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PRIMARY COMMODITIES  
THE OUTLOOK FOR LATIN AMERICA

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The views expressed in this paper are those of the author and do not necessarily represent those of the World Bank.

PRELIMINARY

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ANNEX I

## I. THE MARKET SETTING

1. Primary commodities constitute an overwhelming share of the Latin American 1/ exports, as is the case with virtually all developing countries. Although the share of manufactured goods exports has been rising rapidly, in 1970 primary products still accounted for 89 percent of their total exports (Chart I). A feature of the 1960's was a sharp contraction in the share of agriculture in total exports; the seventies will probably reflect a marked rise in the share of petroleum. Conversely, the imports have been dominated by manufactures; this is unlikely to change much in the 1970's, although there will be a continued expansion in the share of petroleum.

2. Latin America is a dominant or an influential suppliers of many primary products in world markets, particularly bananas, coffee, cotton, meat, sugar, fishmeal, bauxite, copper and silver. In 1970-72, the developing countries accounted for 29.5 percent of world trade in commodities (petroleum excluded); Latin America alone supplied 12.5 percent, nearly matching the combined primary exports of developing Asia and Africa (Table 1). The share of Latin America in world trade of major primary products is shown in Chart II.

3. With the exception of Mexico all Latin American countries are highly dependent on the exports of two or three primary commodities (Chart III). The lack of diversity in their exports combined with other factors discussed later, places them in a weak position in exercising a commensurate influence in determination of market prices of these products.

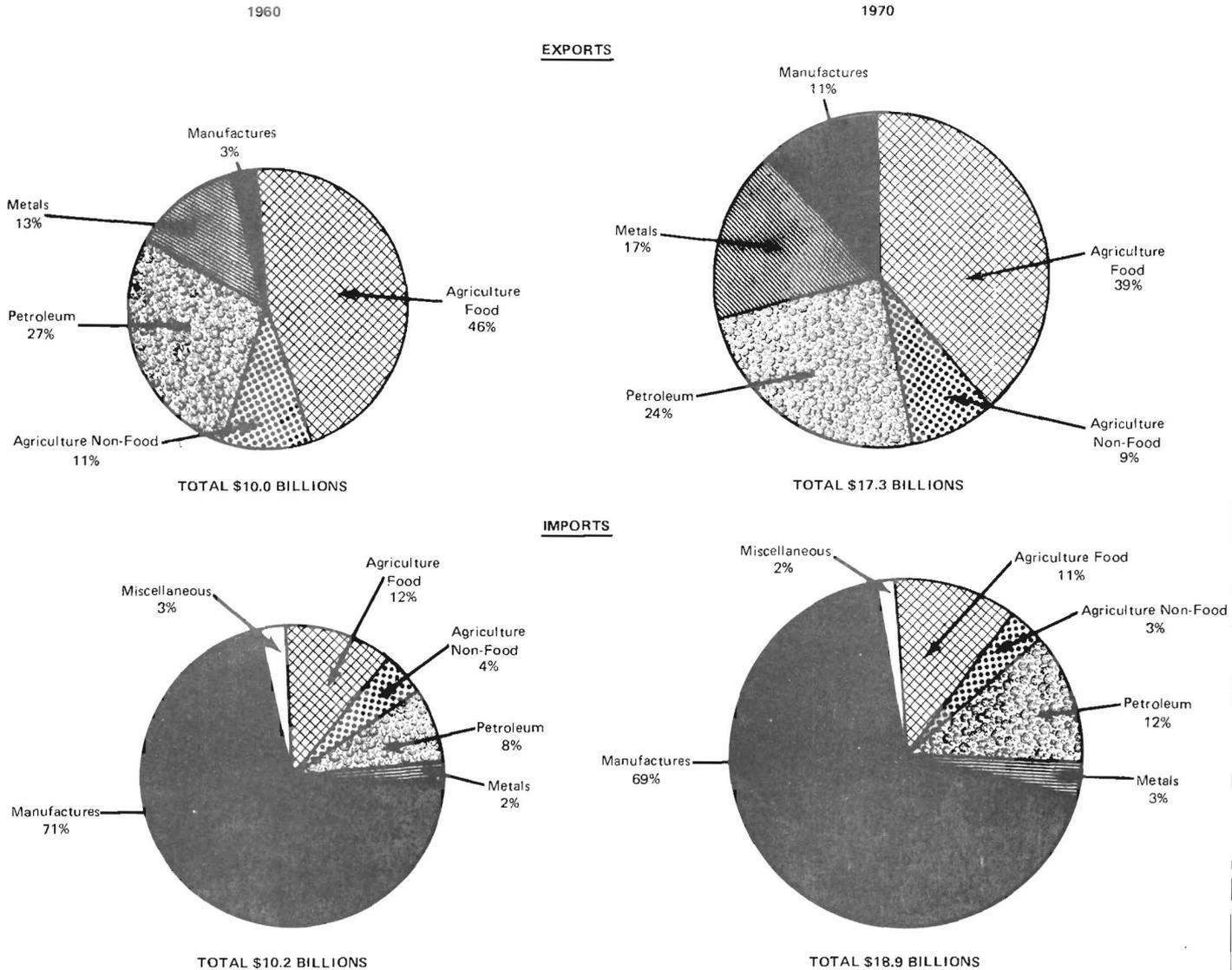
4. Historically, the commodity trade has been generally characterized by sluggish growth in demand (as compared to manufactures), wide price fluctuations, relatively low price and income elasticities of demand and relative inelasticity of supplies in the short to medium run. These characteristics coupled with the structure of the markets, competition from substitutes and protectionist policies of the importing countries tend to work against the economic interests of the exporting countries. This reflects the wide concern of the exporting countries about relying on commodity exports and disenchantment of the poorer nations with the established structure of world trade.

5. Commodity exports of the Latin American countries expanded at an annual rate of 6.4 percent in 1960-70. Although their manufactured exports expanded sharply, rising to 22 percent per year, the total exports from the region increased by only 5.7 percent per annum in 1960-70. This compared with a 9.3 percent increase in world trade generally. The result has been that the share of the developing countries and even more so of Latin America in world trade, has been steadily shrinking (Table 2). Nevertheless, the export performance in recent years cannot be considered as unsatisfactory. The declining terms of trade, a marked feature of the 1950's, was stopped in the 1960's while the volume of Latin American exports rose steadily. The index of terms of trade after reaching a trough in 1962

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1/ Throughout this paper, the term Latin America includes the Caribbean.

VALUE AND PERCENTAGE DISTRIBUTION OF TRADE OF LATIN AMERICA



CLASSIFICATIONS USED:

Petroleum (SITC No. 3)  
 Manufactures (SITC No. 5 thru 8 minus 68)  
 Metals (SITC No's. 27, 28, 68)

Agriculture Food (SITC No's. 0, 1, 22, 4)  
 Agriculture Non-Food (SITC No. 2 minus 22, 27, 28)  
 Miscellaneous (SITC No. 9)

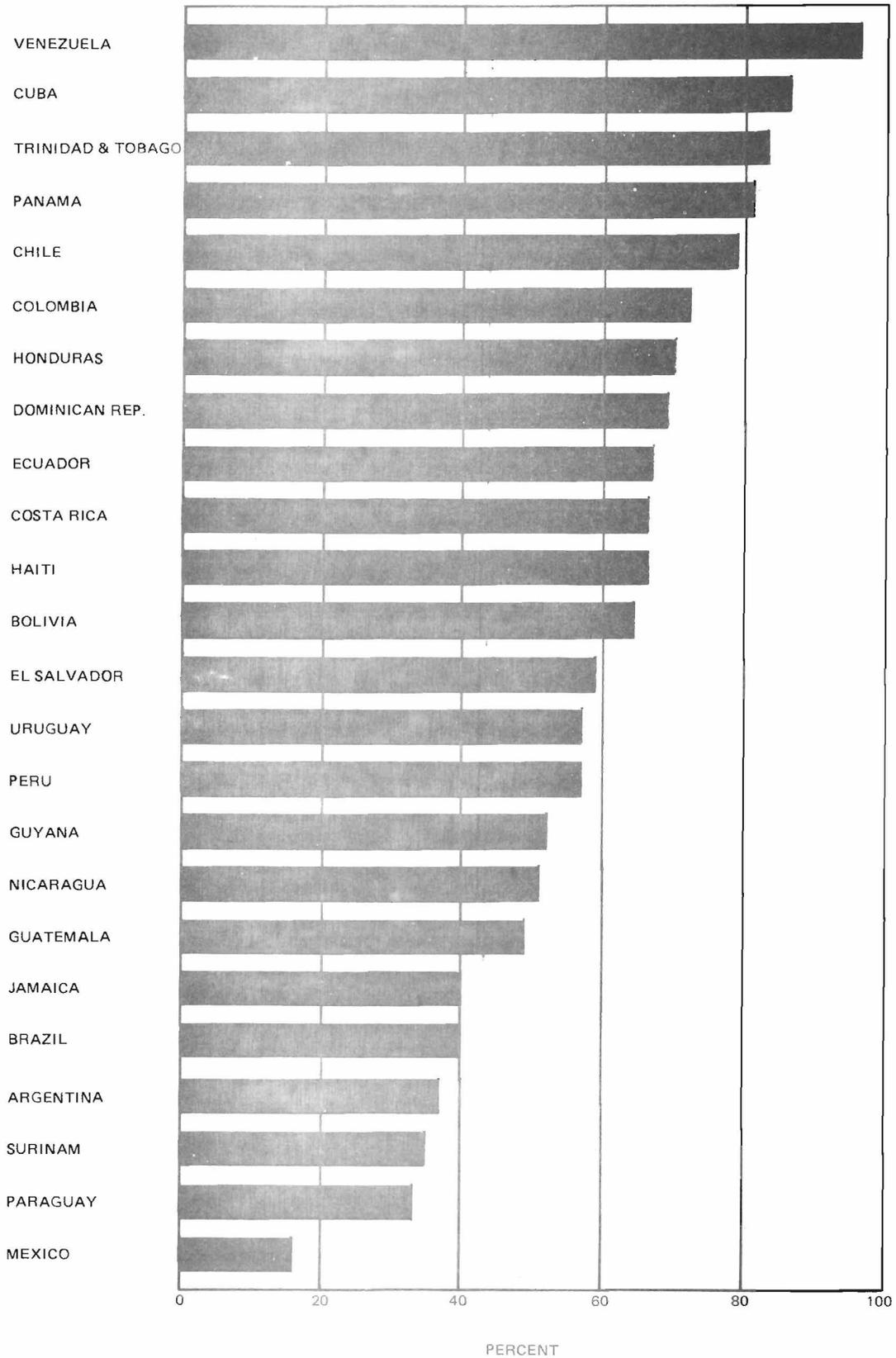
Table 1: SHARE OF PRIMARY COMMODITIES IN  
WORLD TRADE 1970-72  
(percent)

	World	Developed Countries	Centrally Planned Countries	Developing Countries			
				Total	Latin America	Asia	Africa
Including Petroleum	100.0	50.7	10.1	39.2	12.5	17.0	9.6
Excluding Petroleum	100.0	60.3	10.2	29.5	12.5	9.2	7.8

Source: U.N. Monthly Bulletin of Statistics, various issues.

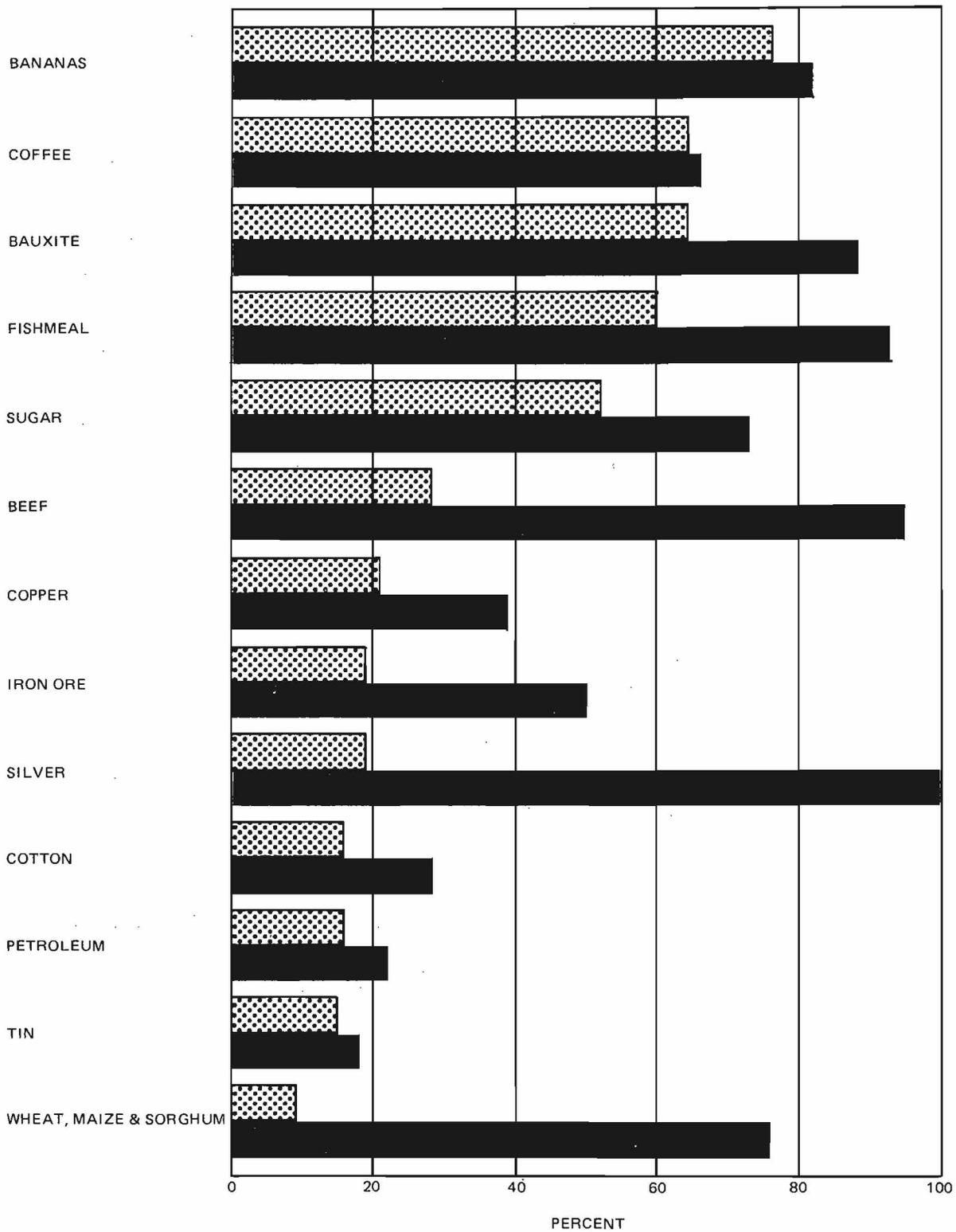
SHARE OF THREE PRINCIPAL PRIMARY COMMODITIES  
IN EXPORTS OF LATIN AMERICAN COUNTRIES 1970-72

