#24

Revised

The Less Developed Countries' Exports of Primary Products*

Benjamin Cohen

Harvard University.

Preliminary: Not to be quoted without written permission of the author.

*Research assistance was provided by Eugene Marck and Harold Luft, under a grant from the Project for Quantitative Research in Economic Development. I am solely responsible for the contents of this paper.

#24

The exports of primary products by the less developed countries (LDC) have received much attention in the last few years. Export prospects have implications for both commercial policy and foreign aid.

Some of those who take a gloomy view of the prospects for exports to the industrial countries have recommended that the LDC pursue a development strategy that minimizes their import requirements. Others have recommended that the LDC seek to promote the export of manufactured items; in this connection, the LDC asked, at the United Nations Conference on Trade and Development, that the developed countries give tariff preferences to industrial products from the LDC. A third policy implication is that the LDC take steps to increase intra-LDC trade. These trade recommendations presume that the stagnation of existing LDC primary exports is due to stagnant world demand and not to inelastic export supply by the LDC.

Besides the implications for commercial policy, the export prospects for the LDC also affect their future foreign aid requirements. One way of calculating ex ante aid levels is on the basis of the ex ante difference between imports and exports.[1] In this calculation the projected increase in the exports

---

[1] One can also look at the ex ante difference between investment and savings. See Ronald I. McKinnon, "Foreign Exchange Constraints in Economic Development and Efficient Aid Allocation," The Economic Journal, 74 (June, 1964), pp. 388-409. A third approach is to add up all the "good" projects in a country.

of a less developed country is sometimes assumed to depend on the increase in its GNP, as it is claimed that exports of primary products will not expand and that exports of manufactured products can grow only if industrial production grows.[2] Sometimes foreign aid requirements are estimated on the assumption that LDC exports are exogenous from the LDC's point of view.[3]

Despite both the importance of LDC exports and the availability of detailed foreign trade data, there has been remarkably little empirical analysis of the LDC's export performance in recent years. The next Section briefly reviews past explanations for the observed trends, and the final Section presents some evidence concerning the extent to which the LDC's export earnings from primary products are beyond their control.

---

[2] Ibid., pp. 388,404

[3] For foreign aid projections using this assumption, see Hollis B. Chenery and Alan M. Strout, "Foreign Assistance and Economic Development", American Economic Review (September 1966), pp. 679-733. For a historical analysis along these lines, see Irma Adelman and Hollis B. Chenery, "Foreign Aid and Economic Development: The Case of Greece," The Review of Economics and Statistics (February 1966), pp. 1-19.

II

The usual approach begins by observing that the LDC's share of world exports has been declining. Nurkse, for example, noted that the percentage share of non-industrial countries in the value of world exports declined from 33.8 per cent in 1928 to 31.3 per cent in 1957 if the oil exporters are included and from 32.2 per cent to 24.4 per cent if the oil exporters are excluded.[4] One gets a different historical picture by comparing alternative dates. Yates found[5] that between 1913 and 1953 the poor continents--Africa, Latin America, and Asia (excluding Japan)--increased their share of world exports.[6]

Regardless of the long-term historical trends, it seems clear, as shown in Table I, that in recent years the LDC's share of world exports has been declining rather steadily. This declining share could, in theory, be due to the relative stagnation in the industrial countries of the demand for

---

[4]Ragnar Nurkse, "Patterns of Trade and Development," Equilibrium and Growth in the World Economy, ed. Gottfried Haberler (Harvard University Press, 1962), p. 292.

[5]P. Lamartine Yates, Forty Years of Foreign Trade (The Macmillan Co., 1959), p. 234.

[6]The alternative empirical findings are probably not due to the slightly different definitions of country groups: Nurkse, following GATT, defines Australia and New Zealand as non-industrial, while Yates excludes them from the "poor" category.

