>	89	86 <sup>c</sup>
Dried (052) <sup>a</sup>	243	447 <sup>b</sup>	40	43 <sup>b</sup>	80	83 <sup>b</sup>
Preserved or Prepared (053) <sup>a</sup>	952	1729 <sup>c</sup>	25	27 <sup>c</sup>	91	88 <sup>c</sup>
<u>Vegetables, etc:</u>						
Fresh or Simply Preserved incl. Frozen (054) <sup>a</sup>	1589	3431 <sup>c</sup>	29	30 <sup>c</sup>	86	84 <sup>c</sup>
Preserved or Prepared whether or not in airtight contained (055) <sup>a</sup>	650	1475 <sup>c</sup>	14	17 <sup>c</sup>	86	84 <sup>c</sup>

Table 2 (contd.)

6.

	World Exports		Developing Country Exports as percentage of World Exports		Developed Country Imports as a Percentage of World Imports	
	US\$m.		%		%	
	1970-72	1975-77	1970-72	1975-77	1970-72	1975-77
<u>Juices and Beverages:</u>						
Fruit or Vegetable Juice (053.5) <sup>a</sup>	n.a.	535 <sup>b</sup>	n.a.	25 <sup>b</sup>	n.a.	87 <sup>b</sup>
Wine of Fresh Grapes (112.12) <sup>a</sup>	n.a.	1769 <sup>b</sup>	n.a.	11 <sup>b</sup>	n.a.	93 <sup>b</sup>
Beer, Ale, Stout, Porter (112.3) <sup>a</sup>	n.a.	386 <sup>b</sup>	n.a.	6 <sup>b</sup>	n.a.	77 <sup>b</sup>
Distilled Alcoholic Beverages (112.4) <sup>a</sup>	n.a.	1690 <sup>d</sup>	n.a.	5 <sup>d</sup>	n.a.	85 <sup>d</sup>
<u>Groundnuts:</u>						
Green (222.1)	222	500	75	62	93	90
Groundnut oil (423.4)	161	399	81	76	86	71
Groundnut cake & meal (081.32)	125	229	97	92	97 <sup>e</sup>	93
<u>Soybeans:</u>						
Soybeans (222.2)	1482	4473	8	20	92	91
Soybean oil (423.2)	346	996	4	23	39	37
Soybean cake & meal (081.31)	621	2069	15	41	97	94
<u>Cottonseed:</u>						
Cottonseed (222.3)	31	38	77	48	91 <sup>e</sup>	63
Cottonseed oil (423.3)	55	214	41	12	41 <sup>e</sup>	18
Cottonseed cake & meal (081.33)	83	127	96	82	99 <sup>e</sup>	97 <sup>e</sup>
<u>Sunflower seed:</u>						
Sunflower seed (222.4)	66	161	4	4	100	98
Sunflower seed oil (423.6)	212	425	5	7	77	76
Sunflower seed cake & meal (081.34)	37	92	86	51	100	60 <sup>e</sup>
<u>Rape and Mustard:</u>						
Rape & mustard seed (222.6)	221	410	7	1	83	88
Rape, colza & mustard oils (423.91)	72	267	10	3	53	29
Rapeseed cake & meal (081.35)	22	60	14	24	100	100
<u>Coconuts and Copra:</u>						
Coconuts (EX057.71)	4	8	87	86	81 <sup>e</sup>	83 <sup>e</sup>
Coconuts, desiccated (EX057.71)	38	86	99	97	94	87
Copra (223.1)	172	253	100	99	93	90 <sup>e</sup>
Coconut oil (424.3)	191	518	94	79	82	84
Copra cake & meal (081.37)	34	93	91	93	97 <sup>e</sup>	98 <sup>e</sup>
<u>Palm Products:</u>						
Palm nuts & kernels (223.2)	60	72	100	100	97	90
Palm oil (424.2)	252	949	93	93	74	68
Palm-kernel oil (424.4)	53	121	67	80	95	91
Palm-kernel cake & meal (081.38)	19	42	54	80	100 <sup>e</sup>	100
<u>Linseed:</u>						
Linseed (223.4)	85	112	1	4	98	98
Linseed oil (424.1)	54	147	58	64	90	87
Linseed cake & meal (081.34)	48	92	68	77	100	100 <sup>e</sup>
<u>Castor:</u>						
Castor beans (223.5)	n.a.	28	n.a.	100	n.a.	92 <sup>e</sup>
Castor oil (424.5)	63	100	91	93	98	97
<u>Margarine, etc:</u> (091.4)	75	237	18	16	40	41

- a. Market Economies Only (Developing and Developed)
- b. Average 1973-75.
- c. Average 1974-76.
- d. Average 1973-74.
- e. 'World' export and import data differ by more than 15 percent.

\*SITC numbers are in brackets.

Sources: F.A.O., Trade Yearbook.  
U.N., Yearbook of International Trade Statistics.

state but for reasons such as perishability are exported in a processed form, and those products in which export in a processed form is desired (e.g. refined sugar) but which are exported in a raw form because of man-made barriers to trade. This subject is returned to in Section III.

For almost all products listed in Table 2 there has been a very rapid growth in world exports over the period covered, the higher values reflecting the generally higher commodity prices in the mid-1970's as well as increased export volumes. In meat the share of developing countries in both fresh and processed exports has declined. Also the proportion of canned, etc. meats held by developing countries is higher than that of fresh, chilled or frozen, reflecting in part the restrictions that many countries have on the imports of unprocessed meats from countries with foot and mouth disease. The developing country shares of fish exports have increased in both fresh and processed forms, but here, in contrast to meat, the proportion of raw exports held by developing countries is significantly greater than that of processed.

Although the great bulk of cocoa trade is still in the form of beans and nearly all of this is from developing countries to developed countries, there have been interesting developments in some of the processed products. Trade in cocoa paste and chocolate has increased rapidly and in both the share of developing countries in world exports has risen significantly. The same trend is apparent in refined sugar - although world exports of refined sugar are still less than 40 percent of those of raw sugar, the developing country share of the refined exports has increased to 40 percent. The division between raw and refined is not made in the trade data of all countries, but such data as exist suggest that although developing countries have increased their share in refined sugar exports, the developed countries have reduced their share of refined sugar imports. The major importers of sugar import

virtually all their sugar in raw form, as shown in Table 3. Of the six countries listed, only for the United Kingdom were imports of refined sugar greater than 6 percent of imports of raw sugar - and this country exported almost as much refined sugar as it imported. U.S.A. and France's imports of refined were only 6 percent of raw and France's exports of refined were three times the value of its raw imports. Japan's imports of refined sugar were less than 0.1 percent of its raw sugar imports. The pattern was not confined to market economies - the USSR's imports of refined were only 4 percent of its raw imports. Table 2 also shows that the bias against developing countries in exports of sugar confectionary (non-chocolate) is particularly strong, only one percent of world exports coming from these countries.

Data in Table 2 show that while developing countries account for most of the world's exports of coffee, they account for less than half the much smaller trade in the extracts. But within 'coffee', the trade is heavily biased towards green beans rather than roasted coffee and such exports as exist in roasted coffee are from developed rather than developing countries. For the European Economic Community, for example, roasted coffee imports in 1976 were \$US16 million compared with green coffee imports of \$US2887 million, and while the latter came almost entirely from developing countries, only 8 percent of roasted coffee imports came from these countries.<sup>1</sup> In the essences, extracts, etc. of coffee the most import product is soluble coffee. Table 4 shows that the world's major exporter of soluble coffee is Brazil with, in 1975, almost half of world exports. Brazil has even imported coffee for processing into the soluble product. All other major exporters are importers of raw coffee, suggesting that significant scope still exists for shifting that processing activity into coffee growing countries.