Chart II



### SHARE OF LATIN AMERICA IN WORLD AND LDC'S EXPORTS OF SELECTED COMMODITIES 1970-72

Chart III



 As % of World Exports  
 As % of LDC'S Exports

**Table 2: SHARE OF VARIOUS REGIONS IN WORLD TRADE**  
(percent of World Exports)

	Developed Countries	Centrally Planned Countries	Developing Countries			
			Total	Latin America	Asia	Africa
1950	60.9	8.0	31.0	12.3	13.5	5.0
1951	63.1	7.7	29.2	10.7	13.5	4.9
1952	65.4	8.7	25.9	10.1	10.8	4.9
1953	64.9	9.6	25.5	10.6	9.9	4.8
1954	64.3	10.0	25.7	10.6	9.9	5.0
1955	64.7	10.0	25.3	9.9	10.5	4.7
1956	66.3	9.8	23.9	9.6	9.8	4.5
1957	67.2	10.0	22.7	9.1	9.4	4.1
1958	65.9	11.2	22.9	8.9	9.6	4.3
1959	65.4	12.3	22.3	8.3	9.6	4.2
1960	66.9	11.7	21.3	7.8	9.3	4.1
1961	67.5	11.7	20.7	7.6	8.9	4.0
1962	67.2	12.3	20.5	7.5	8.9	3.9
1963	67.4	12.1	20.4	7.3	8.9	4.0
1964	68.2	11.8	20.0	7.0	8.6	4.2
1965	68.8	11.6	19.5	6.8	8.5	4.0
1966	69.5	11.4	19.0	6.6	8.4	4.0
1967	69.6	11.6	18.8	6.3	8.4	3.9
1968	70.3	11.3	18.4	5.9	8.3	4.0
1969	71.0	10.9	18.1	5.7	8.2	4.1
1970	71.7	10.7	17.6	5.6	7.9	4.0
1971	72.3	10.4	17.3	4.8	8.7	3.7
1972	72.3	10.3	17.4	4.7	9.0	3.6

Sources: UNCTAD, Handbook of International Trade and Development Statistics, 1972; U.N. Monthly Bulletin of Statistics, June 1974.

remained remarkably stable at around 100 in the next ten years (Table 3). Improvement in the relative price of coffee was a contributing factor. In this respect, price stabilization policies pursued by Brazil perhaps need to be commended. However, prices of some other commodities notably sugar, bananas, cotton, fishmeal, remained weak during the 1960's. The prices of primary commodities in constant dollars tended to decline during the 1950's until about 1962; since then no major changes occurred until the middle of 1972 (Table 4). More recently, in 1970-74, while the rate of increase in the export prices of manufactured goods has accelerated, the rise in commodity prices has been far greater. The terms of trade of primary products in relation to manufactures rose by approximately 45 percent, virtually wiping out losses of the 1950's and 1960's. Since Latin American exports are basically commodity oriented, it is useful to examine recent developments within their historical global perspective.

Table 3: INDICES OF TRADE OF LATIN AMERICA  
(1963 = 100)

	Unit Value Index of Exports		Unit Value Index of Imports	Terms of Trade Index		Quantum Index of Exports		Quantum Index of Imports
	Total	Excl. Pet.		Total	Excl. Pet.	Total	Excl. Pet.	
1955	112	114	101	111	113	73	73	86
1956	112	114	103	109	110	79	79	89
1957	109	111	105	103	105	81	80	102
1958	102	102	102	101	100	82	82	97
1959	97	95	99	98	95	88	89	92
1960	97	96	100	97	96	90	91	96
1961	96	94	100	95	93	94	95	99
1962	95	93	103	92	90	99	100	98
1963	100	100	100	100	100	100	100	100
1964	107	110	101	106	109	101	101	109
1965	106	109	104	103	105	107	107	107
1966	108	111	104	103	107	111	113	117
1967	105	108	106	100	102	114	116	121
1968	106	109	107	99	102	118	121	131
1969	109	114	109	100	104	126	128	140
1970	115	121	115	101	106	132	139	153
1971	122	125	122	101	103	127	139	160
1972	129	132	126	102	105	137	151	176

Sources: U.N. Monthly Bulletin of Statistics, various issues.

Table 4: COMMODITY PRICE INDEX  
(36 commodities)  
1967-69 = 100

	1950- 52	1955- 57	1960- 62	1964- 66	1967- 69	1970	1971	1972	1973	1974 (Jan- June)
Current Dollars	119	124	100	102	100	105	114	128	187	455
Constant Dollars	136	133	107	105	100	97	99	100	122	260

Source: Commodities & Export Projections Division, Economic Analysis  
and Projections Department, World Bank.

## II. RECENT MARKET DEVELOPMENTS

6. The lack of buoyancy or the prospects of a boom contributed to a general slackening in the rate of investment in the commodity sector so that by 1970 supply and demand in many products had moved towards a relatively balanced position. But events took a dramatic turn beginning late 1972; world production and income grew at an exceptional rate in 1972-73, triggering both massive inflation and a boom in commodity prices. The bulk of import demand for primary commodities is in the OECD countries (about 71 percent of world imports) and the GNP of these countries grew at 5.8 percent in 1972 and 6.7 percent in 1973, compared with an average of 4.9 percent in 1960-70. The volume of OECD trade grew at almost twice the ten year average rate, with imports expanding at 13 percent and exports at 15 percent. The volume of world trade also grew at an unprecedented 15 percent in 1973.

7. The very rapid growth of demand resulting from economic expansion, declining unemployment and a more rapid increase in real incomes, placed serious pressures on supplies, of a number of commodities. The failures of food grain crops in many parts of the world and the low Peruvian fish catch greatly disturbed the supply-demand balance for food and feed products. The fact that investment in fertilizer capacity had lagged for some years meant that supplies of this strategic product also were very scarce, threatening a continuance of worldwide foodgrain shortages. This difficult situation was further aggravated by the major increases in the price of oil. General inflation intensified and expected further price and income increases generated stronger demand for primary commodities than would otherwise be expected on the basis of commodity market developments alone. Furthermore, some movement from liquid assets into commodities may also have taken place since the major currencies no longer provided the stability and security they had in the past.

8. As a result of these factors, combined with and strengthened by the fluctuations in major exchange rates, the high rate of inflation experienced in the industrial countries and some commodity speculation, the prices of primary products which had begun to rise in the middle of 1972 climbed to unprecedented levels in 1974. Prices of commodities other than crude oil, on the whole, have doubled since 1972. Although a few commodities, particularly tea, bananas, citrus fruit, jute and iron ore did not benefit from this major price rise, the increases were widespread with grains and sugar leading. Timber prices matched the sharp rise in the prices of basic foods.

9. Some developing countries, particularly those exporting petroleum, with their rising purchasing power and growing foreign exchange reserves were able to purchase commodities, even at high prices, to meet internal consumption requirements. Although their demand was not important in total, their marginal impact was probably significant.

10. The residual nature of trade in some commodities also tends to amplify the price fluctuations. Slight changes in output may generate considerable price variations in international markets. For example, in

1972-73 a 4 percent drop in world cereal production caused prices to treble on world markets. This was also the case in the world vegetable oils market in 1973-74, when the normal annual increase of a million tons of production did not materialize.

11. Market linkages give rise to chain reactions among prices of some commodities. The rising demand for meat exerts a strong pull on feed grains. The use of advanced technology in production and feeding has increased the demand for cereals and protein meals to enhance weight gain. As a consequence of the larger inputs of cereals and protein per pound of meat, particularly in the case of beef, the richer part of the world population indirectly now consumes greater quantities of grain and oilseed products than before. At this time, too, the decision of the USSR to sustain its livestock numbers by importing grain, rather than increasing the slaughter rate as had been the case in previous bad harvests, augmented demand pressures.

12. These combined factors markedly raised the demand for feed at a time when the supply was cut back. Fishmeal virtually disappeared; demand for it shifted to soybean meal, the closest substitute. Other commodities, especially West African groundnuts, encountered production difficulties. The most spectacular grain price rise occurred in wheat and rice. After the huge US wheat sale to the USSR, wheat stocks in the major exporting countries remained sufficient to meet normal demand. But world rice stocks are traditionally small relative to output and whenever import needs of rice consuming countries increase due to an impending food shortage, these countries have tended to meet a large part of their requirements with wheat shipments. Unfortunately, in many countries prolonged drought conditions in 1972-73 reduced output: import demand thus exceeded "normal" levels. Stocks of wheat were not adequate for meeting such demand, resulting in sharp price increases.

13. The sharp increases in the prices of metals and minerals in 1973 were mainly due to three factors: (a) a rapid rise in industrial production; (b) major bottlenecks in smelting capacity; and (c) increased speculative activities. Elasticities of demand with respect to industrial activity are relatively high (usually close to unity) in the case of most industrial raw materials including, of course, metals and minerals. The 10 percent increase in OECD industrial production in 1973 entailed not only a parallel rise in the consumption of metals and minerals, but also radical increases in desired stock levels at the users' end.

14. As a result of markedly tightened pollution control regulations in major industrial countries, smelting capacity became a bottleneck especially in zinc and copper.

15. Despite the slowdown in industrial activity since the second half of 1973, the prices of most non-ferrous metals rose further; spiralling inflation and increased uncertainty in exchange rates of major international currencies provoked speculative "investments" in commodities. This affected gold and silver notably, but also all major non-ferrous metals. In the

case of copper, purchases for stocking by fabricators as hedging against possible industry-wide strikes in the United States (the largest producer of copper) in the mid-year, further influenced the market.

16. Although the price boom is unprecedented, a significant part of the gains can be attributed to the erosion in the value of the dollar. The price index in constant dollars of 35 commodities, excluding oil, was only 10 percent higher in 1973 as compared to the base year (1967-69); in current dollar terms it was 63 percent higher. In 1974, constant dollar prices are expected to increase by a further 17 percent, or by 34 percent in current dollars. The price increases in terms of, say, Deutsche Mark, Japan Yen and SDR's, have also been appreciably lower.

17. The principal issues that now face Latin American countries, as also all non-oil developing countries, are: (i) how are the commodity prices likely to behave in the future and how will they affect different countries; (ii) how can the prices of commodities which have not benefitted from the boom or collusive producer action, be strengthened; and (iii) how will the non-oil producing countries be able to meet the triple squeeze of sharp price rises and difficulty of supplies of petroleum, foodgrains and fertilizers. In order to understand these and related issues, it is useful to first discuss the general economic outlook in the developed countries, the main market for products exported by the poorer nations.

### III. GENERAL ECONOMIC OUTLOOK FOR DEVELOPED COUNTRIES

18. The prices of various primary commodities depend on the growth of demand and supply of products and their competitiveness, the changes in protective measures in the markets and the type and degree of market control by the major producers. At the same time, prices are also influenced by certain general conditions. The general factors that will dominate the outlook for primary commodity prices through the rest of this decade are the growth in the industrialized countries which remain the main markets for primary products, world-wide inflation and the international price of crude petroleum.

#### Economic Growth

19. During 1972 and 1973, the industrialized countries experienced a very high rate of economic activity. In fact, the strength of the upswing and the coincidence of its timing in practically all OECD countries was unprecedented. Industrial production in these countries expanded rapidly in the second half of 1972, particularly in the United States, and in 1973 averaged 10.2 percent above that in 1972 (Table 5).

20. The expansion of world trade measured in current dollars was substantial. Imports of the OECD countries from the developing countries rose by 16.6 percent in 1972 and 43 percent in 1973, even excluding petroleum. This represents to some extent changes in exchange rates as the value increases are measured in terms of US dollars (which were devalued twice in December 1971 and February 1973).

21. Although the price boom continued into 1974 (commodity prices, on the average, were 143 percent higher in January-June 1974 as compared to 1973), the high levels of utilization of industrial capacity had begun to fall in most countries by the end of 1973 and the rates of growth are expected to be considerably lower in 1974. The projected rates of growth are shown in Table 6. The slowdown in 1974 is expected to extend itself into 1975, followed by a resumption of the long-term growth thereafter. For the decade of the 1970's, it is likely that the OECD rate of growth will equal the average rate in the 1960's of 4.9 percent per year. However, compared to the preceding decade, the geographical pattern of growth changes importantly as North America will accelerate its growth and exceed Europe for the first time since 1950. The slowdown expected in Japan's growth rate is only relative to the high rate in the 1960's, but it will still exceed the rate observed in the 1950's, as well as those of other OECD countries.

#### Inflation

22. The rapid economic expansion in 1972-73 was accompanied by an accelerated rate of inflation. Price and wage increases in the industrialized countries not only gained momentum but relationships previously

**Table 5: RATES OF GROWTH OF INDUSTRIAL PRODUCTION  
AND TRADE OF OECD COUNTRIES  
(in %)**

	Average 1960/1970	1971	1972	1973	Jan-Mar 1974
<b>I. Industrial Production (Volume)</b>					
North America	5.0	0.4	7.9	9.2	-0.4
Western Europe	5.5	3.0	4.9	8.3	1.7
Japan, Oceania	<u>13.2</u>	<u>3.1</u>	<u>6.1</u>	<u>17.2</u>	<u>2.5</u>
TOTAL OECD Area	5.8	2.0	5.9	10.2	0.8
<b>II. OECD Imports from Developing Countries:</b>					
Value in US\$	7.4	11.1	16.6	43.4	
Value in SDR's	7.4	11.1	6.5	29.4	
Volume	6.0	8.3	12.0	5.2	

Sources: OECD, Industrial Production, 1955-1971; Main Economic Indicators, January and April 1974; National Accounts of OECD Countries, 1960-1971; Overall Trade by Countries, January 1974; U.N. Monthly Bulletin of Statistics, November 1967 and May 1974.