Table I

Exports, billion dollars, fob

	"World"	Less Developed Countries			Percentage	
	(1)	Total[a] (2)	Petroleum[b] (3)	other- (4)	(2)÷(1)	(4)÷(1)
1937	24.2	7.5	.6	6.9	31.0	28.5
1950	56.7	20.3	3.7	16.6	35.8	29.3
1951	76.6	25.7	4.2	21.5	33.6	28.1
1952	73.9	22.8	4.2	18.6	30.9	25.2
1953	74.3	22.0	4.4	17.6	29.6	23.7
1954	77.1	23.3	5.0	18.3	30.2	23.7
1955	84.0	25.1	5.7	19.4	29.9	23.1
1956	93.3	26.2	6.1	20.1	28.1	21.5
1957	100.1	27.0	6.6	20.4	27.0	20.4
1958	95.4	26.1	7.1	19.0	27.4	19.9
1959	101.3	27.6	7.1	20.5	27.3	20.2
1960	113.3	29.4	7.5	22.1	25.9	19.5
1961	118.5	30.0	7.7	22.3	25.3	18.8
1962	124.5	31.5	8.4	23.1	25.3	18.6
1963	135.5	34.4	8.8	25.6	24.4	18.9
1964	151.9	37.2	10.1	27.1	24.5	17.8

[a]As defined in text.

[b]As defined in International Financial Statistics (March, 1964)

Sources: Various issues of International Financial Statistics

primary products, which comprise the bulk of LDC exports. Nurkse put forth six reasons for this stagnation in demand: (1) industrial output is shifting towards goods with a lower import content, (2) the industrial countries protect their agricultural producers, (3) services are becoming a larger share of national income, (4) the income elasticity of consumer demand for agricultural products is low, (5) synthetics are being increasingly used, and (6) industrial countries are becoming more economic in their use of raw materials.[7]

Nurkse's explanations have been used by others.[8] The last four, however, refer to changes in the final demand in the developed countries, not to changes in their demand for imports. For most major primary products the LDC supply only a fraction of the industrial countries' consumption. As imports are a residual between consumption and domestic production, imports can, in theory, expand rapidly even if consumption grows slowly. For example, suppose that for commodity A domestic production accounts initially for 90 per cent of domestic consumption and that consumption grows by 2 per cent and domestic production by 1 per cent. Suppose that for commodity B imports initially supply half of consumption and that consumption grows by 10 per cent and domestic production by 30 per cent. Then imports of A will expand by 11 per cent and imports of B will fall by 10 per cent.

---

[7] Nurkse, op. cit., pp. 294-295.

[8] See, for example, Raul Prebisch, Towards a New Trade Policy for Development (United Nations, 1964), pp. 11-14.

Nurkse's second reason would explain the relatively slow growth of LDC exports only if the level of agricultural protection had increased over time; there is not much evidence on this point. This leaves Nurkse's first reason as the only one which logically implies a stagnation of the industrial countries' imports from the LDC. On the other hand, it has long been argued that production costs of raw materials will rise over time in the industrial countries and hence that they will become increasingly dependent on imports of primary products. Given these alternative theoretically plausible arguments, it may be useful to look at actual recent trends in imports of primary products.

III

I handled the data problems concerning the industrial countries' imports from the LDC mainly by the criterion of availability. Detailed import data for the industrial countries were published by the OEEC beginning in 1952;[9] 1964 is the most recent year for which published OECD data are available.

---

[9]For 1952 import data are unavailable for raw wool and vegetable oils.

The industrial countries are defined as Western Europe,[10] Canada, and the USA; other developed countries are defined as Australia, Finland, Japan, and New Zealand. The less developed countries are defined as the world excluding the industrial countries, other developed countries, and Eastern Europe.[11] Primary products are defined, in terms of the Revised SITC categories, as food and live animals (SITC 0) plus beverages and tobacco (SITC 1) plus crude materials, inedible, except fuels (SITC 2) plus mineral fuels and lubricants (SITC 3) plus animal and vegetable oils and fat; (SITC 4) plus non-ferrous metals (SITC 68) minus pulp and waste paper (SITC 25) minus aluminum (SITC 684). Detailed data are presented for 24 major primary products (whose SITC numbers appear in Table VI).