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1. UNCTAD trade data.

TABLE 3Imports of Raw and Refined Sugar  
Annual Average, 1975-77

(Figures in Brackets are Exports)

	Raw Sugar	Refined Sugar	Refined Imports as Percentage of Raw Imports
	US\$ million		%
U.S.A.	1276	82 (40)	6
U.K.	712 (1)	166 (130)	23
Japan	1121	0.8 (25)	0.07
France	154 (46)	10 (478)	6
Canada	304	15	5
U.S.S.R.	2163	83 (25)	4
Total (Six Countries)	5721	357	6
World Total	7573	3034	40

Source: F.A.O., Trade Yearbook, 1977.

TABLE 4

Direction of Exports of Soluble Coffee1975

(Thousand bags, green bean equivalent)

Exports: From To	Brazil	Netherlands <sup>a</sup>	Switzerland <sup>a</sup>	USA	U.K.	West Germany	Total Imports
U.S.A.	838	1	10	-	11	3	1107
U.K.	494	10	-	-	-	5	648
France	12	162	3	2	10	94	286
Canada	8	16	4	175	35	-	241
Japan	40	-	34	28	-	42	205
West Germany	56	44	-	-	25	-	148
Other	121	99	268	51	124	75	
Total Exports	1569	332	319	256	205	219	3320

<sup>a</sup>Includes soluble tea.Source: Commonwealth Secretariat, Tropical Products Quarterly, December 1976.



Within fruit, nuts and vegetables there again appears to be a bias in developing countries towards the exports of the raw product though the bias seems to be declining. At such a level of aggregation, however, it is not clear whether this trend is favourable to developing countries or not - canned or otherwise processed fruits, nuts and vegetables are preferred to the fresh products in some cases and not in others.

In the various oilseeds and their products, perhaps the most interesting developments have been in soybeans and palm products. Developing countries have significantly increased their exports and their share of world exports in all three listed soybean products, due to the rapid expansion of South American exports, and have a larger share of the world market in the processed products than in the beans. Developing countries have also increased their export shares significantly in palm-kernel oil and palm-kernel cake and meal, and to a lesser extent in linseed products.

In the other products listed in Table 2 - milk products, wheat and flour, and margarine - the contribution of developing countries to world exports is relatively small, though their share in world imports exceeded 50 percent. in flour, margarine and evaporated, condensed and dried milk. These import figures - particularly in regard to flour and margarine - reflect the restrictions by developed countries on imports of these processed products. Tea is not included for want of data of exports at different stages of processing or packaging.

### III. BARRIERS TO TRADE IN PROCESSED FOOD

#### (a) Natural Barriers

Nature works in favour of the location of processing in the exporting country in some commodities and against it in others. Thus sugar cane is bulky and loses its sugar content unless it is milled soon after cutting. Also

fresh milk and meat deteriorate rapidly unless they are refrigerated or processed in other ways. In other cases nature favours the location of processing near markets - examples are chocolate and confectionary where generally it is only the higher grade products that are transported long distances. In some products processing requires inputs from various sources - perhaps for a production process or because of mixing requirements - and it may be most efficient to locate near markets rather than near the source of one of the inputs. Where packaging requirements vary for different markets, local knowledge of these requirements would encourage packaging - and other processing, in some cases - close to markets.

Another natural barrier occurs where a processor may not wish to be too dependent upon one source of supply and thus will locate where he has a choice of supplier. Such a site may be best from the point of view of efficient location of scarce capital resources - it would avoid having idle equipment when supplies from one source are interrupted by poor harvests or other factors.

Economies of scale and capital intensity are important factors in the location decision. Food processing activities are not, in general, labour intensive and from this point of view are not particularly suited to developing countries as compared with the developed. In his important work on the subject, Hal Lary<sup>1</sup> found relatively few food processing activities with above average labour intensity. Those which were slightly above average included canned seafoods, canned and dried fruits and vegetables, and sugar confectionary. Ho and Yeats<sup>2</sup> have found that even in these products relative

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1. Hal B. Lary, Imports of Manufactures from Less Developed Countries, (N.B.E.R., New York, 1968).
  2. Ho Dac Tuong and Alexander Yeats, 'On Factor Proportions as a Guide to the Future Composition of Developing Country Exports', Journal of Development Economics, forthcoming.

labour intensity has diminished markedly so that none could be termed significantly labour intensive by the mid-1970's. Also they found that while, looking at trade patterns as a whole, developing countries increased their export shares most in labour intensive products, developing countries did not increase their share of world exports to any marked degree in the more labour intensive processed food products, with the notable exception of canned fish. (See also Table 2 above.) Thus it appears that one cannot look generally to labour intensity as a factor which could lead developing countries to expect to expand exports of processed food products to the developed world.

Just as it may be good sense for Australia to export wool and yet import woollen textiles - the labour intensive activity being undertaken where labour is relatively more abundant - so it may be sensible not to undertake capital intensive food processing activities in countries growing the raw product but in which capital equipment and capital funds are in relatively short supply. However, many food processing activities have a fairly standardised technology. Although they may be fairly demanding on physical capital, the human skills may be small and/or easily acquired. From this point of view the disadvantage of capital intensity may be modified. An example outside food processing is in the manufacture of basic iron and steel. However in some cases, scarce physical capital may be better utilised in areas other than food processing - areas in which it would give employment and income to more workers.

The point about alternative uses of real resources may be made in relation to all natural barriers to trade. Technological changes may, of course, change the nature of the world and may reduce natural barriers. But while they exist, real resources are required to overcome the barriers, and the alternative uses of these resources should always be considered.

## (b) International Transport Costs

Distance is, of course, a fact of life and real resources are required to overcome it. In this sense transport costs are natural barriers. However there have been many suggestions that, because of the cartelised nature of much international transport, the charges for this transport do not accurately reflect the real costs of its provision and thus distort trading patterns.<sup>1</sup> This is not the place to debate this question; it is sufficient to point out that there does not appear to be evidence that the location of food processing has been significantly altered by the pricing practises of international carriers.<sup>2</sup>

A general reduction of transport costs could shift processing towards developing countries in some products, and away from them in others. While it could be expected that such a reduction would increase the net return received by developing country producers, of course this does not imply that subsidization of shipping would be the desirable use of a developing country's resources.

## (c) Man-made Barriers

Import tariffs may be at a fixed percentage rate or may be a fixed money amount per item (or a combination of these) or may be at a variable rate so as, for example, to secure a desired tariff-inclusive price. They raise revenue but, particularly in developed economies, this role is secondary to

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1. Some of the studies in this area are reported in Alexander J. Yeats, Trade Barriers Facing Developing Countries (Macmillan, London, 1979), Chapter 7.
  2. This conclusion is also reached by Deepak Lal in Market Access for Semi-Manufactures from Developing Countries (Graduate Institute of International Studies, Geneva, and the Trade Policy Research Centre, London, 1979), p.33.

their function as devices to protect domestic industry. Much attention in recent years has been given to 'escalating' tariff structures, that is when the tariff on a raw material is lower than that on the processed product. The effect of this escalation is to give significantly higher 'effective'<sup>1</sup> protection to the domestic processing activity than the tariff rates on competing imports would suggest. Escalation is a common form of protection and has been an important factor in biasing international trade - particularly exports from developing countries - towards the unprocessed product.