Table 6: GROWTH OF GROSS NATIONAL PRODUCT IN THE OECD COUNTRIES  
(percent per annum; in constant 1973 prices)

	Japan Oceania	Western Europe	North America	OECD Total
1950-60	6.7	4.9	3.1	4.1
1960-70	10.3	4.9	4.1	4.9
1971	6.1	3.1	2.9	3.5
1972	8.5	4.1	6.1	5.8
1973	10.3	5.9	6.0	6.7
Projections				
1974	3.25	1.60	1.55	1.85
1975	5.25	2.15	2.90	3.00
1975-80	7.25	4.00	4.60	4.85
1980-85	7.00	4.80	4.10	4.80

Sources: OECD, National Accounts of OECD Countries 1960-71 and Main Economic Indicators, various issues; and International Economy Division, Economic Analysis and Projections Department, IBRD.

observed between rates of inflation and levels of unemployment do not appear to hold for recent years. The downturn in economic activity since the end of 1973 is also being accompanied by a high rate of inflation. Projected rates of inflation in the industrialized countries (GNP deflators as well as export price indices) are shown in Table 7. It should be noted that these rates of change, like the estimates of real growth, are characterized by a considerable margin of uncertainty.

23. In this paper, price forecasts are expressed in terms of constant 1974 dollars. In order to obtain the corresponding prices in current dollars, these forecasts are inflated in direct proportion to the rate of increase in the prices of manufactured goods and equipment exported by the industrial country to the developing countries, that is the index of international prices.

24. The impact of inflation on demand and supply of primary commodities is not well understood, particularly when it is sustained at high rates for an extended period. A change in the inflation rates obviously would change the commodity forecasts expressed in terms of current dollars, but it may also alter the underlying production and consumption estimates.

#### Exchange Rates

25. Exchange rate changes may in themselves have a destabilizing impact on commodity prices. Analyses made in the IMF and elsewhere suggest that the direct effect of exchange rate changes is relatively small compared with the overall movement in prices. However, secondary effects such as the uncertainties associated with floating exchange rates, speculation and changes in the overall economic outlook induced by exchange rate changes could be larger than the direct effects. Estimates tend to be sensitive to the prevailing demand, supply and cross-elasticities; these are not known precisely enough to yield meaningful results. In consequence, the price forecasts presented here are shown in terms of US dollars even when the projections were made in say pound sterling; historical data in other currencies are converted to US dollars using IMF conversion rates. For projection purposes it is assumed that the dollar-sterling exchange rate will remain the same as its actual rate at the end of 1973, that is \$2.30 to one pound. <sup>1/</sup> The underlying assumption is that there will be no change in relative exchange rates over the projection period.

#### Petroleum Prices

26. The stupendous rise in prices of crude petroleum has strong implications not only for the trade of the developing countries (as well as all other countries), but also for individual products depending on the nature of their production and marketing. In making the forecasts, these implications were derived through estimating first the impact on (a) OECD growth projections and (b) prices of synthetic substitutes where applicable and then the impact of these changes on the demand for primary products and hence on the prices of primary products exported by the developing countries.

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<sup>1/</sup> For many products the price series used are based on the London market quotations.

Table 7: INFLATION INDICES  
(US Dollars, 1972=100)

	GNP Deflators Annual % Change	International Prices Annual % Change
1971	9.5	6.6
1972	12.2	10.1
1973	19.5	20.5
1974	14.0	14.0
1975	12.0	10.9
1976-80	9.0	7.5
1981-85	-	6.0

Source: International Economy Division, Economic Analysis and Projections Department, World Bank.

27. Following a series of OPEC actions and negotiations, the realized price of Saudi Arabian Light Crude (34°) f.o.b. Ras Tanura rose markedly from \$1.90 in 1972 and \$2.71 in 1973 to an expected average of \$9.60 per barrel in 1974. It seems to be the intention of the oil exporting countries to hold this price in current dollars in 1975 (decline to \$8.65 in terms of 1974 dollars) and then hold it firm in constant 1974 dollars that is, see it rise in current terms in proportion to the increase in the inflation (international price) index. This would warrant that the oil exporting countries withhold supplies from the market, if necessary. On the other hand it is equally plausible that given the contraction in demand resulting from high prices, the real price of petroleum will tend to decline. These projections, together with assumed level of supplies high and low are shown in Table 8.

28. The rise in prices of petrochemical feedstocks following the increase in crude oil prices, has improved the competitive advantage of some agricultural raw materials, raising the "ceiling price" below which natural products can remain competitive with synthetic substitutes. However, the impact of higher oil prices will be less where oil is only a small element in the total cost of the finished product. The production costs of synthetic rubbers, acrylic and polyester fibers, which compete with natural rubber, cotton and wool, are likely to be affected more than those of polypropylene resin and products, which compete with jute and hard fibers. The cost of production of aluminum, copper and steel, which involves substantial energy components, will also increase, although probably less than those of synthetic fibers and rubbers. 1/

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1/ Energy component in the cost of production is estimated at 18 percent in steel, 16.5 in copper and 16 in aluminum.

**Table 8: ALTERNATIVE ASSUMPTIONS FOR PRICES AND OPEC EXPORTS OF CRUDE OIL (US\$ per barrel)**

A. Prices <sup>/1</sup>	Posted Price <sup>/2</sup>	Low	High	Low	High
	current dollars	current dollars		1974 dollars	
1973 (actual)	3.302	2.71	2.71	3.08	3.08
1974 <sup>/3</sup>	11.651	9.60	9.60	9.60	9.60
1975		9.60	9.60	8.65	8.65
1976		9.90	10.30	8.30	8.65
1977		9.90	11.10	7.75	8.65
1978		9.90	11.90	7.20	8.65
1979		10.35	12.80	7.00	8.65
1980		11.10	13.75	7.00	8.65
1985		14.00	18.00	7.00	8.65

B. Exports	High	Low
	million barrels per day	
1974	29.9	29.9
1980	41.7	35.3
Annual Growth 1974-80 (%)	+5.7	+2.8

<sup>/1</sup> F.O.B. export prices for Saudi Arabian light (34°) crude oil, f.o.b. Ras Tanura. Prices for crude oil exported from all OPEC countries are estimated to be on average higher by approximately 60 cents per barrel in 1974.

<sup>/2</sup> Posted prices are reference prices, in terms of which taxes and royalties can be computed and export prices and participation buy-back prices can be quoted as percentages. They are a device adopted to obtain pre-determined government unit revenues and export prices and their level depends upon the prevailing rules of the day. Hence, they are not projected beyond 1974.

<sup>/3</sup> The estimate of \$9.60 per barrel has been obtained as the sum of royalty and taxes of \$7.00, \$0.11 production cost, \$0.35 producers' margin and \$2.14 government participation benefit on 60% of output. The last element could range from \$0.90 to \$2.25 per barrel depending whether prices for government crude oil sold to foreign partners and third parties were from 73% to 93% of posted price.

Source: Commodities and Export Projections Division, Economic Analysis and Projections Department, World Bank.

#### IV. PROSPECTS

29. Price forecasts for the major commodities can be made under alternative sets of assumptions concerning the structure of the market, namely: (a) continuation of present market arrangements, (b) liberalization of access to OECD markets, and (c) additional producer action to defend or raise market prices. The forecasts presented in this section assume that the present market arrangements will continue in vogue, more or less, for the period covered. Thus, the forecasts are the product of the general economic factors discussed in Section III and the specific factors affecting each of the products presented in Annex I. The methodology of forecasting is not discussed here as it necessarily varies from product to product.
30. Price forecasts for 1974-80 and 1985 for 36 primary commodities are presented in Tables 9 to 12 in terms of current and constant 1974 dollars. The associated rates of growth in the volume of exports from the developing countries and from Latin America are presented in Table 13. Price indices weighted by the value of their exports from the Latin American countries are given in Tables 14 and 15.
31. The current price forecasts show that with some initial softening prices will continue on the average to rise although they do so more slowly in 1975-80 than in the 1980's when they rise sharply again. Through 1985, largest gains are anticipated in timber, non-ferrous metals and basic foods although the prices of wheat and rice would tend to soften moderately from their high levels in 1973-74 (Chart IV and Table 14).
32. In constant dollar terms, however, during the latter half of the seventies commodity prices will tend to fall rather rapidly from their unusually high level in 1974 to about the level prevailing in 1967-69 before improving again. With the exception of beverages and agriculture non-food, prices of other commodity groups in 1980-85 are likely to be higher than in 1967-69, in itself a remunerative period for most commodities exporters. Commodities in a strong market position as compared to the decade of the 1960's, will include sugar, livestock products, timbers, zinc, bauxite, iron ore; commodities for which constant dollar prices will be significantly weaker include tea, fruits and jute which are not important in the export trade of Latin America. (Chart V.)
33. The average rate of increase in the volume of exports from all developing countries during the seventies is unlikely to be materially different than that prevailing in the 1960's. However, some products, notably coffee, bananas, cotton and iron ore will grow more slowly in volume terms, whereas others (copper, sugar) will grow more rapidly. For Latin America too, the average rate of increase in volume of exports will not show too different a behavior than for the developing countries as a group but some individual products will tend to show significantly different trends largely because of the supply conditions prevailing in Latin America. For example, the volume of coffee exports will tend to rise at a faster rate as Brazilian supply conditions improve.

Table 2: COMMODITY PRICE FORECASTS IN CURRENT DOLLARS

Commodity	Unit	ACTUAL PRICES				FORECAST PRICES							
		1967-69	1972	1973	Jan-June 1974	1974	1975	1976	1977	1978	1979	1980	1985
Petroleum	US\$/barrel	1.30	1.90	2.70	9.41	9.60	9.60	10.30	11.10	11.90	12.80	13.75	18.00
<u>FOOD</u>													
Cocoa	\$/lb.	36	32	65	92	100	69	79	83	79	81	83	110
Coffee	\$/lb.	40	50	62	71	72	83	95	96	96	96	103	138
Tea	\$/lb.	50	48	48	63	63	63	57	61	63	65	66	89
Sugar (World)	\$/lb.	2.3	7.3	9.5	21.0	27	20	14	12	13	20	22	18
Sugar (US Preferential)	\$/lb.	6.5	8.0	8.9	17.8	25							
Oranges/Tangerines	\$/100 kg.	16.7	15.5	16.3	20.0	21	20	22	23	24	26	28	37
Lemons/Limes	\$/100 kg.	14.5	15.2	18.2	20.5	21	23	25	26	28	30	32	43
Bananas	\$/kg.	12.7	13.6	14.5	17.2	18	20	20	22	23	24	25	34
<u>LIVESTOCK PRODUCTS</u>													
Beef	\$/kg.	157	250	318	345	350	400	423	416	495	550	600	892
Hides & Skins	\$/lb.	18.5	31.0	39.0	44.0	45	47	51	53	59	65	72	96
<u>GRAINS</u>													
Wheat	\$/MT	67	71	147	209	210	210	200	195	195	190	190	265
Rice	\$/MT	198	147	350	592	560	460	450	440	430	420	420	575
Maize	\$/MT	51	56	98	121	135	125	130	133	136	143	143	198
Grain Sorghum	\$/MT	49	56	93	107	120	120	122	123	125	126	127	174
<u>FATS &amp; OILS</u>													
Coconut Oil	\$/MT	363	234	452	1,083	1,100	782	782	808	823	811	872	1,276
Copra	\$/MT	213	141	353	753	710	516	514	529	540	563	574	842
Groundnut Oil	\$/MT	295	426	546	1,077	1,090	705	704	728	742	776	787	1,148
Groundnuts	\$/MT	184	261	393	596	600	384	381	389	399	413	425	630
Palm Oil	\$/MT	191	217	378	615	650	427	427	442	450	470	477	695
Fishmeal	\$/MT	145	239	542	449	400	577	566	563	585	591	601	876
Soyabean Meal	\$/MT	97	139	302	183	190	156	176	201	238	278	334	487
<u>NON-FOOD</u>													
Cotton	\$/lb.	30	38	62	76	70	67	66	67	72	77	83	104
Jute	\$/LT	287	304	294	308	340	327	358	390	420	451	485	617
Sisal	\$/MT	170	240	527	1,041	1,060	575	450	500	375	370	390	500
Wool	\$/kg.	174	240	513	434	410	455	453	416	413	443	477	744
Rubber	\$/lb.	22	18	36	47	40	41	42	45	48	52	56	70
Tobacco	\$/MT	931	961	992	1,030	1,035	1,153	1,250	1,370	1,493	1,625	1,765	2,370
<u>TIMBER</u>													
Logs (Lauan)	\$/m <sup>3</sup>	40	41	68	92	90	94	104	114	125	137	150	213
Logs (Niangon)	\$/m <sup>3</sup>	37.2	48.1	97.9	94	90	100	110	120	132	145	160	223
<u>METALS AND MINERALS</u>													
Copper	\$/lb.	58	48	81	117	100	105	107	109	117	125	135	200
Lead	\$/lb.	11.5	13.7	19.5	29.0	27	25	26	26	27	29	32	43
Tin	\$/lb.	155	177	227	400	410	317	326	333	340	349	358	532
Zinc	\$/lb.	12.4	17.1	38.6	71.1	60	50	47	45	45	49	53	74
Bauxite	\$/MT	12.0	12.0	12.5	19	21	26	30	35	40	43	48	64
Iron Ore	\$/MT	7.2	7.9	8.4	10.0	10	10	11	13	15	18	21	30
Manganese Ore	\$/LTU	63.2	64.5	76.2	110.0	110	109	105	109	110	126	143	181
Steel	\$/MT	99	157	208	240	250	260	271	288	300	311	324	436
<u>FERTILIZERS</u>													
Phosphate Rock	\$/MT	12	12	14	46	55	43	42	42	44	47	50	48
DAP	\$/MT	62	91	119	274	320	220	190	185	185	190	205	275
Urea	\$/MT	67	59	95	284	325	210	190	160	145	140	145	235
Muriate of Potash	\$/MT	24	34	43	55	57	50	50	53	56	59	62	75

Note: Sterling projections assumed £1 = \$2.30.