As shown in Tables II and III, imports of non-primary products by the industrial countries grew much more rapidly than imports of primary products between 1953-55 and 1962-64. In Western Europe no major primary products grew as rapidly as the average non-primary product. In Canada and the USA, on the

---

[10] Western Europe includes Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Sweden, Switzerland, Turkey, United Kingdom, and West Germany. As she did not report her foreign trade according to the SITC until recently, Switzerland is excluded when reference is made to imports by the industrial countries but is included when reference is made to imports from the industrial countries.

[11] Eastern Europe includes Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Romania, and the USSR.

other hand, imports of several primary products--livestock, iron ore, corn, and meat--grew more rapidly than the average non-primary product.

As Canada and the USA report imports fob and Western Europe reports imports cif, it may be dangerous to try to estimate combined imports of the industrial countries. Table IV, however, gives the unadjusted total imports for the industrial countries. No major primary products had imports growing as fast as the average non-primary product.

While the value of imports of primary products did not, in general, grow as rapidly as the value of imports of non-primary products, it is also true that the imports of many primary products grew quite rapidly during the period. Between 1952-54 and 1962-64 imports by Western Europe grew by at least 5 per cent per year for eleven primary commodities: livestock, fish, feeding stuff, fresh fruit, corn, mineral fuels, alcoholic beverages, copper, meat, iron ore, and wood; imports by Canada and the USA grew by at least 5 per cent per year for seven primary products: livestock, iron ore, corn, meat, alcoholic beverages, fish, and mineral fuels.

On the other hand, imports of four primary products declined in value both in Canada and the USA and in Western Europe: wheat, cocoa, wool, and cotton. Imports by Canada and the USA also declined in value for copper, feeding stuff, coffee, and rubber.

Table II

Imports by Western Europe

	1952-54 annual average cif	1962-64 million dollars	percentage increase
	(1)	(2)	(3)=(2)*(1)
all commodities	31,587	66,529	211
non-primary	8,410	33,174	394
primary	23,177	33,355	144
livestock	170	511	301
fish	197	557	283
feeding stuff	290	767	264
corn	334	766	229
fresh fruit	659	1,396	212
meat	862	1,671	194
mineral fuels	3,984	7,672	193
alcoholic beverages	337	622	185
copper	762	1,384	182
iron ore	422	760	180
wood	985	1,677	170
tobacco	419	654	156
dairy products	734	1,012	138
hides and skins	280	383	137
oilseeds	628	858	137
sugar	502	683	136
rubber	452	568	126
vegetable oils	378[a]	463	122
tea	306	371	121
coffee	682	796	117
cocoa	343	316	92
wool	1,342[a]	1,156	86
wheat	887	736	83
cotton	1,257	920	73
Other primary	5,964	7,224	121

[a] 1952 assumed equal to average of 1953 and 1954.

Source: 1952-1954: various issues of Foreign Trade, Series II (OEEC) and Foreign Trade, Series IV (OEEC)
1962-1964: various issues of Foreign Trade, Series C (OECD)

Table III

Imports by Canada and the USA

	1952-54 annual average million dollars fob (1)	1962-64 (2)	percentage increase (3)=(2)÷(1)
all commodities	14,843	23,580	159
non-primary	5,513	12,711	231
primary	9,330	10,869	116
livestock	17	94	553
iron ore	125	416	333
corn	12	35	281
meat	190	516	272
alcoholic beverages	166	371	223
fish	197	426	216
mineral fuels	1,267	2,391	189
fresh fruit	214	301	141
wood	338	443	131
dairy product	40	52	130
tobacco	85	108	127
sugar	524	665	127
vegetable oil	90[a]	109	121
tea	71	82	115
hides and skins	68	72	106
oilseeds	92	99	108
copper	350	330	94
feeding stuff	73	65	89
cotton	105	89	85
wool	260[a]	212	82
cocoa	230	171	74
coffee	1,506	1,120	74
rubber	445	264	59
wheat	34	7	21
other primary	2,829	2,431	86