Non-tariff barriers take the form of quantitative restrictions on imports or various other restrictions that may be designed explicitly to protect a domestic industry or which may be based on health, safety and other 'technical' requirements. Quantitative restrictions may be applied so as to allow a general import quota from all sources or may prescribe quotas for specified countries. They may be used in conjunction with import tariffs so that a certain quantity of an import may be allowed at a concessional tariff rate, with a higher tariff applying to imports in excess of this quantity.

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1. 'Effective' protection takes account of the cost-raising effects of import tariffs and other trade barriers on an industry's inputs as well as the effects of the tariffs, etc. on the industry's product. Tariffs, etc. on inputs give negative protection to the industry in question while tariffs, etc. on imports that compete with its product give it positive protection. Estimates of effective protection attempt to calculate the net effect of these two forces. They estimate the percentage protection given to the value added (i.e. the value of output less the value of material inputs) of the industry.

The rules are often complicated and subject to uncertain bureaucratic interpretation. Import quotas may be allocated free to applicants - in which case they will be a valuable asset and one may expect competition to develop for them. Alternatively they may be sold by the government, in which case the financial benefit accrues at least partly to the government.

Just as variable import levies may be used to maintain a certain tariff-inclusive price in the face of changing world price, so also may a quantitative import restriction be used to adjust supplies on the domestic market so as to secure a constant internal price.

In principle, health and safety, etc. requirements need not protect domestic industry against imports, for the standards may be applied just as much to domestic as to foreign produce. In practice this is often not the case, first because there are cases in which the standards in fact are enforced more stringently on imported than on domestic produce, and secondly because the condition for which the regulation is designed as a barrier may exist abroad but not domestically - e.g. foot and mouth disease. When restrictions are imposed to prevent the importation of stock or plant diseases they are defensible from both the national and global points of view. But often (e.g. Australian restrictions on imported cheeses) one suspects the restrictions are not fully defensible on health grounds and are merely or mainly economic protection.

Some health etc. regulations encourage processing in developing countries - thus canned, but not fresh, frozen or chilled, meat can be imported from Argentina into many countries. In other cases these regulations encourage processing in the importing country - weevils are more easily eradicated from wheat than from flour. 'Technical' regulations - e.g. requirements of 'kosher' - normally favour processing in the importing countries and may be used as an arm of protection policy. These barriers are not insurmountable, however.

An example is the supervised killing of animals in accordance with Moslem rites in Australia, so that the meat may be exported to strict Moslem countries.

State trading does not necessarily imply the existence of a barrier to trade, though the question of whether a barrier is provided can be quite difficult to determine.<sup>1</sup> There is some evidence, however, that the USSR's imports from developing countries are concentrated very heavily at the earliest stage of production, much more heavily than the imports of the developed market economies.<sup>2</sup> This suggests that the man-made barriers to processed imports may be greater in the USSR than in developed market economies - the transport costs and technology facing all countries are similar - and it is likely that this applies also to other centrally planned economies.

Table 5 contains data on nominal tariff rates and effective rates of protection (from tariffs alone and from other forms of protection as well) as they existed in the mid-1970's - after the Kennedy round of tariff reductions.<sup>3</sup> The calculations are first for average nominal tariff rates, these being expressed as a percentage of the landed cost of the relevant import. Estimates are then given for effective rates of protection. As explained in the footnote on p.16 these rates are estimates of the percentage

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1. See Alexander J. Yeats, Trade Barriers Facing Developing Countries, pp. 166 ff.
  2. Ibid., p.56 and Table 3.7.
  3. See also Yeats, ibid., Table 4.7 (pp.96-9)

Table 5

Comparison of Nominal and Effective Rates of Protection for Processed  
Agricultural Products in the European Economic Community, Japan, Norway,  
Sweden, and the United States; Percent.

Product Name	European Economic Community			Japan		Norway		Sweden			United States	
	Tariff Rate		Effective Protection <sup>a</sup>	Nominal Protection	Effective Protection <sup>b</sup>	Nominal Protection	Effective Protection <sup>b</sup>	Tariff Rate		Effective Protection <sup>a</sup>	Nominal Protection	Effective Protection <sup>a</sup>
	Nominal	Effective						Nominal	Effective			
Meat Products	19.5	36.6	165.0 (90) <sup>c</sup>	17.9	69.1	21.6	75.2 (50)	0.0	0.0	216.8 (70)	5.9	10.3 (5)
Preserved Sea Foods	21.5	52.6	52.6 (50)	13.6	34.7	5.4	14.4	4.1	11.6	9.3	0.0	15.6 (20)
Preserved Fruit and Vegetables	20.5	44.9	74.7	18.5	49.3	31.1	99.8 (80)	13.4	40.1	34.8	14.8	36.8 (35)
<u>Dairy Products</u>												
Cheese	23.0	58.8	276.0 (180)	35.3	174.7	11.4	54.8 (70)	0.0	0.0	178.3 (100)	11.5	34.5 (50)
Butter	21.0	76.5	1327.7 (900)	45.0	417.7	91.2	879.4 (700)	0.0	0.0	1157.6 (1000)	10.3	46.7 (70)
Condensed and Evap. Milk	21.3	44.3	334.4 (400)	31.7	153.9	41.2	208.2 (120)	0.0	0.0	56.3 (200)	10.7	29.6 (50)
<u>Grain and Grain Products</u>												
Corn Milling	12.0	21.8	82.1	25.6	68.7	0.1	0.0	0.0	0.0	165.3	4.3	0.0 (15)
Rice Milling	16.0	70.3	105.9	15.0	49.0	3.0	3.8	0.0	0.0	0.0	36.2	327.6 (320)
Prepared Foods	5.6	0.0	-50.0 (-20)	0.7	-21.2	0.3	0.0 (10)	0.0	0.0	-70.1	6.2	7.4 (0)
Flour and Cereal Preparations	20.1	48.9	94.7	23.8	75.4	2.2	5.6 (10)	2.9	13.7	101.7	10.9	34.8 (70)
Bakery Products	12.0	0.9	0.0	20.9	17.3	21.3	42.4 (30)	16.5	36.0	13.9	1.9	0.0 (-10)
<u>Prepared and Processed Food</u>												
Pickles and Dressings	20.1	25.9	25.9	21.9	59.8	44.7	248.7	8.9	38.8	38.8	9.4	-26.9 (-20)
Roasted Coffee	15.2	35.7	35.7	35.0	137.1	4.4	13.8	0.0	0.6	0.6	0.0	0.0
Cocoa Powder and Butter	13.6	76.0	76.0	15.0	125.0	3.7	30.7	2.0	16.8	16.8	2.6	22.0
Misc. Food Products	12.0	6.7	6.7	20.6	50.2	14.3	40.1	54.8	175.2	175.2	2.7	0.2 (5)
<u>Vegetable Oils</u>												
Coconut Oil	11.5	132.9	132.9	9.0	49.2	5.8	30.0	0.0	0.0	1049.9	9.4	16.3
Cottonseed Oil	11.0	79.0	79.0	25.8	200.3	4.6	34.0	0.0	0.0	486.0	59.6	465.9
Groundnut Oil	11.3	139.7	139.7	14.2	96.5	5.3	28.7	0.0	0.0	879.4	15.0	6.7
Soyabean Oil	11.0	148.1	148.1	25.4	268.3	8.0	110.7	0.0	0.0	1478.3	22.5	252.9
Rapeseed Oil	9.0	57.2	57.2	15.1	22.3	6.0	36.2	0.0	0.0	617.5	20.8	60.9
Palm kernel oil	10.5	141.5	141.5	7.2	49.2	2.1	9.5	0.0	0.0	82.9	3.8	29.2

a. Includes variable import levies and other special charges.

b. Effective protection from tariffs only.

c. Data in parentheses include other non-tariff barriers.