Table 10: INDICES OF COMMODITY PRICE FORECASTS IN CURRENT DOLLARS  
1967-69 = 100

Commodity	ACTUAL PRICES			FORECAST PRICES							
	1972	1973	Jan-June 1974	1974	1975	1976	1977	1978	1979	1980	1985
Petroleum	146	208	724	738	738	792	854	915	985	1,058	1,385
<u>FOOD</u>											
Cocoa Beans	89	178	256	278	190	217	228	217	223	228	305
Coffee	126	157	178	182	210	240	242	242	242	260	348
Tea	97	97	126	126	127	115	123	127	131	133	179
Sugar (World)	317	413	913	1,174	870	609	522	565	870	957	783
Sugar (US Preferential)	123	137	274	385							
Oranges/Tangerines	93	98	120	128	122	130	138	145	155	166	223
Lemons/Limes	105	126	141	141	161	168	177	190	204	219	293
Bananas	107	114	135	142	157	157	173	181	189	197	268
<u>LIVESTOCK PRODUCTS</u>											
Beef	159	203	220	223	255	269	284	315	350	382	568
Hides & Skins	168	211	238	243	252	277	284	320	351	386	517
<u>GRAINS</u>											
Wheat	106	219	312	313	313	299	291	291	284	284	396
Rice	74	177	299	283	232	227	222	217	212	212	290
Maize	110	192	237	265	245	255	261	267	280	280	388
Grain Sorghum	114	190	218	245	245	249	251	255	257	259	355
<u>FATS &amp; OILS</u>											
Cocunut Oil	64	125	298	303	215	215	223	227	223	240	357
Copra	66	166	354	333	242	241	248	254	264	270	397
Groundnut Oil	144	185	365	369	239	239	247	252	263	267	388
Groundnuts	142	214	324	326	209	207	211	217	225	231	342
Palm Oil	114	198	322	340	224	224	231	236	246	250	364
Fishmeal	165	374	310	276	398	390	388	403	408	415	604
Soyabean Meal	133	311	189	196	161	181	207	245	287	344	506
<u>NON-FOOD</u>											
Cotton	127	207	253	233	223	220	223	240	257	277	347
Jute	106	102	107	118	114	125	136	146	157	169	215
Sisal	141	310	612	624	338	265	235	221	218	229	294
Wool	138	294	249	236	261	260	239	237	257	274	428
Rubber	82	164	214	182	186	191	205	218	236	255	318
Tobacco	103	107	111	111	124	134	147	160	175	190	255
<u>TIMBER</u>											
Logs (Lauan)	103	170	230	225	235	260	285	313	343	375	533
Logs (Niangon)	129	263	253	242	269	296	323	355	390	430	599
<u>METALS AND MINERALS</u>											
Copper	83	140	202	172	181	184	188	202	216	233	345
Lead	119	170	252	235	217	226	226	235	252	278	374
Tin	114	146	258	265	205	210	215	219	225	231	343
Zinc	138	311	573	484	403	379	363	363	391	423	597
Bauxite	100	104	158	175	213	248	288	333	358	398	532
Iron Ore	110	117	139	139	138	157	178	210	246	288	417
Manganese Ore	102	121	174	174	172	166	172	174	199	226	286
Steel	159	210	242	253	263	274	291	303	314	327	440
<u>FERTILIZERS</u>											
Phosphate Rock	100	117	383	458	358	350	350	367	392	417	400
DAP	147	192	442	516	355	306	298	298	306	331	444
Urea	88	142	424	485	313	284	239	216	209	216	351
Muriate of Potash	142	179	229	238	208	208	221	233	246	358	313

Note: Sterling projections assume £1 = \$2.30

Commodities & Export Projections Division  
Economic Analysis & Projections Department  
Development Policy Staff

September 5, 1974

Table 11: COMMODITY PRICE FORECASTS IN 1974 CONSTANT DOLLARS

Commodity	Unit	ACTUAL PRICES				FORECAST PRICES								
		1967-69	1972	1973	Jan-June 1974	1974	1975	1976	1977	1978	1979	1980	1985	
Petroleum	US\$/barrel	2.28	2.61	3.08	9.41	9.60	8.65	8.65	8.65	8.65	8.65	8.65	8.65	
<b>FOOD</b>														
Cocoa	¢/lb.	64	44	74	92	100	62	66	65	57	55	52	52	
Coffee	¢/lb.	69	69	71	71	72	75	80	72	70	65	65	65	
Tea	¢/lb.	87	66	55	63	63	57	48	48	46	44	42	42	
Sugar (World)	¢/lb.	4.1	10.0	10.8	21.0	27	18	12	9	9	11	11	9	
Sugar (US Preferential)	¢/lb.	11.4	11.0	10.1	17.8	25								
Oranges/Tangerines	\$/100 kg.	29.2	21.3	18.6	20.0	21	18	18	18	18	18	18	18	
Lemons/Limes	\$/100 kg.	25.4	20.9	20.8	20.5	21	21	21	20	20	20	20	20	
Bananas	¢/kg.	22.2	18.7	16.5	17.2	18	18	17	17	17	16	16	16	
<b>LIVESTOCK PRODUCTS</b>														
Beef	¢/kg.	274	343	363	345	350	361	354	350	359	363	377	419	
Hides & Skins	¢/lb.	32.4	42.6	44.5	44.0	45	42	43	41	43	44	45	45	
<b>GRAINS</b>														
Wheat	\$/MT	117	98	168	209	210	189	168	152	142	129	120	125	
Rice	\$/MT	347	202	399	592	560	415	378	344	313	281	265	270	
Maize	\$/MT	89	77	112	121	135	113	109	104	99	95	90	93	
Grain Sorghum	\$/MT	86	77	106	107	120	108	102	96	91	85	80	82	
<b>FATS &amp; OILS</b>														
Coconut Oil	\$/MT	615	350	629	1,083	1,100	705	656	631	598	582	549	600	
Copra	\$/MT	372	194	403	753	710	465	432	414	393	381	361	396	
Groundnut Oil	\$/MT	516	595	623	1,077	1,090	636	591	569	539	525	495	540	
Groundnuts	\$/MT	322	372	448	596	600	346	320	304	290	279	267	296	
Palm Oil	\$/MT	336	306	431	615	650	385	358	345	327	318	300	327	
Fishmeal	\$/MT	254	328	618	449	400	520	475	440	425	400	378	412	
Soyabean Meal	\$/MT	206	202	344	183	190	141	148	157	173	188	210	229	
<b>NON-FOOD</b>														
Cotton	¢/lb.	53	52	71	76	70	60	55	52	52	52	52	52	
Jute	\$/LT	503	418	335	308	340	295	300	305	305	305	305	290	
Sisal	\$/MT	298	330	607	1,041	1,060	518	378	313	273	250	245	235	
Wool	¢/kg.	304	330	586	434	410	410	380	325	300	300	300	350	
Rubber	¢/lb.	38	25	41	47	40	37	35	35	35	35	35	33	
Tobacco	\$/MT	1,630	1,320	1,131	1,030	1,035	1,040	1,050	1,070	1,085	1,100	1,110	1,115	
<b>TIMBER</b>														
Logs (Lauan)	\$/m <sup>3</sup>	70	56	78	92	90	85	87	89	91	93	95	100	
Logs (Niangon)	\$/m <sup>3</sup>	65	66	111	94	90	90	92	94	96	98	100	105	
<b>METALS &amp; MINERALS</b>														
Copper	¢/lb.	201	67	92	117	100	95	90	85	85	85	85	94	
Lead	¢/lb.	20.1	18.8	22.2	29.0	27	23	22	20	20	20	20	20	
Tin	¢/lb.	271	243	259	400	410	286	272	260	247	236	225	250	
Zinc	¢/lb.	21.9	23.5	44.0	71.1	60	45	39	35	33	33	33	35	
Bauxite	\$/MT	21.1	16.5	14.3	19	21	23	25	27	29	25	30	30	
Iron Ore	\$/MT	12.8	10.9	9.6	10.0	10	9	10	10	11	12	13	14	
Manganese Ore	¢/LTU	110.7	88.6	86.9	110.0	110	98	88	85	80	85	90	85	
Steel	\$/MT	173	216	237	240	250	234	227	225	218	210	204	205	
<b>FERTILIZERS</b>														
Phosphate Rock	\$/MT	20.0	16.0	16.0	46	55	39	35	33	32	32	32	23	
DAP	\$/MT	110	125	136	274	320	198	159	144	134	128	129	129	
Urea	\$/MT	117	81	108	284	325	189	159	125	105	95	91	111	
Muriate of Potash	\$/MT	42.0	46.0	49.0	55	57	45	42	41	41	40	39	35	

Table 12: INDICES OF COMMODITY PRICE FORECASTS IN 1974 CONSTANT DOLLARS  
1967-69 = 100

Commodity	ACTUAL PRICES			FORECAST PRICES							
	1972	1973	Jan-June 1974	1974	1975	1976	1977	1978	1979	1980	1985
Petroleum	114	135	113	121	379	379	379	379	379	379	379
<u>FOOD</u>											
Cocoa	70	116	144	156	98	104	102	90	86	82	82
Coffee	99	102	103	104	108	115	104	101	94	94	94
Tea	76	63	72	72	66	55	55	53	51	48	48
Sugar (World)	244	263	512	659	439	293	220	220	341	341	220
Sugar (US Preferential)	96	89	156	219							
Oranges/Tangerines	73	64	63	63	63	62	62	60	60	60	60
Lemons/Limes	82	82	81	81	83	81	79	79	79	79	79
Bananas	84	74	77	81	81	77	77	77	72	72	72
<u>LIVESTOCK PRODUCTS</u>											
Beef	126	134	126	128	133	130	129	132	135	139	154
Hides & Skins	131	137	136	139	130	133	127	133	136	139	139
<u>GRAINS</u>											
Wheat	84	144	179	179	162	144	130	121	110	103	107
Rice	58	115	171	161	120	109	99	90	82	76	78
Maize	106	126	136	152	127	122	117	111	107	101	104
Grain Sorghum	108	123	124	140	126	119	112	106	99	93	95
<u>FATS &amp; OILS</u>											
Cocanut Oil	57	84	176	179	115	107	103	97	95	89	98
Copra	52	108	202	191	125	116	111	106	102	97	107
Groundnut Oil	115	121	209	211	123	115	110	104	102	96	104
Groundnuts	116	139	185	186	108	99	94	90	87	83	92
Palm Oil	91	128	183	193	115	107	103	97	95	89	97
Fishmeal	129	243	177	157	205	187	173	167	157	149	162
Soyabean Meal	98	167	89	92	68	72	76	84	91	102	111
<u>NON-FOOD</u>											
Cotton	98	134	143	132	113	123	98	98	98	98	98
Jute	83	67	61	68	59	60	61	61	61	61	58
Sisal	111	204	349	356	174	127	105	92	84	82	79
Wool	109	193	143	135	135	125	107	99	99	99	115
Rubber	66	108	124	105	97	92	92	92	92	92	87
Tobacco	81	69	63	64	64	64	66	67	67	68	68
<u>TIMBER</u>											
Logs (Iauan)	80	111	131	129	121	124	127	130	133	136	143
Logs (Niangon)	102	171	145	138	138	142	143	145	151	154	162
<u>METALS &amp; MINERALS</u>											
Copper	66	91	116	99	94	89	84	84	84	84	93
Lead	94	110	144	134	112	108	101	98	98	100	101
Tin	90	96	148	151	106	100	96	91	87	83	92
Zinc	107	201	325	274	205	180	160	149	150	151	159
Bauxite	78	68	90	100	109	119	128	137	137	142	142
Iron Ore	85	75	78	78	70	74	78	86	94	102	109
Manganese Ore	80	79	99	99	89	79	77	72	77	81	77
Steel	125	137	139	145	135	131	130	126	121	118	119
<u>FERTILIZERS</u>											
Phosphate Rock	80	80	230	275	194	176	164	160	159	158	113
DAP	114	124	249	291	180	145	131	122	116	117	117
Urea	69	92	243	278	162	136	107	90	81	78	95
Muriate of Potash	110	117	131	136	107	100	99	97	95	93	84

Table 13: ANNUAL RATES OF GROWTH OF THE VOLUME OF EXPORTS OF DEVELOPING COUNTRIES AND LATIN AMERICA  
(percent per annum)

	1955/70		1960/70		1967-69/72-74		1972-74/1980	
	Developing Countries	Latin America						
Petroleum (crude & products)	9.7	3.2	10.2	2.3	9.5	4.2	2.6-5.2	-3.4
<u>FOOD</u>								
Cocoa Beans	3.5	0.2	1.1	-0.2	2.1	3.3	2.4	3.5
Coffee	3.0	1.6	2.4	0.4	1.3	0.7	1.9	1.4
Tea	1.8	31.0	1.6	19.9	2.9	8.5	2.9	8.5
Sugar, Raw	1.4	3.0	0.8	1.8	3.2	4.6	1.5	2.0
Bananas	4.7	4.5	4.6	3.6	3.4	3.0	2.6	2.5
Oranges & Tangerines	5.7	4.9	4.7	-0.3	5.7	0	3.7	0
Lemons & Limes	6.4	4.4	5.8	-	7.0	0	5.5	0
<u>LIVESTOCK PRODUCTS</u>								
Beef	4.9	8.6	4.6	6.8	10.0	10.1	3.6	4.4
Hides & Skins	2.2	7.0	2.6	8.2	-1.0	-4.1	0.0	1.2
<u>GRAINS</u>								
Wheat	-0.2	-3.3	2.5	-2.8	1.7	0.6	1.9	7.4
Rice	-1.7	6.5	-4.1	11.4	2.9	-0.5	3.2	1.6
Maize & Sorghum	12.8	19.0	9.9	9.5	-1.1	-3.4	4.4	14.3
<u>FATS &amp; OILS</u>								
Copra & Coconut Oil	-0.1	-3.2	-0.9	-4.9	-3.3	16.8	0.6	4.8
Groundnuts & Oil	0.7	15.5	0.8	5.4	-7.0	14.6	0.5	-2.8
Palm Oil	1.3	8.9	2.3	7.7	3.3	10.8	5.3	9.5
Palm Kernels & Oil	-1.9	10.9	-2.6	21.0	8.7	-13.6	9.5	7.4
Fishmeal	21.9	32.5	11.3	14.0	-21.0	-16.8	20.0	12.2
<u>NON-FOOD</u>								
Cotton	2.8	3.0	2.9	3.8	0.5	-1.5	1.5	4.9
Jute	-2.6	7.2	-2.2	1.7	-3.7	9.2	-3.3	-8.2
Sisal	0.8	2.2	-0.6	4.0	0	1.4	0	-5.0
Wool	-1.0	-0.2	-1.4	-0.9	-1.4	-1.4	-1.0	-1.0
Rubber	2.4	32.5	4.0	8.5	4.2	5.2	4.5	5.2
Tobacco	4.3	4.6	2.6	4.7	2.5	7.4	3.5	0
<u>TIMBER</u>								
Logs (Broadleaved)	12.9	-0.5	12.5	1.3	6.9	1.1	3.3	0.5
Sawnwood (Broadleaved)	6.9	5.3	6.9	13.2	9.5	7.5	10.4	0.6
<u>METALS &amp; MINERALS</u>								
Copper	3.6	3.8	2.1	2.8	6.0	6.0	5.9	5.9
Lead	-1.2	-0.6	-0.5	-0.1	0.5	0.5	0.5	0.5
Tin	0.8	0.9	2.6	3.5	1.1	1.7	0.2	0.4
Zinc	0.5	2.4	0.8	3.7	3.0	2.3	4.7	3.1
Bauxite	5.4	5.4	5.0	5.0	2.9	2.9	7.4	7.4
Iron Ore	9.5	10.6	8.6	6.3	8.6	8.4	5.5	6.5
Manganese Ore	2.6	8.5	3.1	4.0	0.8	3.4	3.1	3.5