[a] 1952 assumed equal to average of 1953 and 1954

Source: same as Table II

Table IV

Imports by Canada, the U.S.A. and Western Europe

	1952-54 annual average million dollars (1)	1962-64 (2)	percentage increase (3)=(2)÷(1)
all commodities	46,430	90,109	194
non-primary	13,923	45,320	326
primary	32,507	44,789	138
livestock	188	605	322
fish	394	983	249
corn	347	801	231
feeding stuff	363	832	229
iron ore	548	1,176	215
meat	1,052	2,187	208
alcoholic beverages	503	993	197
fresh fruits	873	1,697	194
mineral fuels	5,251	10,063	192
wood	1,323	2,120	160
copper	1,113	1,714	154
tobacco	504	762	151
dairy products	774	1,064	137
oilseeds	720	957	133
sugar	1,026	1,348	131
hides	349	455	130
vegetable oils	468[a]	572	122
tea	377	453	120
rubber	897	832	92
coffee	2,188	1,916	88
cocoa	573	487	85
wool	1,602[a]	1,368	85
wheat	921	740	80
cotton	1,362	1,009	74
other primary	8,792	9,655	110

[a] 1952 assumed equal to average of 1953 and 1954

Source: Tables II and III

One cannot necessarily infer the behavior of the LDC's exports of primary products from the data on total imports by the industrial countries. It is frequently assumed that the LDC monopolize world trade in primary products, but this is not so. Of the 23 major primary products,[12] the LDC supply more than 69 per cent of the total imports--a weak definition of monopoly--by Western Europe for only 3 commodities and more than 69 per cent of the total imports by Canada and the USA for only 7 commodities. As shown in Table V, these "monopoly" commodities account for about seventy per cent of the value of the imports of these 23 commodities from the LDC by Canada and the USA and less than one-fifth of the imports from the LDC by Western Europe. For most of these commodities the LDC compete for export sales in the industrial countries with the industrial countries, with other developed countries, and with Eastern Europe.

It is interesting to inquire how the LDC have fared over time in this competition. Those who argue that the export stagnation of the LDC is due to supply problems[13] would probably expect a decline in the LDC's share of imports by the industrial countries. Those who claim that LDC exports suffer mainly

---

[12]As LDC that export mineral fuels are generally agreed not to have an export problem, mineral fuels are omitted from further analysis.

[13]For example, A.K. Cairncross, "International Trade and Economic Development," Kyklos, XIII, Fasc. 4 (1960), pp. 545-558.

from stagnant world demand would not predict a decline in the LDC's share of the industrial countries' imports of a particular primary product.

As shown in Table VI, the evidence is mixed. The LDC occasionally increased their share of imports both by Western Europe and by Canada and the USA: feeding stuff and mineral fuels. Sometimes the LDC share declined in both areas: livestock, dairy products, corn, sugar, hides, oilseeds, and rubber. In some cases the LDC share rose for Western Europe and fell for Canada and the USA: meat, tobacco, wood, and iron ore; the reverse occurred for fish and vegetable oils. For the other 10 primary products there is no clear trend in the LDC's share of the industrial countries' imports.

In order to measure the quantitative significance of these various trends, I calculated what imports from the LDC would have been in 1962-64 if the LDC had maintained their actual 1952-54 share of the actual 1962-64 imports of each of these 23 primary products. The results are shown in Table VII, along with actual 1962-64 imports. Imports from the LDC by Canada and the USA would have been 9 per cent larger and those by Western Europe 8 per cent larger. The approximate[14] difference--$896 million--between average actual annual LDC exports and projected annual exports for 1962-64 can be compared to the discounted present value of foreign aid from the industrial countries to the LDC in 1962.

---

[14] I arbitrarily assume the fob value of LDC exports to Western Europe is 90 per cent of the cif value.