Source: Alexander J. Yeats, 'Effective Protection for Processed Agricultural Products: A Comparison of Industrial Countries', Journal of Economics and Business, Fall 1976, Table 1 (p.35).



protection given to the relevant stage of the production process. In some cases estimates are also given for effective protective rates inclusive of the impact of variable import levies - particularly important in the EEC and Sweden - and other non-tariff barriers. There are many problems associated with finding an average tariff or levy rate over several types of product and also with finding an annual average rate when the levy varies over the year, and even more problems in measuring 'effective' rates. Thus the rates in the Table 5 - particularly the effective rates - should be regarded as orders of magnitude rather than as precise figures. Nevertheless they are highly suggestive.

Particularly important in the current context are the high effective rates on the processing of nearly all food products. (That 'prepared foods' are protected at low effective rates probably reflects the high natural protection given by transport costs on these items.) As mentioned above, these effective rates of protection are generated by escalation of barriers to imports. Thus while the average tariff rate on cocoa powder and butter imports into Japan was 15 percent, because this rate was higher than on the raw product - cocoa beans - the effective rate of protection for the process making cocoa powder and butter was 125 percent. (By 1976 cocoa beans were imported duty free into Japan while the tariff rates were 5 percent on cocoa butter and 3 percent on unsweetened cocoa powder.<sup>1</sup>) The general picture is of a system of tariff protection designed to protect domestic processing activities.

It is difficult to provide summary evidence in regard to non-tariff barriers. Indeed the very difficulty of discovering them and estimating their effects is one of the means by which they inhibit international trade. One

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1. UNCTAD, Trade Barriers Facing Cocoa Exports to Developed Countries (TD/B/C.1/210/Add.2)

such summary appears in Table 6 for the EEC, Japan and USA. The list of barriers is impressive though the table does not provide evidence on their protective impact. Also impressive is the extent to which imports of processed food products into the EEC are faced by multiple barriers. The compiler of Table 5 attempted to estimate the protective effects of non-tariff barriers for the EEC, Norway and Sweden and to add their impact into rates of effective protection. While these estimates are particularly rough, it is notable that many effective rates were increased very greatly by these charges - particularly by the variable import levies in the EEC and Sweden.

Looking only at the effect of normal import tariffs, Sweden would appear to have a liberal trading policy in regard to meat and dairy products and vegetable oils. Incorporating variable import levies and other non-tariff barriers changes the picture dramatically, however. While protection from tariffs alone in the EEC is much higher than in Sweden, variable import levies and other barriers added very considerably to protection in that market also.

The compiler of the Table 5 was unable to quantify the effect of non-tariff barriers in Japan. Their absence from this table should not be taken to indicate insignificance - on the contrary, non-tariff barriers appear to provide substantial barriers to developing country exports to Japan.

(d) Recent and Prospective Changes in Man-Made Barriers.<sup>1</sup>

(1) The Tokyo Round of multilateral trade negotiations has seen the inclusion of agricultural products in the negotiations, for the first time.

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1. For a fuller description of recent and prospective changes see Tigani E. Ibrahim, 'Developing Countries and the Tokyo Round', Journal of World Trade Law, Jan/Feb. 1978, pp. 1-26.

TABLE 5

Summary of Non-Tariff Barriers Applied by developed market economy countries on imports of selected processed commodities of export interest to developing countries

BTN Code		Non-tariff barriers imposed by		
		EEC <sup>a</sup>	Japan	USA
03.02	Fish, salted in brine, dried or smoked	-	DL	HS
7.04	Dried, dehydrated or evaporated vegetables	R/DL	-	-
8.11	Fruit, provisionally preserved	R/DL	DL	-
11.01	Cereal flours	VL	DL	GQ/BQ
11.02	Cereal groats and meal	VL	DL	GQ/BQ
11.06	Flour and meal of sago, and of manioc, etc.	VL	-	-
16.01	Sausages	VL/DL/HS	-	-
16.02	Other prepared or preserved meat	VL/DL/HS	DL	-
16.03	Meat extracts and meat juices	HS/BQ	-	-
16.04	Prepared or preserved fish	BQ	-	-
17.04	Sugar confectionery	VL/R	-	GQ/BQ
18.06	Chocolate and other food preparations containing cocoa	VL/HS	-	BQ
20.01	Vegetables and fruits, prepared or preserved by vinegar or acetic acids	L/BQ/GQ/HS	HS	-
20.02	Other preserved vegetables	DL/L/BQ/GQ/HS	-	-
20.03	Fruit preserved by freezing, containing added sugar	VL/DL/L/GQ	-	-
20.05	Jams, fruit jellies, marmalades, fruit purée and fruit pastes	VL/DL/BQ/HS	DL	-
20.06	Fruit otherwise prepared or preserved	VL/DL/BQ/ GQ/HS	DL	-
20.07	Fruit juices and vegetable juices	VL/L/DL/BQ/ GQ/HS	DL	-
22.05	Wine	MP	-	-
22.08	Spirits, liqueurs and other spirituous beverages	R/DL/ST/GQ	-	-

Source: UNCTAD, The Processing before Export of Primary Commodities: Areas for Further International Co-operation (paper for UNCTAD V, Manila, May 1979; TD/229/Supp. 2, 28 March 1979), Table 10.

a. Restrictions imposed in whole, or in part, by EEC member countries.

Symbols: DL - Discretionary licensing  
 VL - Variable levies  
 L - Licensing of an unspecified character  
 GQ - Global quotas  
 BQ - Bilateral quotas  
 Q - Quota (method unspecified)  
 MP - Minimum import price  
 HS - Health and sanitary regulations  
 R - Restriction unspecified  
 ST - State trading

Some reductions in import tariffs have been offered, Table 7 presenting some of the data as it relates to tropical food products. (Offers have been most forthcoming with regard to tropical products as these are generally not directly competitive with products in most developed countries) The data are simple unweighted averages within product categories and across countries and should be treated with caution. While the averages have generally been decreased by the offers, it is not apparent that effective rates of tariff protection of processing activities (which are determined, in part, by the relationship between the tariffs on inputs and on the processed product) will be significantly reduced. They are most likely to have decreased in the manufacture of vegetable oils - this being supported by an FAO study on the subject.<sup>1</sup> The decrease is not large, however. Tariff escalation, with its discouraging impact on exports of processed products, will generally remain even after (and if) the 'offer' are finally implemented. And while in the Tokyo Round the question of non-tariff barriers was also addressed, no major breakthroughs were achieved in this area.<sup>2</sup>

(ii) With the accession in the early 1980's of Greece, Spain and Portugal to the European Economic Community, the farmed area of the EEC will increase by 50 percent, as will the agricultural workforce.<sup>3</sup> It is

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1. FAO, Committee on Commodity Problems, Intergovernmental Group on Oilseeds, Oils and Fats, Preliminary Review of Results of GATT's Tokyo Round of Multilateral Trade Negotiations (1973-79) in the Oilseeds, Oils and Oilmeals Section (CCP:OF 80/3, February 1980)
  2. FAO, Commodity Review and Outlook: 1979-80, pp. 119-20.
  - .. Ibid., p. 124.