Source: Commodities & Export Projections Division  
Economic Analysis & Projections Department  
Development Policy Staff

Table 14: CURRENT DOLLAR COMMODITY PRICE INDEX\*  
(1970-1972 = 100)

	36 Commodities (Including Petroleum)	35 Commodities (Excluding Petroleum)	Agri- culture	Agriculture				
				Total	Food		Non- Food	
					Bever- ages	Other Food		
1960	82	77	78	76	85	71	89	73
1961	80	73	74	73	77	70	86	71
1962	78	74	76	73	73	74	91	70
1963	84	83	87	86	73	93	93	71
1964	86	90	90	89	95	86	96	89
1965	85	88	84	84	90	80	88	101
1966	87	91	84	82	86	81	94	113
1967	83	84	81	79	81	78	91	95
1968	83	86	82	80	82	79	91	98
1969	86	89	86	86	86	86	87	100
1970	92	99	96	97	106	92	89	108
1971	98	95	95	95	92	97	96	95
1972	109	106	109	108	102	111	115	97
1973	155	150	152	147	131	156	190	141
1974	346	218	228	231	158	272	206	188
1975	341	209	216	218	172	244	199	188
1976	350	202	204	204	197	209	198	195
1977	367	201	200	200	200	200	198	207
1978	391	212	208	208	199	213	209	225
1979	429	241	239	242	199	265	225	247
1980	462	261	257	259	213	285	243	273
1985	597	330	311	309	285	322	324	392

\*Weighted by 1970-72 Export Values of Latin America.

Source: Commodities and Export Projections Division, IBRD.

Table 15: DEFLATED COMMODITY PRICE INDEX\*  
(1970-1972 = 100)

	36 Commodities (Including Petroleum)	35 Commodities (Excluding Petroleum)	Agri- culture	Agriculture			Metals, Minerals and Ores	
				Total	Food	Non- Food		
				Bever- ages	Other Food			
1960	104	98	99	97	108	90	113	93
1961	101	92	93	92	97	88	108	89
1962	97	92	95	91	91	92	113	87
1963	104	102	107	106	90	115	115	88
1964	105	110	110	108	116	105	117	108
1965	103	106	101	101	109	97	106	122
1966	103	108	100	97	102	96	112	134
1967	98	99	95	93	95	92	107	112
1968	99	103	98	95	98	94	108	117
1969	99	103	99	99	99	99	100	115
1970	99	107	104	105	115	99	96	117
1971	99	96	96	96	93	98	97	96
1972	100	98	100	99	94	102	106	89
1973	118	115	116	112	100	119	145	108
1974	232	146	153	155	106	182	138	126
1975	206	126	131	132	104	147	120	114
1976	197	114	115	115	111	117	111	110
1977	192	105	105	105	105	114	104	108
1978	190	103	101	101	97	104	102	110
1979	194	109	108	110	90	120	102	112
1980	195	110	108	109	90	120	102	115
1985	188	104	98	97	90	101	102	124

\* Deflated by the Index of International Prices.

Source: Commodities and Export Projections Division, IBRD.

34. Since the growth in volume of exports is expected to average barely 2.3 percent per annum, the exporting countries would have to depend largely on price changes, which are expected to rise by about 7 percent per annum (current dollars) in 1972-80. The growth in value of exports of primary commodities is expected to average about 10 percent per year.

#### Qualifications of the Forecasts

35. As pointed out earlier, the forecasts presented in this paper should be read with caution, particularly in the present market situation. They depend on a number of assumptions which widen the margin of uncertainty.

36. First, the effect of increased transport costs on the formation of commodity prices may not have been fully reflected in the forecasts. The cost of moving commodities at various stages of the processing and distribution process is expected to continue to increase as prices of transportation equipment, fuel oil and wages rise further due to inflation. Ocean freight rates have already risen sharply; for example, the index of UK Time Charter Freight rates trebled between 1972 and early 1974. The cost of transporting grain or soybeans from US Gulf ports to continental North-Western Europe rose from \$8 per ton in 1972 to \$30 in October-December 1973; in January-February 1974, the cost of shipping a ton of wheat to India was \$44 (Table 14). Domestic transportation costs in various countries have also risen, although the extent of the rise and its comparative effect on different commodities is not fully known yet.

37. Second, it is assumed that the possibilities of effective producers' alliances that benefit the developing countries are limited. Yet there are several food and non-food commodities whose prices could be pushed above the levels forecast. Products which face competition from synthetic substitutes or from primary production in the developed countries are the least suitable for such arrangements. Generally, chances for effective producers' action are limited where the number of producers involved in their production is large so that each has a small market share, or where the market is characterized by low price and income elasticities and cross-elasticities are high.

38. Many of the non-fuel minerals do not lend themselves to such cartelization by the developing countries because they do not control a sufficiently large proportion of either production or reserves. Of the four major non-fuel minerals (iron, copper, bauxite and tin) only in the case of tin do developing countries dominate known world reserves; their share of world bauxite reserves is somewhat over half, of copper less than half and of iron ore, less than a third. Furthermore, actual or potential substitutes are available for a majority of minerals - and for some, large supplies of re-useable scrap is available in developed countries. These factors merely illustrate the point that import demand for most non-fuel minerals in developed countries is price inelastic only in the short run.

39. Tin and bauxite - the only two non-fuel minerals for which the distribution of world reserves favors developing countries - are the most suitable candidates for cartelization. Tin, however, is quite vulnerable to substitutes -- aluminum, stainless steel and plastics -- and the US stockpile of tin is large.

The case for bauxite rests on the following considerations: (a) the long-term demand prospects for this mineral are very favorable; (b) aluminum, the final product, has so far faced less competition from substitutes than have other metals, and (c) the vertical integration and foreign domination of the industry provides both developed and developing producers with a strong incentive for group action. But even in this case, it is only with the participation of Australia that producing countries could control the decisive portion (90 percent) of world reserves. Aluminum, moreover, can be produced from alternative materials and its supply can be significantly increased by recycling.

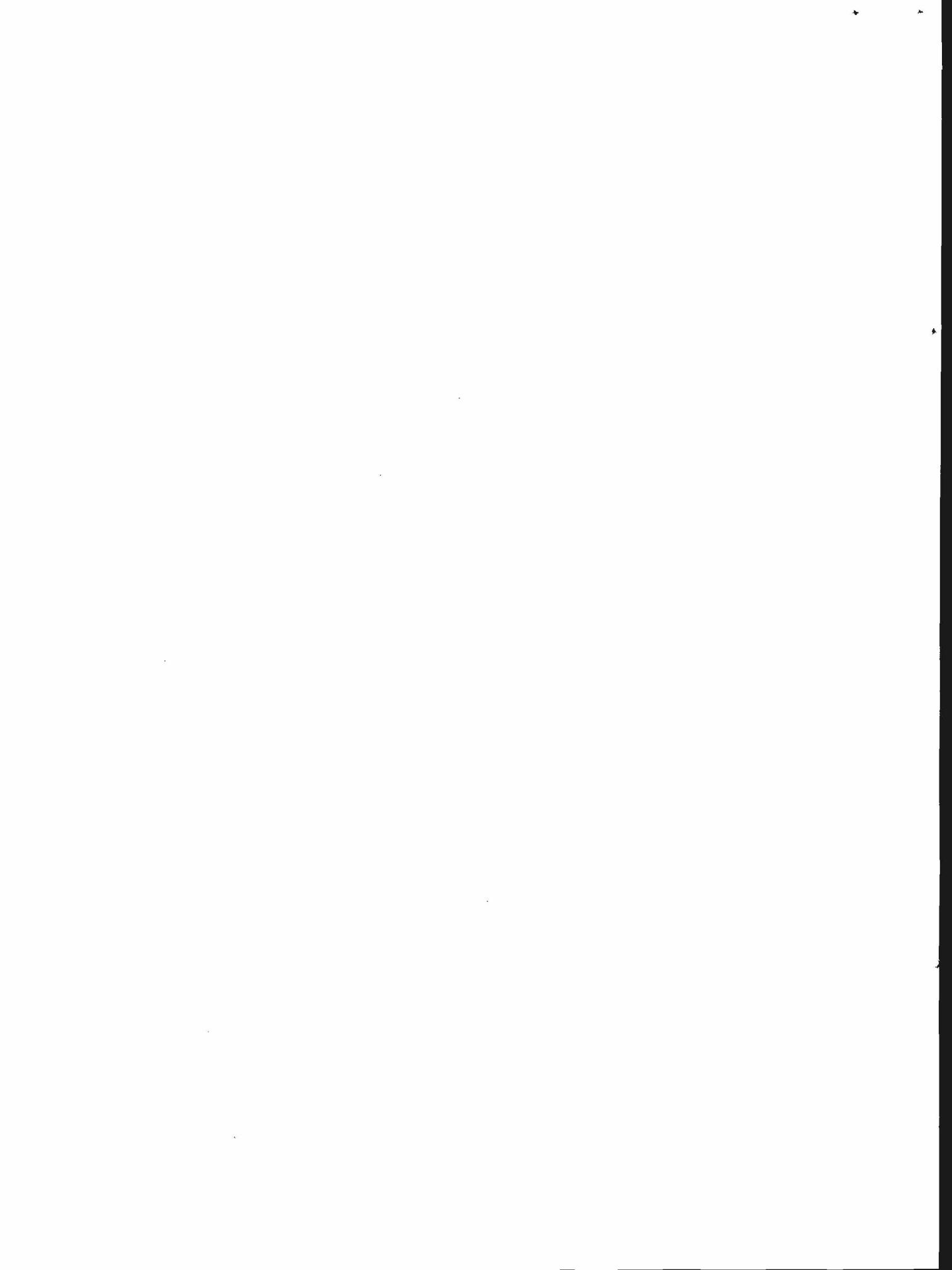
40. Even in those cases where developing countries cannot maintain higher prices in the long run because of less than complete control over supplies, the short-run benefits of managed prices could be substantial. These benefits must be weighed against possible adverse effects in the medium and long term, including irreversible investments in substitutes.

41. Third, demand may have been underestimated, since this paper assumes no substantial liberalization of the import policies in developed and centrally planned countries. Benefits from liberalization of imports by the developed countries are pointed out elsewhere.<sup>1/</sup> Yet the centrally planned countries, as a result of rising incomes, may well be faced with the need to increase both the quantity and variety of imported goods. More liberal import policies of the developed and centrally planned economies -- through reduction and removal of tariff and non-tariff barriers and through the dismantling of protective systems that surround the agricultural sectors of most industrial countries -- would be reflected in more rapid growth of demand for the primary products examined here. Depending on the supply response, the developing countries might also then be able to raise prices above the levels projected here.

42. A fourth critical assumption relates to fertilizer supply prospects. The shortages and high prices of fertilizers have already set back agricultural production in some countries. If supplies were not to expand as projected here, the world food situation is likely to remain precarious. Food consumption in poor countries is predominantly grains. Inadequate supply of cereals and rising prices could have serious social and political consequences. When the food situation is tight, the economic burden falls most heavily on those countries which are already most vulnerable and most in need of considerable external assistance. Their failure -- for lack of essential inputs -- to increase food output would aggravate the distribution problem concerning the world's food supplies. On the other hand, several developed countries are, at least for some years to come, in a position to increase food production significantly. For example, the United States has clearly demonstrated in 1973/74 that given its flexible policy framework combined with necessary inputs, it is possible to increase greatly the supply of many agricultural commodities. This contrasts with the situation of many developing countries in which the potential even of a flexible policy is sharply reduced when basic inputs are scarce.

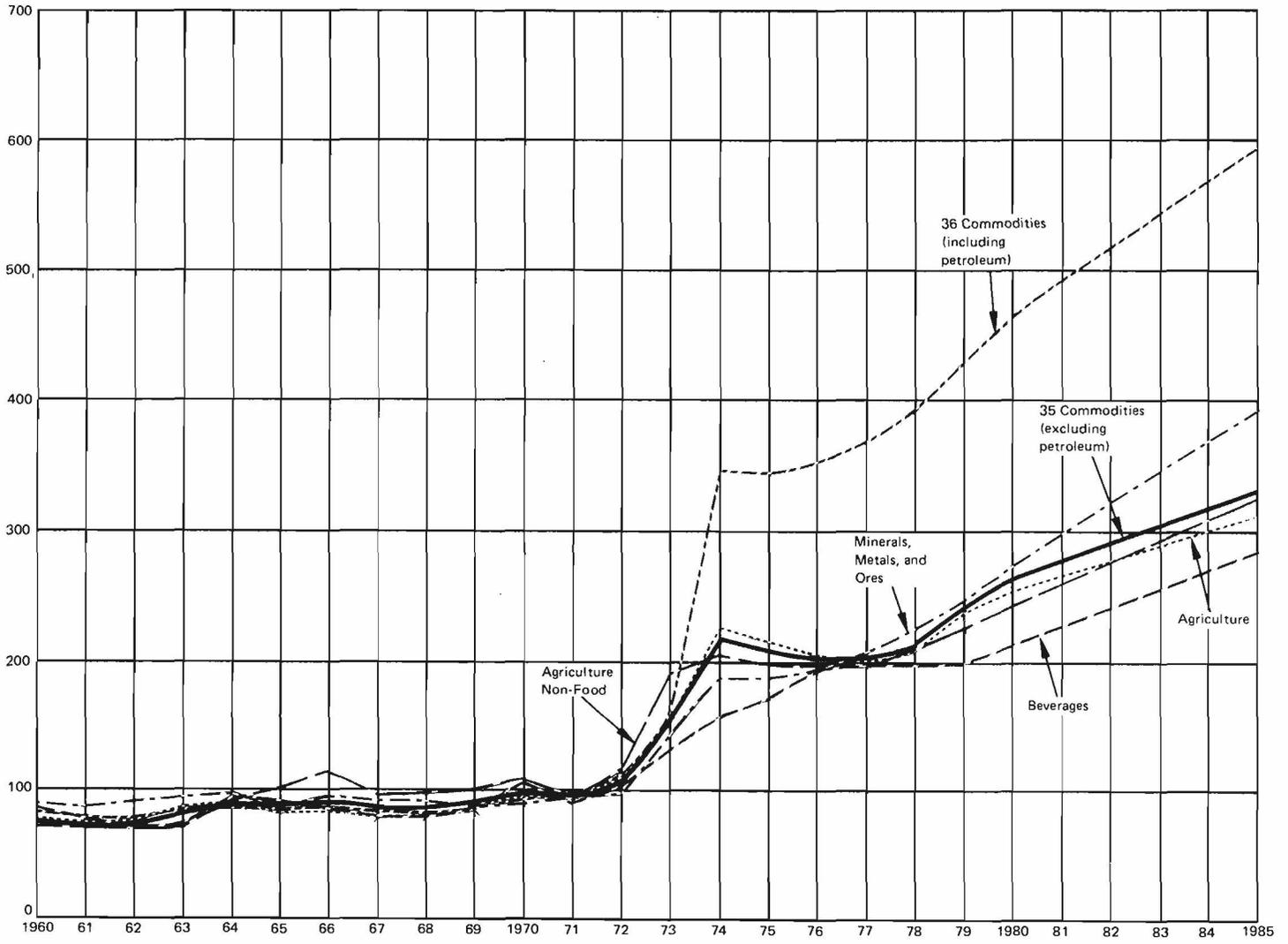
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<sup>1/</sup> For further details see "Effects of Changing Commodity Prices on Development Prospects" (forthcoming).