Table V

Imports of Primary Products - Excluding Mineral Fuels - from Less Developed Countries, 1962-64

	Canada and the USA	Western Europe
more than 69 per cent of total imports:		
number of commodities	7	3
value, million dollars	2,459	1,398
40-69 per cent of total imports:		
number of commodities	6	10
value, million dollars	460	4,774
10-39 per cent of total imports:		
number of commodities	5	8
value, million dollars	457	1,901
less than 10 per cent of total imports:		
number of commodities	5	2
value, million dollars	55	70
Total:		
number of commodities	23	23
value, million dollars	3,431	8,143

Source: same as Table II

Percentage of Imports of Primary Products Supplied by Less Developed Countries

	SITC No.	Imports by Canada and the USA		Imports by Western Europe	
		1952-54 (1)	1962-64 (2)	1952-54 (3)	1962-64 (4)
livestock	00	42	40	10	7
meat	01	33	17	17	25
dairy products	02	7	4	11	3
fish	03	21	37	24	15
wheat	041	0	0	10	13
corn	044	22	6	44	31
fresh fruits	051	67	70	65	61
sugar	061	97	91	78	67
coffee	071	100	99	98	96
cocoa	072	91	90	88	85
tea	074	95	87	98	98
feeding stuff	081	38	51	55	57
alcoholic beverages	112	4	3	66	46
tobacco	121	40	31	32	33
hides	211	56	43	55	35
oilseeds	221	80	52	81	54
rubber	231	96	88	90	67
wood	24	22	9	18	26
wool	2621+2622	57	42	27	24
cotton	263	45	39	57	59
iron ore	281	48	35	37	45
mineral fuels	3	75	80	55	63
vegetable oils	421+422	65	73	73	68
copper	682	78	66	53	53

Sources: same as Table II

Depending on alternative assumptions, Pincus estimates the 1962 aid flow at $4.6 billion to $6.1 billion.[15] The net transfer of resources to the LDC is still less than these aid figures because most aid is tied to the donors' exports; LDC are free to spend their export earnings in the cheapest markets. On the other hand, larger production and export of primary products may require larger imports, e.g., fertilizer.

The reader can judge for himself whether the data available through 1964 are sufficient to support a general conclusion concerning the importance of stagnant demand by the industrial countries relative to stagnant export supply by the LDC.

To the extent that the future repeats the recent past, LDC export prospects are not too bright for some of the primary products for which the LDC have a "monopoly" of the imports by the industrial countries: coffee, cocoa, tea, and rubber. This observation does not imply that the LDC's future comparative advantage necessarily lies in manufactured goods. Depending on their production costs, the LDC as a group may be able rapidly to increase their exports of those primary products for which they are not now "monopolists," both by stressing those primary products whose imports by the industrial countries are likely to grow rapidly and by increasing their share of the industrial countries' imports. This conclusion applies, a fortiori, to a single less developed country.

---

[15] While the OECD reports the 1962 aid flow from the industrial countries (including multilateral aid) as $7.8 billion, Pincus calculates the aid flow for alternative valuations of PL 480 shipments and for alternative present values of the amortization payments. John Pincus, Economic Aid and International Cost Sharing (Baltimore: The Johns Hopkins Press, 1965), ch. 5.

Table VII

Projected 1962-64 Imports from Less Developed Countries

	Canada and the USA		Western Europe	
	Actual	Projected	Actual	Projected
	million dollars, fob		million dollars, cif	
	(1)	(2)	(3)	(4)
livestock	38	39	36	51
meat	88	170	420	284
dairy products	2	0	34	111
fish	157	89	84	134
wheat	0	0	93	74
corn	2	8	240	337
fresh fruits	212	202	852	907
sugar	604	645	430	519
coffee	1,105	1,120	766	780
cocoa	154	156	268	278
tea	71	78	364	364
feeding stuff	33	25	438	422
alcoholic beverages	12	15	286	411
tobacco	33	43	217	209
hides	31	40	195	211
oilseeds	51	79	466	695
rubber	233	253	378	511
wood	39	97	429	302
wool	90	121	283	342
cotton	35	40	540	524
iron ore	144	200	341	261
vegetable oils	80	71	315	338
copper	217	267	729	734
Total:	3,431	3,748	8,143	8,789