TABLE 7

Tokyo Round Offers of Tariff Reductions on Tropical Food Products  
by Ten Markets and Effects on Tariff Escalation<sup>a</sup>

Stage of processing	Product description	CCCN	Applicable tariff <sup>b</sup> on all requested items		% reduction in average applicable tariff	Change in escalation indicator <sup>c</sup> as a result of offer		
			before offer	after offer		Comparison of stage	absolute difference	relative difference
1	Fish, crustaceans & molluscs	0301-3	4.3	3.5	18.6	2 with 1	increased	increased
2	Fish, crustaceans & molluscs, prepared	1604-4	6.1	5.5	9.8			
1	Vegetables, fresh or dried	0701,0704-6	13.3	8.9	33.1	2 with 1	reduced	no change
2	Vegetables, prepared	2001-2	18.8	12.4	34.0			
1	Fruit, fresh, dried	0801-9,0812	6.0	4.8	20.0	2 with 1	reduced	increased
2	Fruit, provisionally preserved	0810-11,0813	14.5	12.2	15.9			
3	Fruit, prepared	2001,2003-7	19.5	16.6	14.9	3 with 1	reduced	increased
1	Coffee	0901	10.0	6.8	32.0	2 with 1	reduced	increased
2	Processed coffee	2102 ex	13.3	9.4	29.3			
1	Cocoa beans	1801	4.2	2.6	38.1	2 with 1	reduced	no change
2	Processed cocoa	1803-5	6.7	4.3	35.8			
3	Chocolate products	1806	15.0	11.8	21.3	3 with 2	reduced	increased
1	Oil seeds	1201-2	2.7	2.7	0.0	2 with 1	reduced	reduced
2	Fixed vegetable oils	1507	8.5	8.1	4.7			

Source: UNCTAD, The Processing before Export of Primary Commodities: Areas for Further International Co-operation (paper for UNCTAD V, Manila, May 1979; TD/229/Supp.2, 28 March 1979), Table 9.

- a. The ten markets are the EEC, Japan, Australia, New Zealand, Canada, Austria, Switzerland, Finland, Norway and Sweden.
- b. Unweighted average of product averages in each market (unweighted, GSP or MFN rates, including duty-free tariff lines, excluding items where the ad valorem tariff is not available).
- c. Two indicators have been used as a rough measure of the extent of change in tariff escalation: the absolute difference in the average tariff on two successive stages of processing, and the relative position of the two averages (the tariff on the higher stage divided by that on the lower stage.) A reduction in either of these two indicators would demonstrate a decrease in the disparity between rates on different stages of processing, and can thus be taken as some indication of a possible reduction in tariff escalation. If both indicators have decreased, the protection afforded to higher stages of processing has most likely been reduced as a result of the tropical product offer.

anticipated that the result will be greater agricultural self-sufficiency. Wine, citrus and other tree fruits, and vegetable imports (including imports of processed fruit and vegetables) from other countries are likely to decline and entry from developing countries to become more difficult.

#### IV. TRANSNATIONAL CORPORATIONS<sup>1</sup>

Transnational corporations are very important in the processing of food products in many developing countries. We are not concerned here with processing for domestic markets within the developing countries, and for some products - e.g. cereals and milk products for example - this is the main activity of the transnationals. For some products there has been considerable backwards integration across national boundaries. Thus, for example, British sugar refining interests owned sugar mills and estates in the West Indies and Unilever and other large firms have developed oil plantations. However in sugar the transnationals have virtually disappeared in developing countries. Nevertheless large sugar refining firms remain a force within developed countries and a decision to substitute refined sugar imports for raw imports would have serious implications for these firms.

Generally the transnational corporations appear to be moving out of standardised products (not always voluntarily) into those in which product differentiation is more important. They have retreated from raw sugar production and also from beef as developing countries (particularly in South America) have reduced their relative position in world beef exports. This move out of the primary processing stage has not reached oilseeds (including soybeans), in

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1. Some parts of this section are based on a paper Transnational Corporations in Food Processing Industries in Developing Countries, prepared by the United Nations Centre on Transnational Corporations (New York, 1980).

which Unilever and other transnationals are major participants, nor cocoa grinding.

Transnational companies are active in the fishing industries of developing countries, and are particularly export oriented. Some of these firms have been adversely affected by extensions of national fishing zone limits - it is estimated that 90 percent of commercial fishing zones are now under national control. While there are changes in the structure of the industry, transnationals remain of central importance to processed fish. Within fruit and vegetables the main processed product of relevance is canned tropical fruit, mainly pineapples. (Transnationals are, of course, of major importance in bananas, but the trade in bananas is mainly in fresh fruit.) While in most countries in which canned pineapples are expanding transnational corporations have been important, in Thailand some national firms have also been attempting to export. The latter have, however, been limited by trade barriers and 'market acceptance' in their attempts to enter developed country markets.

In coffee, cocoa and tea transnationals dominate processing and distribution. In both coffee and tea there has been some withdrawal of transnationals from growing but not from processing and marketing. In coffee the dominance of transnationals is higher in powdered coffee than in roast coffee, though Brazilian soluble sugar exports are under national control.

In the short term one can expect <sup>transnational</sup> corporations to defend their existing investments. In the longer term one could expect that, within the corporation, processing activities would tend to be sited in their most efficient locations. However taxation provisions in different countries may affect not only the transfer prices of goods so as to shift profits to the countries in which tax rates are most favourable, but the location of the various stages of production may also be affected. Such considerations may constrain the taxation policies of countries that seek to attract

processing facilities.

A further factor affecting the location of processing is political and financial uncertainty - other things being equal, a corporation will locate processing facilities where the managers judge them to be most secure, and in many cases this would favour location in a developed country. In one sense this provides a natural barrier to trade of the sort referred to earlier; however if the perceived risks are related to ownership of the facilities rather than to their continued existence, the interests regarding location of processing facilities of the host developing country and those of the corporation may diverge. Such considerations may provide a barrier to trade in processed products that is not just 'in the nature of things' but may be removable at relatively little cost from the global point of view, for example by ownership guarantees and joint projects. However political considerations may constrain the options in this area.

It is clear that the role of transnationals and other large companies cannot be ignored, particularly as one moves up the processing chain. To move into processed oils (including margarine), for example, developing countries must either co-operate with or compete against industry leaders. Co-operation may facilitate the removal of tariff and other trade barriers in the developed countries, but may involve political problems in the developing, exporting, country. However, it could be to the long term benefit of all parties - the importer, exporter and, in a hostile world, to the transnational corporation itself.

#### V. EFFECTS OF MAN-MADE TRADE BARRIERS

Barriers to trade may be introduced for various reasons, but in the modern world the major aims are protection and/or stabilization of particular domestic industries. While there are still some who see them as a means for general employment creation within the country imposing them, or for correction of balance of payments problems, there appears to be little



empirical evidence to support these views, except in the short run.

While all protection in importing countries is unwelcome as far as exporting countries are concerned, some forms of protection are worse than others. Unfortunately there has been increasing emphasis in recent years on what, from the exporters' point of view, are the less desirable forms of protection.<sup>1</sup> From this viewpoint, perhaps the least offensive form of protection is a production subsidy - while this can achieve a desired expansion in the level of production, and imports will be displaced to this extent, it does not raise the price to consumers. Import tariffs, on the other hand, not only encourage domestic production but raise prices to consumers. Imports are thereby reduced not only because of expanded production but also because of contracted demand. However fixed tariffs at least have the virtue that they leave the door open to imports. The game may be tough but entry is possible and the rules are known. If the supply price of imports can be lowered, increased markets can be obtained. On the other hand, variable import levies that are designed to yield a specified levy-inclusive price, prevent such expanded entry. Reduced supply price by exporters will not change the internal price within importing countries but will simply result in increased government revenue in these countries from the proceeds of the (increased) variable levy.