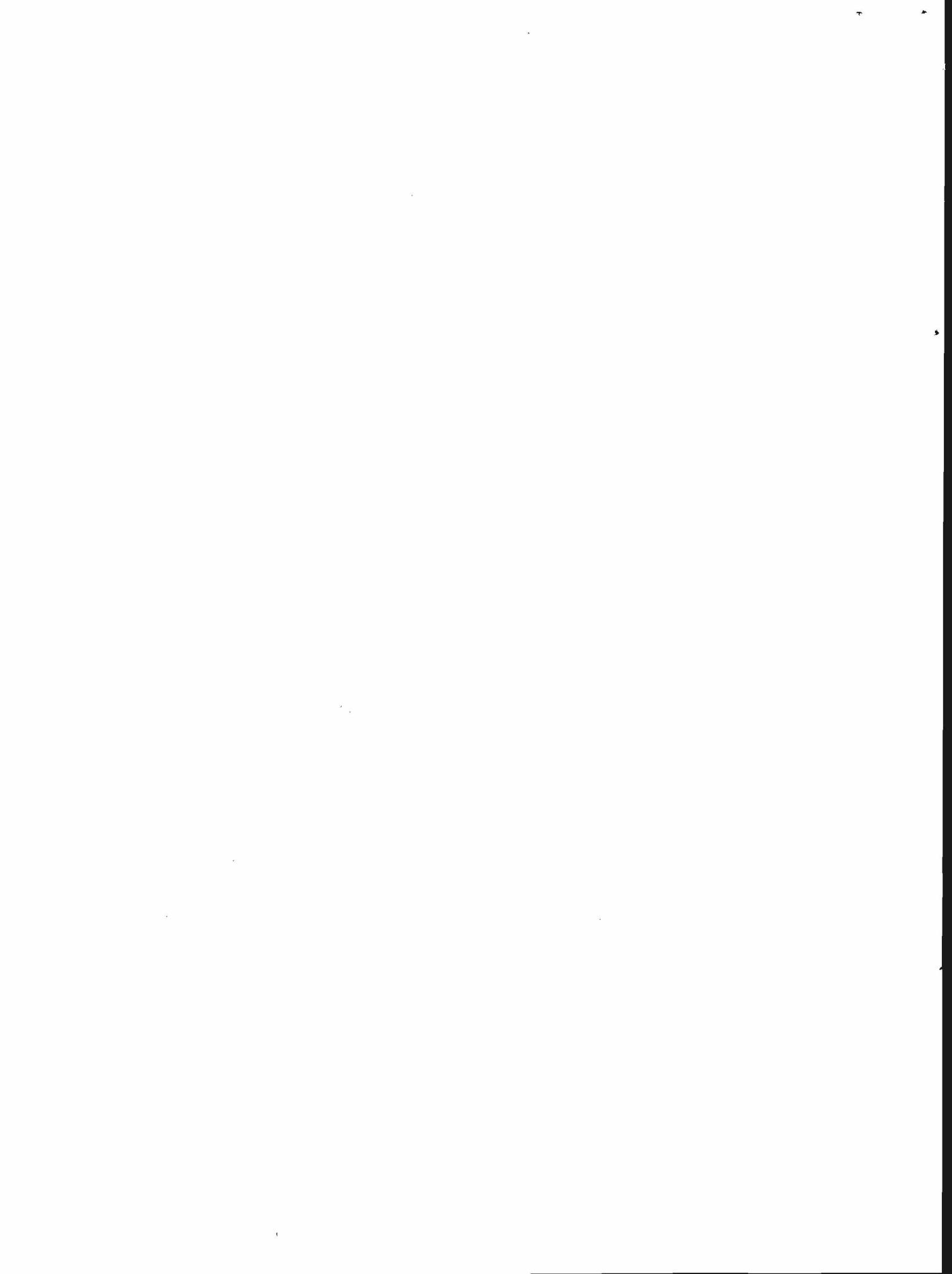


CURRENT DOLLAR COMMODITY PRICE INDEX FOR LATIN AMERICA\*  
(1970 - 72 = 100)

Chart IV

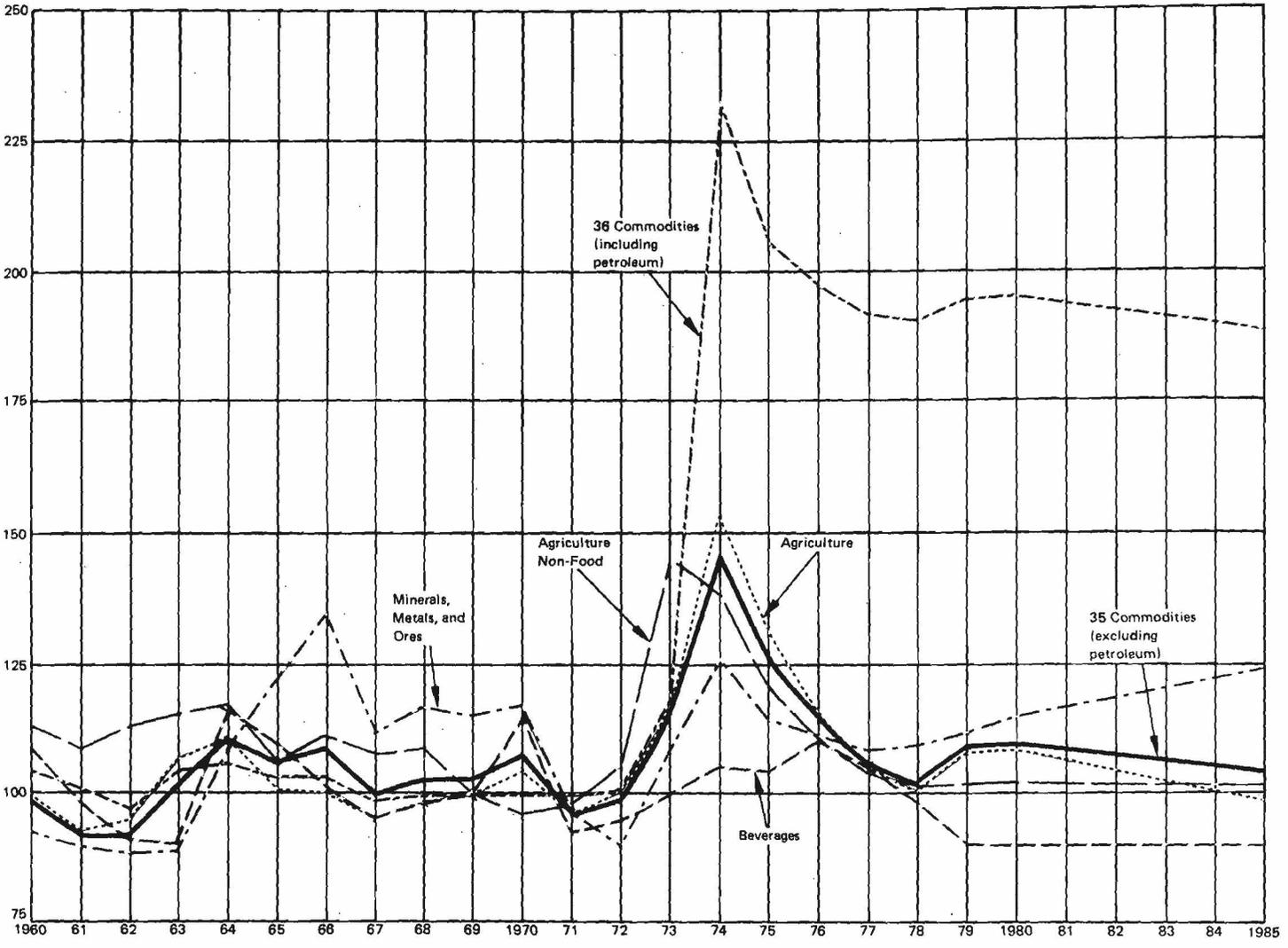


\*Weighted by 1970 - 1972 Export Values of Latin America



DEFLATED COMMODITY PRICE INDEX FOR LATIN AMERICA\*  
(1970 - 72 = 100)

Chart V



\*Deflated by the Index of International Prices



## V. SOME THOUGHTS CONCERNING THE FUTURE

43. Sluggish growth in the volume of exports and a lack of sustainable or long-term improvement in the real prices of non-petroleum products, point to the unflinching need of substantially increasing the export earnings of the non-oil producing developing countries to help stimulate the rate of expansion in their economies. Over the years, the nature of the commodity problem has been analyzed by several experts and a range of solutions, both dogmatic and realistic, have been proposed to help alleviate the problem. Apart from the series of UN and UNCTAD documents on the subject, the issue was discussed by the Pearson Commission 1/ within the context of Trade Policy for Development. The problem was further pursued by the World Bank in deference to the recommendation made by the Commission. The problem still remains a paramount issue with the international community.

44. It appears from the forecasts presented in this paper that the commodity problem and need for solving it has an element of permanency. A few thoughts on current proposals are presented here for discussion purposes; stale proposals such as price stabilization and non-starters such as deliberate policy actions by the developed countries to contract their primary products production are left out. The problem needs to be tackled through dual efforts-actions, that should be taken by the developing countries and measures by the developed countries that would be helpful.

### What Can Developed Countries Offer

45. Several proposals have been advanced at the United Nations and other fora which call for deliberate measures by the developed countries to deal with the problems of poor countries dependent on primary product exports. These include compensation for shortfalls of export receipts, limitation or taxation of synthetic substitutes, multi-lateral contracts, commodity agreements, guaranteed prices (indexation) and trade liberalization. Under present and difficult world economic conditions, none of these proposals appear to stand a chance of success. The last two, which are presently receiving greater attention are discussed below:

46. (a) Indexation. Over the past two decades, the demand of the developing countries for an equitable and just price for their export products has moved through many phases. Lately, they are demanding an automatic linking of the prices of commodities exported by them with price indexes of products imported by them. In other words, they are demanding that the real price of their export products be guaranteed for an indefinite period of time.

47. Indexation, of course, has to have a point of reference, a base period,2/ against which the parity of the import and export prices can be

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1/ "Partners in Development", Report of the Commission in International Development, 1969.

2/ As also, the composition of each index.



measured. If the suitable base period chosen happens to be the base period used in this paper (1967-69 average), then the forecast prices imply that although the terms of trade will decline from a level now favorable to the developing countries, the index will drop closer to 100 for both developed and developing countries. Although some commodities would gain relatively and others lose, there will be no deterioration in terms of trade compared to the base year. Consequently, indexation will not result in meaningful gains, provided, of course, the forecasts are not too high. (Most experts feel that they are, in fact, conservative.) If, on the other hand, the developing countries would wish to see, say, 1972-74 as the base year, then they are asking for a real, permanent improvement in their terms of trade. Maintaining prices at a permanent, real, higher level will inevitably pose unsurmountable problems of implementation.

48. To implement the scheme, it would have to be managed globally and the developed countries would need to 'nationalize' or 'regulate' their import trade. This does not appear to be feasible at least for some years to come. A high guaranteed price for a commodity also implies the need to regulate production and institute export controls. If this leads to perpetuation of established patterns of production, diversification may be seriously impaired and the efficiency of resource use may be compromised. Moreover, if production controls are feasible, the developing countries do not need to ask the developed countries for indexation.

49. (b) Trade Liberalization. The difficulties concerning access to the markets of the developed countries for agricultural products of the developing countries are widely known. If the developed (OECD) countries were to completely liberalize their imports, the developing countries would be able to add some \$8 billion to their export earnings by 1980 from the commodities under reference (Table 16). The estimate is based on the forecasts given in this paper; in terms of constant 1974 dollar prices, the gain would be equivalent to \$4.2 billion. Since the largest beneficiary would be sugar, the bulk of the gain (over \$5 billion in current terms) would accrue to the Latin American countries. Trade liberalization here is taken to mean the removal of tariffs and similar charges and the dismantling of "non-tariff barriers" such as quantitative restrictions, internal taxes and aids to competing domestic production.

#### What Can Developing Countries Do

50. This question has not been sufficiently debated in UNCTAD and some other fora. This is as well because less talk (and even lesser studies) and more action is badly needed. Self-help and coordinated national policies perhaps offer far reaching opportunities for most 1/ of the developing countries. Diversification into new products offering greater opportunities, improving efficiency in production and marketing and research (production as well as processing) are the backbone of any expanding system. The issues involved are known at the national and international level. In

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1/ The problems of small, poor countries are more complex and are receiving extra attention from donor countries and international financial institutions.

**Table 16: EFFECTS OF ALTERNATIVE TRADE OPTIONS ON PROJECTED EXPORT EARNINGS OF DEVELOPING COUNTRIES FROM SELECTED PRIMARY COMMODITIES, 1967/69 AVERAGE TO 1980**

	Average Value 1967-1969 (million US dollars)	Rate of Change (percent per year)	Average Value 1972-1974 (million US dollars)	Average Annual Change 1972/74-1980			Value in 1980 (-----million US dollars-----)	A Forecast Increase In Earnings 1972/74-1980 (million US dollars)	B Effects of Liberal ization
				Value	Volume	Price			
				(---percent---)	(---percent---)	(---percent---)			
Beef	353	25.9	1,110	14.0	3.6	10.1	2,783	1,673	701
Fishmeal	225	-1.7	206	26.0	20.0	5.0	1,037	831	0*
Bananas	474	6.0	635	8.6	2.6	5.8	1,129	494	384
Cocoa	648	12.7	1,180	7.5	2.4	5.0	1,960	780	21
Coffee	2,324	10.4	3,802	9.7	1.9	7.7	7,287	3,485	504
Tea	523	4.1	639	6.2	2.9	3.2	973	334	1
Sugar	1,492	22.7	4,151	8.2	1.5	6.6	7,211	3,060	3,940
Cotton	1,293	14.1	2,504	7.2	1.5	5.6	4,070	1,566	647
Rubber	955	12.8	1,743	12.8	4.5	8.0	4,064	2,321	0
Logs	643	25.9	2,019	13.3	3.3	9.7	4,844	2,825	1,703 b
Sub-Total	<u>8,930</u>	<u>15.0</u>	<u>17,989</u>	<u>10.1</u>	<u>2.7</u>	<u>7.2</u>	<u>35,358</u>	<u>17,369</u>	<u>7,901</u>
Phosphate Rock	220	22.5	607	18.4	6.0	11.7	1,984	1,377	0
Copper	2,281	12.9	4,194	14.2	5.9	7.8	10,615	6,421	0
Bauxite	183	7.9	267	26.5	7.4	17.8	1,385	1,118	0
Tin	558	11.6	968	5.2	0.2	5.0	1,380	412	0
Lead	113	12.4	203	7.4	0.5	6.9	335	132	0
Zinc	136	29.3	489	9.4	4.7	4.5	917	428	0
Silver	129	11.4	221	16.1	3.1	12.6	630	409	0
Manganese Ore	98	6.6	135	11.3	3.1	8.0	285	150	0
Iron Ore	811	13.0	1,497	19.2	5.5	13.0	5,122	3,625	0
Sub-Total	<u>4,529</u>	<u>13.6</u>	<u>8,581</u>	<u>14.9</u>	<u>5.0</u>	<u>9.4</u>	<u>22,653</u>	<u>14,072</u>	<u>0</u>
<u>Total of above 19</u>	<u>13,459</u>	<u>14.6</u>	<u>26,570</u>	<u>11.8</u>	<u>3.5</u>	<u>8.0</u>	<u>58,011</u>	<u>31,441</u>	<u>7,901</u>
<u>Other Primary Products</u>	10,607	13.3	19,814	n.a.	n.a.	n.a.	n.a.		
<u>Petroleum</u> <sup>c/</sup>									
High	13,507	41.7	77,190	19.5	2.6	16.4	268,235	191,045	
Low	13,507	41.7	77,190	18.8	5.2	12.9	257,890	180,700	
<u>All Primary Commodities</u> <sup>d/</sup>	37,573	26.9	123,574	n.a.	n.a.	n.a.	n.a.		

a/ Increase in 1980 exports over forecast values in "A".

b/ From effects on processed timber exports of developing countries (net of probable reduction in exports of logs).

c/ High indicates price growth high, volume growth low; low indicates the reverse.

d/ Coverage: UNCTAD definition of primary commodities - i.e., SITC 0 to 4 plus 68.

Source: Commodities & Export Projections Division,  
Economic Analysis & Projections Department  
Development Policy Staff

agriculture, the impediments to growth have been analyzed in the Sector Surveys of the World Bank and field work of the FAO. Nonetheless, the immense potential of Latin America remains unexploited. Intensive follow up has not materialized. It is in a way pitiful to see Californian pears and Louisiana rice in the shops of Rio when South America has all the elements of comparative advantage in vastly expanding and diversifying agricultural output for import substitution and gaining a greater share of the export markets. This is particularly so for food products.

51. Two avenues which need attention and which offer considerable scope for expanding the export earnings in short-run as well as the long-run are producer actions to raise prices for some products and shifting of several processing industries upstream to the producing regions.

#### Producer Action

52. There are possibilities of OPEC-type action to raise the prices of several products (particularly certain metals and minerals) in the short-run, but in the long-run such cartels would be difficult to sustain. Some of the necessary conditions for a cartel to work are that (a) the commodity must be essential, (b) it must not have close substitutes, (c) it must be possible to regulate production, and (d) countries involved must have the financial resources to hold back their exports, if necessary. In addition, the demand should be price-inelastic at least in the short-run, the producers alliance should control a sizeable part of the world resources and members should have an identity of broad interests.

53. But, if certain price discipline is imposed on the producers alliance, that is, prices are pushed to unduly high levels and consumers are given assurances of supplies, it is possible to raise prices of several products. The key issue here is how to bring countries around the countries involved to an agreeable scale of production cuts if and when necessary. Some countries may be unwilling to sacrifice a planned expansion in their output or accept a slightly reduced share of the incremental demand in the world markets. The lack of producer action in bananas is amazing and can perhaps be used as a case in point.

54. In bananas, no region in the world can presently compete with Latin America even if ex-farm prices are doubled. Moreover, a doubling of the farm-gate price would lead to only a marginal increase in the retail price of bananas. The price-elasticity of demand is less than unity so that a given reduction in volume of exports leads to a greater increase in total revenues. Bananas are also the cheapest fruit (and one of the cheapest edible goods that can be bought in the richer countries) so that a two cents per pound price increase, for example, will not lead to consumer resistance. Nonetheless, the few producing countries of Latin America are unable to agree on a plan of controlling and sharing the market for collective mutual benefit. This is, of course, only one commodity case in point.

55. If a scheme of supply management in some products is evolved, the lessons learnt from the petroleum experience need to be kept in view. The vast benefits derived from the petroleum price increase were not shared (with minor exceptions) with the rest of the developing countries. (In fact, it has led to extreme hardship for several of them.) Unless, a mechanism for sharing the benefits of price increases with other poor countries is evolved, a community of interest will not emerge and the problem of a growing gap between the rich and the poor will remain with us. It may even increase.

#### Upstream Industries

56. There are certain products in which the developing producing countries enjoy a comparative advantage in processing their own raw material nearer the centers of production, rather than exporting it unprocessed. The necessary condition, of course, is that the processing activity should require relatively intensively the factors of production which are relatively abundant in the developing country producing the relevant primary commodity. In some industries which are highly weight-saving (for example wood processing), there may also be great gains in terms of reduced transportation cost further improving the comparative advantage enjoyed by the country. The benefits that would flow to the country include:

- (i) higher export earnings per unit of raw material;
- (ii) an initial step towards general industrialization of the country or the region; and
- (iii) employment, if there is unemployment or under-employment.

57. Since timber happens to be a product which faces brighter market prospects as compared to most other commodities, and since it meets the conditions specified above, expansion of wood processing and associated manufacturing industries in certain Latin American countries offers unique opportunities.

SPECIAL FACTORS AFFECTING MAJOR COMMODITIES

1. Critical assumptions governing the supply-demand balance, stock position and related issues which have been brought to bear in forecasting the prices presented in Chapter IV are summarized below.<sup>1/</sup>

Coffee

2. Coffee prices are expected to remain relatively strong throughout the seventies, notwithstanding the suspension of economic provisions of the International Coffee Agreement. Favorable price prospects are the result of a combination of several factors including producer's reaction to the development of large surpluses and low prices in the mid-fifties to late sixties and production controls instituted under the aegis of the International Coffee Agreement of 1968.

3. The surplus and the deficit phases of the coffee cycle show that long periods of heavy surpluses, in which disinvestment takes place, are followed by shorter periods of shortages and high prices when over-investment occurs. However, the latter phase of the cycle seems to have been modified by the restraint on investment imposed under the International Coffee Agreement and by greater co-ordination of national policies among the producing countries. It is expected that the coffee producing countries will continue to follow a cautious policy concerning investment in coffee so that heavy surpluses during the eighties would not occur.

4. The tightening balance between world supply and demand is largely due to developments in Brazil. For several years since 1969, Brazilian output has fallen short of current demand. Furthermore, the capacity to produce was also running below the most conservative demand estimates. Since 1970, Brazil has planted a large number of coffee trees to stem the declining tide of its production. A stabilization of production at a level around 27 million bags in 1980 can be expected, leaving about 17 million bags available for exports and 10 million for domestic consumption. As no substantial new plantings after 1974 are envisaged, increasing domestic consumption would leave no room for an increase in exports after 1980. In view of the wide awareness of the dangers of over-supply, the exportable production elsewhere in the world is expected to grow at a rate of not over 3 percent per annum in the beginning of the eighties. The combined effect of sluggish growth elsewhere and virtually zero growth in Brazilian exports would be that export availabilities would tend to match world import demand reckoned to rise at 2 percent per annum.

5. A more stable market is not likely to develop before the late 1970's, when the downward trend in Brazilian exportable production would

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<sup>1/</sup> Not all products are covered here. Further details are given in IBRD Commodity Papers Nos. 6, 7, 8 and 9.

have been stemmed. However, since stocks would be below present levels by then, even if production grows more rapidly after 1980 than in the present decade, prices would remain firm. The forecasted trend price of 65 US cents per pound in 1974 constant prices from 1979 onwards, is conservative in view of the projected supply-demand balance and contains an element of hedging against the possibility of increased supply in response to current and anticipated high prices during the next few years.

### Sugar

6. The world price which for a number of years had been abnormally low, had recovered when in the late sixties equilibrium between demand and supply on the market was restored. In the early seventies shortage, due to greatly reduced output in Cuba and the USSR, led to drawing down of stocks. As a result prices started to climb steeply late in 1971 and have reached an all time high of 32 US cents per pound in August of 1974.

7. Both structural and temporary factors are behind the sluggish increase in output despite the increasing sugar prices of the past three years. Scarcity of land, lack of funds and increasing costs of establishing new plants have hampered the expansion of the sugar industry. Over the longer run, the supply of sugar is expected to be affected by the impact of the higher energy prices on transportation and production costs.

8. In the period of 1974-1980, production expansion is projected to take place in several countries. Brazil has plans for continued growth and several of the smaller cane producers are hoping to take steps toward achieving self-sufficiency. However, the major obstacles to recovery of the supply situation in the following year or two are first, the severe drought conditions in Northeast Brazil and some Latin American countries which occurred in 1973. Secondly, toward the end of 1973 the EEC revised its estimated sugar exports to about half of the original figure of approximately 800 thousand tons and introduced an export levy on sugar.

9. Total world sugar consumption and production are forecast to expand by almost 20 percent between 1974 and 1980. Still, taking into account the cost increasing factors, the real price is expected to remain high, compared to the pre-1971 level. The average world sugar price for 1969-71 in terms of 1974 prices were 4.1 US cents per pound, while 1980 prices are projected to be 8.5 US cents per pound. This projection is based on the following assumptions: (i) that the International Sugar Agreement will not be renewed; and (ii) that Cuba's sugar output will continue to be exported mainly to the centrally planned countries and will not exceed substantially the average level of output in the past decade.

### Cotton

10. Cotton prices reached near record levels in January 1974, having risen sharply over the previous year. A major downward adjustment in

prices is expected over the next three years as production is likely to exceed consumption requirements. It is unlikely that cotton prices will be driven to the levels obtained in the late 1960's however, in view of a sizeable increase in production input costs. Assuming that the necessary correction in the supply/demand balance will be completed by 1977, cotton prices are likely to stabilize in 1977-1980 at around 52 US cents per pound in terms of 1974 prices. The projection assumes that productivity increases in cotton growing will continue to offset increases in the real costs of inputs. Moreover, the high quantity of synthetic fibers anticipated from increasingly efficient new plants is expected to maintain severe competitive pressure in the fibers market, tending to force cotton prices towards their long-run cost levels.

11. World cotton consumption is forecast to continue increasing at around the long-term rate of 1.7 percent per year to 1980 and 1985. Demand will be sustained in the near-term by less intense competition from the synthetic fibers and in the late 1970's and 1980's by rising income and increasing population. The growth in mill consumption of cotton in the developing countries is projected at 2.9 percent per year compared to 1.5 percent in the centrally planned countries and less than one half a percent in the developed countries. This implies a continued shift in cotton manufacturing from the developed to the developing countries.

12. In order to match the projected level of consumption in 1980 and provide for "normal" carry over stocks equivalent to five months consumption, cotton production would have to increase at an annual rate of 1.3 percent between 1973/74 and 1980/81. In the current (1974/75) season, major expansions in cotton planting are expected in those countries with facilities for forward trading at the producer level, such as in the U.S., Mexico and the Central American countries. The anticipated level of production in 1974/75 would raise carry over stocks well above five months off-take, necessitating a subsequent decline and then slower growth in production in order to balance supply and demand by 1980.

13. The long-term growth rate for cotton production has been greater in the developing countries than in the other areas. This situation is likely to continue in the late 1970's, as they better utilize present know-how to raise productivity and develop new cotton growing areas. In the short-run, however, the need for food crops and the insulation of many producers from international price levels limits the responsiveness of some growers to changes in market prices for cotton. Accordingly, the supply elasticity of cotton production with respect to price is estimated at 0.7 in the developing countries, compared to 1.7 in the United States.

#### Bananas

14. Bananas have all the features of a surplus commodity. Supplies have been growing rapidly in recent years due to increase in productivity and planting areas. Demand grows slowly in the major markets partly as a result of low income elasticity at the level of consumption reached in

the developed countries and to a lesser extent, as a result of various trade barriers and internal taxes which restrict access to markets. Reflecting this situation, banana prices have fallen in real terms over the last few years and current prices have hardly followed the rising trend in commodity prices recorded since 1972.

15. The greatest amount of competition among producing and exporting countries takes place in non-preferential markets. The difficulties which arise from excess supplies from competing exporters in such markets are magnified by the fact that only small quantities can be redirected to preferential markets such as those of France, Italy and the U.K. Supplies in other markets such as the United States are controlled by international companies whose cost structures allow them to withstand much sharper price declines than independent producers.