Import quotas are similar to variable import levies in providing a barrier to imports that can withstand any improved competitiveness of the

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1. See, for example, UNCTAD, Growing Protectionism and the Standstill on Trade Barriers against Imports from Developing Countries (TD/B/C.2/194, 21 March 1978).

imported product. So-called 'voluntary' restraints on exports have similar effects. Probably less desirable still are barriers that involve inspection and the meeting of certain standards, where the standards are open to bureaucratic interpretation.

While one may distinguish between trade barriers that are introduced to protect domestic industries and those that are introduced to 'stabilize' the domestic prices of particular goods, the stabilization objective always, in practice, appears to carry a protective element with it. Protective policies encourage production and, to the extent that they also raise the prices paid by consumers, they tend to decrease consumption. Thus producers outside the protective net are hit in two ways - by the reduced world consumption and by the increased production of the protected producers. Both effects reduce the market and prices of the non-protected producers. The greater the coverage of the protective policies, the greater the depressing effect on the 'residual' world market. (This has been very important in the world sugar market where national and international protective policies - the latter having been the British Commonwealth Sugar Agreement and the United States sugar quotas - left a very small and generally depressed but volatile residual world market.) A side benefit of such protection is obtained by consumers outside the protected area, as they obtain lower prices without incurring the costs of depressing these prices.

The price-depressing effects of national protective schemes are not confined to impacts through reduced imports. National 'self-sufficiency' programmes under the Common Agricultural Policy in the EEC, for example, and also for rice in Japan have resulted in excess production being dumped on world markets. Such exports from the EEC are assisted by export subsidies, termed restitution payments, that make up the

difference between the world price and the internal, target, price.

Trade barriers aimed at price stabilization for particular domestic industries have other implications for countries outside the 'stabilized' area. While the Common Agricultural Policy of the European Economic Community is seen by the European Commission as not only contributing to internal stabilization (and protection) but as adding to the stability of world markets,<sup>1</sup> in fact it has the opposite effect on markets external to the EEC. When a portion of any market is insulated from the impact of variations in the total market, the implications for the rest of the market are amplified. Thus national insulation and price stabilization is not costless from a global point of view.

Trading arrangements that maintain fixed internal prices, whether by variable levies, variable quotas or state trading allow no transmission of international disturbances to domestic markets and transmit to the world the full effects of poor harvests, etc. occurring within the insulated economies. In market economies many protective devices allow some transmission of world disturbances to the domestic disturbances. Constant ad valorem or specific import tariffs, for example, allow prices facing domestic consumers and producers to vary with world prices and resulting variations in domestic supply and demand will tend to absorb some of the world disturbance. Similarly they allow some of the impact of a bad domestic harvest to be absorbed by the home market through increased prices and reduced consumption. On the other hand protective devices such as variable import levies and quantitative restrictions on imports that are aimed at keeping constant

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1. See Gary P. Sampson and Richard H. Snape, 'Effects of the EEC's Variable Import Levies', Journal of Political Economy, forthcoming 1980. Sections of the following paragraphs are drawn from this paper.

internal prices, insulate domestic markets and export instability, in the same manner as the state trading arrangements of centrally planned economies that make international trade the stabilizing medium for domestic supplies and prices. It has been argued that the world commodity price instability of the early 1970's - an instability that was greater than that of a decade earlier, despite rather smaller underlying disturbances - was amplified by the greater insulation of the internal markets of the Soviet Union, Eastern and Western Europe and China from the markets of the world.<sup>1</sup>

What are the implications of these policies for food processing? Where agricultural protectionist policies are aimed at protecting the farmer - as in fact they are under the Common Agricultural Policy and more generally under the policies of the importers of agricultural products among the developed countries of the world - the policies towards processed primary products complement those on the raw product. Having protected the beet sugar producers by restrictions on imports of raw sugar, restrictions on refined sugar imports follow as a natural complement. This does not necessarily imply tariff escalation - nor does it imply that such imports as remain should be in the raw rather than the processed form. Such protection that is greater than that just required to complement protection of the farmer may be identified as protection for the processing activity per se.

We have already seen that protection of processed products generally goes well beyond that required to complement agricultural protection. For several of the products under consideration there is no close substitute produced domestically in developed countries - tea, coffee and cocoa for example. In others, while trade barriers may in part be designed to complement

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1. D. Gale Johnson, 'World Agriculture, Commodity Policy, and Price Variability', American Journal of Agricultural Economics, December 1975, pp. 823-28. See also F.A.O., Commodity Review and Outlook: 1979-80, pp. 13-15.

agricultural protection for a substitute product - for example, the European and Japanese barriers to trade in vegetable oils complement domestic butter protection - the escalation of protection ensures that the trade is predominantly in the raw product. The general picture is that not only is protection biased against trade in processed products but that, particularly in Europe and Japan, it is in forms that are particularly noxious from the point of view of exporters.

Should one expect international prices of processed products to be more stable than those of their unprocessed counterparts? Unless barriers to trade (man-made or natural) differentially affect the raw and processed product, their prices can be expected to move roughly in parallel. However as the processing activity, in many cases, is not as exposed to the fortunes of nature as is the production of the input, the value added in processing itself is likely to be more stable than the price of the input. Thus price variations in the processed product are likely to be proportionately less than in the primary product unless the market structure is such that there is a constant proportionate mark-up. This statement refers to price changes that arise on the side of supply; looking at the question globally there is no reason to expect the forces for price instability arising on the side of demand to affect the raw and the processed products differentially.

However barriers to trade do differentiate between the raw and processed products and this has implications for the raw/processed price relationship on world markets and for its relation over time. For example, because of the protection given to the sugar refining process in many countries, refined sugar has at times sold for less than raw sugar on the international market. Similarly at times butter has been available on world markets at prices that would imply milk prices for dairy farmers well below those existing in any major producer. The lesson is that unless

barriers to trade in processed products are reduced, moving into processing is not likely to bring greater stability of prices.

A consequence of the numerous preferential schemes that have developed over the last decade or two, together with the associated escape clauses and other limitations, is that the complexity of protection appears to have increased. These limited preferential schemes appear to be making it more difficult to trade in that intimate knowledge of regulations is required, a knowledge that is costly to acquire, particularly for developing countries. Furthermore, some economists estimate that the gains to developing countries from these preferential schemes have been modest.<sup>1</sup>

The major gains for developing countries would appear to be in across-the-board reductions in trade barriers, particularly of the non-tariff type. So far developing countries have been reluctant to negotiate on this broad front, for fear of eroding the preferences directed towards them.<sup>2</sup> But there does not seem to be any prospect for substantial gains unless this action is taken. We turn now to the trade gains that might be achieved from a non-preferential reduction in trade barriers.

#### VI. QUANTITATIVE ESTIMATES OF EFFECTS OF PROTECTION

Estimates have been made recently of the effects of trade restriction and the gains that may be achieved from liberalization. Table 8 summarizes the effects of one such study by Alberto Valdés.<sup>3</sup> The calculations

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1. See Deepak Lal, op.cit., p.38; R. E. Baldwin and T. Murray, MFN Tariff Reductions and Developing Country Trade Benefits under the GSP', Economic Journal, March 1977, pp.30-46.
  2. Deepak Lal, op.cit., pp. 37-9.
  3. Alberto Valdés, Trade Liberalization in Agricultural Commodities and the Potential Foreign Exchange Benefits to Developing Countries, Report prepared for F.A.O., Commodities and Trade Division (International Food Policy Research Institute, Washington, D.C., February 1979). This study is summarized in F.A.O., Commodity Review and Outlook: 1979-80, p. 115.

Table 8

Potential Foreign Exchange Benefits to Sample Developing  
Countries (DC) by Commodity

Commodity	Increase in the value of sample DC exports:			Share of sample DCs in total world exports:	
	in \$000 (Constant 1977 value) (1)	As % of initial value of DC exports of the commodity (2)	As % of total increase in the value of world exports of the commodity (3)	Initial (4)	Post Liberalization (5)
Raw Sugar	659,000	22.6	42.6	39.1	39.8
Beef and Veal	590,760	58.7	48.8	20.4	26.0
Wine	495,180	76.7	58.6	25.0	33.3
Refined Sugar	222,120	134.4	39.5	8.0	14.7
Green Coffee	135,960	2.7	88.7	87.9	87.9
Maize	82,201	7.5	14.0	18.7	18.3
Cocoa Butter					
Oil	61,144	24.1	72.6	50.0	53.2
Wheat	57,860	19.1	5.9	3.0	3.3
Pigmeat	53,155	339.7	7.0	0.9	2.8
Tea	48,950	4.8	82.6	78.9	79.1
Molasses	42,594	20.6	64.8	56.0	63.0
Olive Oil	38,016	19.7	48.6	41.7	42.7
Groundnut Oil	31,629	11.8	70.2	72.9	72.6
Cocoa Beans	31,794	2.1	88.9	88.6	88.6
Citrus Juice	30,504	35.6	62.0	31.1	35.8
Coconut Oil	27,940	8.2	75.0	67.3	67.8
Palm Oil	24,664	4.7	74.7	72.9	73.0
Cassava	21,861	3.6	100.0	100.0	100.0
Soy Cake	21,603	7.1	9.4	17.3	16.4
Groundnut Cake	19,310	7.5	97.7	95.9	96.0
Bananas	18,248	4.2	43.1	43.5	43.4
Barley	16,311	78.2	3.2	1.2	1.7
Coffee Extracts etc.	16,242	8.9	67.8	46.5	47.7
Oranges	15,686	6.5	20.2	24.0	23.8
Beans, dry	14,624	10.5	42.5	42.3	42.3
Vermouth	14,488	370.0	48.1	8.6	24.4

Continued....

Table 8... (continued)

Commodity	Increase in the value of sample DC exports:			Share of sample DCs in total world exports:	
	in \$000 (Constant 1977 value) (1)	As % of initial value of DC exports of the commodity (2)	As % of total increase in the value of world exports of the commodity (3)	Initial (4)	Post Liberalizatio (5)
Groundnuts, shelled	14,430	5.1	63.2	64.2	64.2
Wheat Flour	14,419	61.8	6.3	2.3	3.1
Soy Beans	13,042	3.9	10.0	8.4	8.4
Castor Oil	12,120	7.9	98.2	98.3	98.3
Mutton & Lamb	11,435	32.2	11.0	3.9	4.7
Palm Kernel Oil	10,594	13.2	55.8	55.7	55.7
Cotton Seed Cake	9,835	5.8	79.3	85.0	84.7
Sugar, confectionary	9,661	52.8	39.6	3.5	5.1
Copra Cake	8,304	12.5	90.9	88.5	88.7
Rapeseed Cake	8,296	80.6	47.7	18.8	25.8
Linseed Cake	8,291	13.3	60.6	54.1	63.7
Lemons & Limes	8,159	33.1	14.2	8.3	9.3
Linseed Oil	7,723	9.4	41.3	49.8	48.9
Sunflower Cake	7,516	11.5	90.9	87.1	87.5
Roast Coffee	6,866	25.7	40.0	22.0	24.2
Rape Colza Seeds	6,454	75.0	12.0	1.8	2.9
Oats	5,988	26.5	5.3	11.4	9.1
Copra	5,851	2.1	76.7	75.9	75.9
Broad Beans, dry	5,041	13.4	79.2	55.3	57.3
Rye	5,025	79.5	16.0	4.8	7.0

Note: Commodities in which (1) is less than \$5 million include paddy, husked, and milled rice, maize flour, millet, sorghum, sugar syrups, peas, chickenpeas, lentils, pulses nes., tangerines, grapefruit, soy oil, sunflower oil, rape cola oil, cottonseed oil, Tung oil, palm kernel cake, sesame cake, cocoa powder, lard, margarine, tallow, groundnuts in shell, coconuts, dessicated coconuts, palm kernel nuts, olives, castor beans, sunflower seeds, sesame seeds, mustard seeds, linseed and cotton seed.

Source: Alberto Valdés, 'Trade Liberalization in Agricultural Commodities and the Potential Foreign Exchange Benefits to Developing Countries', Report prepared for F.A.O., Commodities and Trade Division (International Food Policy Research Institute, Washington, D.C., February 1979), Table 2, pp.26-7.



are for a hypothetical reduction by 50 percent in the trade barriers to agricultural commodities in the O.E.C.D. countries.<sup>1</sup> The sample of developing countries for which the increased exports are calculated is large, being all 57 developing countries with populations exceeding four million in 1975. The trade barriers considered are most-favoured-nation tariffs and all other barriers which the author could quantify in a tariff-equivalent form. The base for the calculations is 1970-74. Values are in \$US of 1977 value.<sup>2</sup> The author does not fully take into account the preferential tariff reductions under the generalized system of preferences and the Lomé Convention, but argues that these would not significantly alter the general picture as the latter largely continue existing preferential arrangements and the impact of the former on agricultural products is circumscribed by non-tariff barriers and escape clauses. Valdés acknowledges that the calculations are fairly rough and regards them as long-run minimum orders of magnitude.

Some very large increases in developing country exports are estimated. While raw sugar heads the list in value terms (despite the fact that Valdés estimates that less than half the increase in world exports of sugar would be from developing countries), he emphasizes that the results do not fully capture the likely move in trade from raw to refined sugar. Thus the increase in refined sugar exports could be even greater than indicated in Table 8. The beef and veal and pigmeat figures do not include dried, canned or otherwise prepared meat, due to data limitations.

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1. Excluding Greece, Finland, Iceland, Portugal, Spain and Yugoslavia.
  2. The deflator is the world consumer price index of the International Monetary Fund.

Substantial increases in green coffee exports are estimated, with modest increases in value terms in roasted coffee, but again the author suggests that the calculations underestimate a likely shift to exports of the processed product.

In general the calculations are impressive evidence of the export gains that could be achieved by developing countries from general reductions in levels of protection in O.E.C.D. countries. They underline the point made above - that substantial gains to developing countries may be secured from reductions in protection of a general nature, rather than in the granting of preferences which are almost inevitably hedged about with non-tariff barriers in the form of exceptions, ceilings and other escape clauses.

#### VII. THE MEANS BY WHICH NATIONAL OBJECTIVES ARE PURSUED

From the point of view of national political economy it is understandable that the farm sectors of developed economies are protected. Farmers are numerous and have political power. It is also understandable that farmers value, and obtain, stability of income. It is less obvious: (a) why protective policies take the forms they do, being forms that generally have particularly adverse effects on other countries, and (b) why protection of food processors so often extends well beyond that required simply to ensure that the protection of farmers is not undermined.

##### (a) Forms of Protection

All protection assists some people in the economy and imposes financial cost on others. More often than not it also has a more general cost by securing an inefficient allocation of the nation's (and world's) resources. The assistance comes through higher prices received by producers and through guaranteed markets; this also causes the inefficient allocation of productive resources. The costs of providing this assistance can come in

various ways, depending on the form of protection. Protection that is implemented through restrictions on imports - whether by means of fixed import tariffs, variable levies or import quotas - inevitably raises the price to domestic consumers and imposes a direct financial cost on them. Production subsidies, on the other hand, allow prices to remain at import levels and impose the costs of protection on general taxation. Restrictions on imports effectively 'tax' the consumers of the product by raising the price to them in order to subsidise producers - it is most improbable that the optimum form of taxation to secure a subsidy for the producers is a tax on the consumers of the same products. And yet price-support programmes implemented through restrictions on imports dominate direct subsidies as the means by which protection is given.

While it can be argued that protection through production subsidies is a more efficient means of protection than through restraints on imports, recipients of protection appear to favour the latter. A number of reasons have been suggested: production subsidies are open to scrutiny in annual budgets and the costs of protection are rather more visible; recipients of production subsidies appear to regard the payments as a type of welfare payment (which indeed, any form of protection tends to be) and to resent the dependent status - protection against the natural advantages of foreigners somehow does not carry the same odium; and policies that operate through only one medium, production subsidies, are not regarded as being as secure as those that have several potential arms - which non-tariff barriers to agricultural imports tend to have.

Agricultural exporters have much to gain from a shift from restraints on international trade to direct production subsidies as a form of protection in importing countries. These gains are (i) an expanded market; (ii) a more stable market; and (iii) a reduction in uncertainty regarding the

extent of protection and its administration. Quantification of these is difficult. An old study estimated that for 1959, a change in the form of protection, to production subsidies, without any change in the prices received by producers, would have secured a 30 percent increase in international trade in sugar, and a 70 percent increase in the trade undertaken on the 'free' market - that is, not covered by international protective arrangements.<sup>1</sup>

(b) Protection of Processors

While the political base of the farming sector is fairly obvious in developed countries, that of processors is less so. Why do domestic processors apparently need, and obtain, substantial effective protection in many commodities? Processing of many products uses techniques of a rather basic type, easily learnt and transferred. In this they may be compared with the manufacture of iron and the standard forms of steel, and thus are suited for developing countries, even though they are not particularly labour-intensive. The political base for the processors may not be as wide as that of the farmers, but they have been successful nevertheless. Again they may be compared with the producers of iron and steel and also of basic textile products.

VIII. STRATEGIES FOR EXPORTING COUNTRIES

1. There is a clear gain for exporting countries, whether of raw or of processed products, if importing countries can be induced to change their forms of protection to production subsidies and away from forms of protection that raise prices to consumers to the levels that are received by

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1. R. H. Snape, 'Some Effects of Protection in the World Sugar Industry', Economica, February 1963.

protected producers. This is quite independent of any change in the level of protection. There is also a gain to consumers in developed countries from such a shift, with the burden of agricultural support being shifted to general taxation and away from high prices for food products. Such a change would have implications for the distribution of income with lower income groups gaining as the proportion of income spent on food tends to fall as income rises. It is possible that, with protection in the more obvious form of production subsidies, protection may be less durable.

2. This threat to the continuation of protection implied by a switch to production subsidies may have relevance for food processing. We have seen earlier that effective rates of protection of food processing activities is very high in many countries. While there may be general support among taxpayers for subsidising farmers and the way of life they represent, there may be rather less support for continuing the subsidisation of food processors when the cost of this subsidisation is made obvious in annual budgets. In countries that impose variable levies and other non-tariff barriers, it is likely that consumers see the high cost of refined sugar, flour or processed meat as the price of farm support, without realising that the food processors are enjoying substantial additional protection. The position would be made clear by a switch to production subsidies as the form of protection.

3. If production subsidies are not likely to be adopted, fixed tariffs would be a more desirable form of protection than variable levies and other non-tariff barriers, and developing countries could press for them in international negotiations. They are easily quantified, their protective effects are obvious, their effects through 'escalation' are more easily quantified and they do not export instability. Non-tariff barriers are particularly noxious as far as exporters are concerned: exporters could concentrate on them in negotiations.

4. It may be wise for developing countries to push for multilateral reductions in barriers rather than preferential reductions. The latter are invariably hedged in often complicated manners and appear to provide limited benefit - or benefits for groups of developing countries partly at the expense of others - at the cost of making trade more complicated and subject to bureaucratic control. Such reductions may erode existing preferences but may be of benefit nevertheless.

5. The effects of escalating tariffs and other non-tariff barriers in protecting processing could be emphasized by developing countries in international negotiations. Exporting countries should beware of reductions in trade barriers on raw products unless barriers are reduced significantly on the processed product. Unless this occurs, the protection for the domestic processing could be increased, and the barriers to processing abroad raised.

6. Within the many international commodity agreements, greater emphasis could be placed on processed products. Thus in those that specify export and/or import quotas, specific quotas could be allocated for the processed product - or alternatively the quotas could be for either the raw or processed product. This measure would be relevant to both centrally planned and market economy importers. As already indicated the little evidence that has been analysed on the matter suggests that the centrally planned economies may have a greater bias towards processing at home than other importers.

7. In deciding whether to process for export, particularly beyond the early stages (and even at this stage in some commodities), developing countries need to take account of transnationals. Either they will need to compete or co-operate. Both actions have their problems, but it should be noted that entry is difficult to an industry in which product differentiation and marketing is important. Co-operation would provide easier entry and additionally may provide an avenue for reduction in the man-made trade barriers.

8. In recent years there has been a growth of transnational corporations based in developing countries,<sup>1</sup> though few are involved in food products or processing.<sup>2</sup> If it is thought that firms based in developed countries are making judgements about the location of processing plants that are biased towards developed countries, there may be a role for transnational companies based in developing countries. A first step could be the purchase by such countries of existing processing plants in developed countries. Managerial decisions regarding the best location of plants could then be taken. The political climate regarding the continued protection of processing facilities in developed countries could be altered by the change in ownership - it may be a means by which protection of the processing activity in developed countries could be reduced. As this could bring capital losses for the purchasing firm, and thus may imply structural adjustment assistance from the developing to the developed world, such purchases could be assisted by international organisations.

9. Transnational corporations may be deterred from locating processing facilities in developing countries by the risks they rightly or wrongly perceive. If access to technology, managerial skills or marketing outlets favour transnational corporations based in developed countries, joint ventures may be a politically acceptable solution.

10. For exporters that are facing variable import levies or other trade restrictions that completely insulate domestic prices from world market developments, the position is difficult. Any gains in exports through cost

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1. David A. Heenan and Warren J. Keegan, 'The Rise of Third World Multinationals', Harvard Business Review, Jan-Feb., 1979, pp. 101-9.
  2. An exception is Bunge-Born, based in Argentine.

efficiencies or subsidization will be at the expense of other exporters. The net result of generalised efficiency gains or general subsidization of exports will be a transfer of resources to the importing countries as a lower price on the world market will simply imply higher levies (or other restrictions) in the importing countries.

Thus variable import levies and other restraints on imports that make imports invariant with world price, give an incentive to the cartelisation of exporters. It should be noted that such cartelisation, if limited to raising the offer-price to the relevant countries, would not affect internal prices or supplies in these countries. There would imply be a transfer of revenue from the importing to the exporting countries. This cartelisation would be difficult to achieve for many commodities, particularly as there would be an incentive to import through third parties. Furthermore it is the way of trade wars. The better way may be for the freeing of imports. The threat of such cartelisation, if it is credible, could be used as a means to negotiate increased access.

11. Above all, it should be recognised that protection policies in developed countries, and particularly non-tariff barriers, distort the location of processing facilities. While natural barriers may be important, man-made barriers also matter. If they didn't, pressures would not exist for their retention. A round of international trade negotiations directed towards food protection and non-tariff barriers could be an appropriate way to tackle the problem. Further negotiations on tariffs alone would appear to be rather futile in the food processing area as they would not be addressing the major problems.