16. The world import demand is projected at 7.6 million tons in 1980 under the assumption that the growth of consumption and imports in the major markets will continue at the same rate as in recent years. World export availabilities are projected at 11 million tons in 1980 under the assumption that the rate of growth experienced in recent years will remain unchanged until 1980, but with a modest 10 percent allowance on the downward side to account for any reduction in supplies as a result of possible concerted action by banana exporting countries.

17. The prices necessary to clear the market in 1980 are forecast at 13.5 US cents per kilogram in 1974 constant terms. This forecast is based on the price elasticity of demand at -0.8 and a supply elasticity of 0.5. The projected current prices under assumed inflation rates are 21.4 US cents per kilogram. This figure incorporates a supplement of 3 percent per year for assumed higher freight rates.

18. The recent signing of the Panama Agreement has introduced a new element in the market situation. Seven major producers (Colombia, Costa Rica, Ecuador, Guatemala, Honduras, Nicaragua and Panama) have decided to form a Union of Banana Exporting Countries and have agreed to tax exports of bananas. Only three countries have implemented the export tax measures, however, and the prospect for a successful implementation of the Agreement depends on the extent to which production cutbacks can be organized. It appears that the problems of reallocation of land and labor in the producing countries may be difficult to overcome rapidly to bring about a balance between supply and demand.

#### Copper

19. The world copper market is likely to be in a state of surplus around 1980, but the surplus may be largely eradicated by 1985. Based on an analysis of likely developments of demand and supply and the price-cost relationships assumed, the price of refined copper in London is projected to be 135 US cents per pound in current dollar terms in 1980 and 200 US cents per pound in 1985. These prices are equivalent to 85 and 94 cents per pound in 1974 constant dollar terms respectively.

20. World consumption of refined copper is projected to increase from 6.2 million tons in 1972, to 8.8 million tons in 1980 or at 4.5 percent per annum. The long-term growth trend of consumption over the period 1950-1973 was 4.2 percent per annum. World consumption in 1985, based on this trend, would be 10.8 million tons. The demand assumptions underlying the long-term price forecasts are especially sensitive to the long-term economic growth in the major consuming countries. While there are a number of additional factors which may influence the demand trend, such as competition from substitutes (aluminum and plastics in particular) and net exports to the centrally planned economies, these are of secondary importance.

21. Overall, however, the uncertainties on the supply side are probably greater than those on the demand side since they relate not only to possible physical constraints (in terms of capital and labor availabilities) but also to investment and production strategies as they might be affected by economic and political considerations. Special elements of uncertainty include: (i) the future growth of production in Chile, Panama, Peru and Mexico; (ii) the possibility of serious labor strikes in the U.S. copper industry in 1974 and 1977 when contracts come up for renewal.

22. It is assumed that the average cost of copper would rise by about 8 percent in real terms during the 1970 decade and that under the probable market conditions of weakness in 1980 the price-cost ratio would be about 1.5 rather than historical ratio of 1.75. As for the price of copper in 1985, it is assumed, on the one hand, that the cost in real terms would not rise in the 1980-85 period, and, on the other hand, that the copper market in 1985 would be in near balance warranting the application of rates fairly near the historical average price-cost ratio.

23. It is also assumed that an effective OPEC-type arrangement will not be made or that, if such a cartel is formed, it would be effective only to prevent substantial falls in prices in the face of possible surplus situation.

### Beef

24. Demand for beef has greatly increased in recent years despite the fact that the prices of its principal substitutes, pork and poultry, have declined in relation to the price of beef. The income elasticity of demand for beef in most countries is generally higher than for its close substitutes and this, coupled with continued growth in real per capita income around the world contributes to the high level of demand. It is also hypothesized that income growth has brought many low income people to an income range where the income elasticity of demand for beef is much higher and the cross-price elasticity with non-meat substitutes is lower than at lower income levels.

25. Future demand is projected on the basis of projected real income growth rates and assuming constant relative prices of beef, pork and poultry. The validity of this simple assumption has not been tested. It implies prices of beef and that future technological changes affecting production of these meats will be more or less uniform. Under this assumption, the demand for beef can be analyzed from income elasticity alone.

26. Supply projections are made by extrapolating production trends including cyclical patterns and modified to allow for certain cases where countries had definite plans to expand production at a faster rate than in the past and where such plans were believed feasible.

27. Demand and supply projections were made on a country by country basis for 18 major exporting and importing countries which account for about 90 percent of all trade in fresh, chilled and frozen beef. In the case of minor exporting countries, it was assumed that collectively they will continue to export about 100 thousand tons annually through 1980. Using an import price elasticity of demand of -1.25 the price changes necessary for market clearance were calculated from the difference between global import requirements and export availabilities. The 1980 price in real terms is projected to be 11 percent higher than the 1973 price.

#### Bauxite

28. The price of bauxite in the leading world markets (US and Canada) is expected to increase in real terms during the 1974-85 period. The US import reference price based on imports from Jamaica is projected to increase from 14.3 US dollars per metric ton in terms of 1974 prices to 30 US dollars per metric ton in 1980 and 1985.

29. World demand for bauxite is forecast to increase from 59 million tons in 1972 to 120 million tons in 1980, or by about 9 percent per annum. This forecast is derived from projection of demand growth for primary aluminum. The effects of the higher cost of energy outside North America are more severe for aluminum than for competing metals. Therefore it appears doubtful that the substitution by aluminum for other materials will continue at the same rate as in the past. However, its competitive position will remain reasonably strong.

30. Proven world bauxite reserves have increased rapidly in the last decade; as of early 1972 they amounted to more than 200 times the 1972 production rate. Prospects for new discoveries are considered encouraging by the industry. Comparison of future world bauxite demand and production indicates that ample supply is available to cover the requirements of the aluminum industry, other industry (refractories and abrasives) as well as demand from the centrally planned economies.

31. The price of bauxite is established by the major companies for their internal accounting, with emphasis on tax advantage rather than on

demand and supply considerations. It is, therefore, an artificial price. In contracts between governments of countries where bauxite is produced and the mining companies, tax provisions and other financial considerations dominate the determination of bauxite prices, bearing little relation to production costs or the rent that should accrue to a non-renewable resource. However, bauxite prices do take account of alumina content and the nature of impurities, the quantities and the payment terms of purchase arrangements.

### Fishmeal

32. The share of Peru in world production of fishmeal and solubles (including whale products) was 35-40 percent in the late sixties; this country's share in world exports was well over 50 percent in most years. The failure of the Peruvian catch in 1973 raised the price of fishmeal sharply. The rate of recovery of the Peruvian anchoveta stock and the maintenance of fish catches in other countries are, therefore, crucial for price projections. The fishmeal price also depends on the availability of substitutes such as soybean, groundnut and cottonseed meals, and on the permanence of the changed fishmeal demand structure resulting from adjustment of animal feeding practices to the fishmeal scarcity.

33. It is not likely that other countries can make up for the Peruvian deficit. Despite increased fishing effort, catches have only increased by 2 percent per annum in developed countries and a decline due to over-fishing is expected. Among centrally planned countries the rate of increase in catch was about 10 percent per annum, but volume is very small. Most experts believe that conventional fish resources have already reached or surpassed their maximum sustainable yield, with the result that catches can best be expected to remain constant.

34. Projections of the availability of vegetable protein substitutes indicate that the demand for protein meals is likely to grow faster than supply as the richer developing countries begin to consume increasing amounts of their own production and as capacity for expansion, particularly in industrial countries, faces further limitations.

35. The protein feed meal market is expected to expand as a result of increasing demand for livestock products. Fishmeal, remaining on constant supply, will cover a declining share of total feed requirements. As a result, it is quite possible that the use of fishmeal will become more specialized, notably as a source of feed for breeding animals where the provision of high grade protein is vital. This implies that the ratio of fishmeal price to soymeal price may rise above historical levels, 1.4 for the period of mid-1960's to 1971, livestock enterprises being prepared to pay more to ensure necessary supplies. A figure of 1.8 is considered a reasonable estimate of the upper limit of the ratio in the long run.

### Iron Ore

36. Projections concerning iron ore are necessarily linked to projections of steel production in major industrial areas. Steel consumption

is projected on the basis of estimated income elasticities of demand which range from 0.6-0.7 in the United States and the United Kingdom to 0.98 in the EEC, 1.47 in Japan and from 1.5 to 3.0 in developing countries. Demand for iron ore increases pari passu with demand for steel.

37. The current steel situation is one of tight supply both in the United States and in Japan and also, though perhaps to a lesser degree, in Western Europe. Some private forecasts foresee a continuation of the present rate of growth of production in 1974, even in the event of a slowdown in economic growth this year. For 1975, it appears reasonable to foresee a continuation of world steel production at 1974 levels, which have been estimated at 700-720 million metric tons by the International Iron and Steel Institute. Steel production in the developed countries would grow at 3 percent per annum for the years 1975-80. This would yield a 1980 steel production of 570 million tons in developed countries. The projections for centrally planned economies and developing countries in 1980 were 265 million tons and 55 million tons, respectively. Total world steel output in 1980 would thus amount to 890 million tons. In correspondence with these forecasts the world iron ore production in 1980 is forecast at 1,035 million tons.

38. The impact of these developments is that iron ore prices would rise in real terms in 1974 and fall back in 1975. Recent published reports concerning short-term iron ore delivery contracts, which cover a large proportion of world trade corroborate this. Reflecting the recent steel boom, terms of delivery contracts concluded by major steel importing companies improved in 1973 and, since most contracts are reported to have been concluded for 1974 before the energy crisis set in, there is reason to expect a further increase in iron ore prices this year. In contrast, delivery contracts for 1975 are likely to reflect both the expected stagnation in steel production and the fact that by the end of that year iron ore stocks will be replenished. As far as long-term delivery contracts are concerned, those concluded during the last two years provide for price increases to reflect the inflation in mining costs and older contracts have generally been renegotiated to include such clauses. This is notably the case in contracts with Japan. Therefore, the iron ore prices are expected to increase gradually between 1975 and 1980.

39. In view of the structure of the iron ore market, price elasticities of demand for iron ore have not been identified. It is assumed, however, that these elasticities are close to zero for aggregate demand on the "free" market, at least within a wide range of variation of steel prices.

#### Petroleum

40. Realized f.o.b. prices of crude oil exported by the eleven member countries of the Organization of Petroleum Exporting Countries (OPEC), which accounted for 95 percent of crude oil exports from developing countries, have been rising sharply in the last three years and are expected

to remain high through 1980. The overall level of prices for Arabian Light crude oil is forecast at \$9.60 per barrel during 1974 and to remain at that level in 1975 in current prices, i.e., eroding that year with inflation to about \$8.65 in 1974 dollars and this constant price is assumed through 1980. This current price is composed of \$7.00 for royalties and taxation, \$0.11 production costs, \$0.35 producers' margin and \$2.14 government participation benefit. The last element could range from about \$0.90 to \$2.25 per barrel, assuming that government crude oil prices range from 73 percent to 93 percent of posted price. Currently these are at the top end of this range, but they may not necessarily remain there.

41. In view of the higher f.o.b. export prices commanded by crude oils elsewhere which contain higher valued components or less sulphur or which are nearer to main import markets, the average f.o.b. price for crude oil exported from all major oil exporting countries appears to be about 60 cents higher than Arabian Light.

42. The outlook for petroleum prices is linked to energy demand and supply; demand depends on economic growth and prices. Energy imports into industrially advanced countries consist largely of petroleum of which about 90 percent originates from OPEC members. The total amount of oil which may be required from OPEC and from individual countries in particular, would indicate the strength of their bargaining position when compared to their production capacity. The sensitivity of the projection is considerable, as capacity is compared to residual demand; the magnitude of recent price increases and their impact on demand for oil and the supply of other energy sources add to the degree of uncertainty regarding future market developments. World demand for oil from OPEC nations might be in the range of 1.8-2.1 billion tons by 1980 under the assumption of an economic growth rate at 3.4-4.7 percent per year in OECD countries for the years 1973-80.

43. Within the OPEC membership Saudi Arabia, Abu Dhabi, Iran and Iraq are seen likely to make the key decisions on levels of output during the next few years, sufficient to have ultimate determining power over oil prices. Other countries, particularly Algeria, Nigeria, Indonesia and Venezuela are thought to have a more limited production potential, while Kuwait and Libya have already curtailed output on grounds of conservation and besides have no evident need for incremental output to meet financial requirements. The amount of revenues which Iran and Iraq need to earn from oil to help finance development and other programs looks considerable on present evidence, though this needs continuous review; they are currently seeking to develop oil production potential to its presently foreseen limit. Saudi Arabia - and to a lesser extent Abu Dhabi - have flexibility to supply the world's incremental demand for oil. However, they will be experiencing an increasing domestic resource surplus which will remove any incentive to increase oil output to meet financial requirements. They have the choice between financial assets and oil in the ground for later use. Those OPEC members with large domestic resource surpluses will earn unprecedented sums, giving freedom to restrict oil production, even though they may thereby forego current revenue; Kuwait and Libya have already done so.

44. Thus, Saudi Arabia would become the supplier of the world's incremental oil requirements. This country has set forth two conditions on which it would need to be satisfied before agreeing to meet the long-term needs of developed countries: (i) such countries must effectively assist Saudi Arabia in industrializing itself in order (a) to create an alternative source of income to oil whose depletion would be accelerated by increasing production, and (b) to absorb the excess income resulting from production at such a level; and (ii) a suitable political atmosphere must be present.

45. The choice of policy has evident implications for future prices. With higher energy costs, there will be serious attempts in major industrialized countries to improve efficiency in the use of energy and to encourage the development of domestic sources of energy and thereby lessen the ever-growing cost of oil imports. Some sources can be brought in with existing proven technology, while others may require further development of technology. Thus, a major shift could take place in the patterns of energy use. However, the amount of capital expenditure needed is huge and for some energy sources the problem of finding acceptable sites, disposing of waste and operating reliably and safely are large. It is impossible to be precise on the timing of such a shift or on the effect on internationally traded oil, but on the present evidence the consequences are unlikely to be significantly felt before the mid-1980's.

46. During the next several years, downward pressure on international market prices could continue if (a) world energy demand growth continues to be constrained, (b) efforts to develop domestic resources in oil-importing countries meet with success, and (c) new productive capacity is installed by OPEC members at officially announced rates. On these assumptions spare capacity would probably emerge. However, the large margins of uncertainty around these projections leave considerable scope for the possibility that prices and government unit revenues in oil exporting developing countries will not decline in current or even in real terms during the next several years. Although OPEC members may each have different objectives for the next 5-10 years and may therefore express differing views on OPEC pricing policy, they have experienced the benefits of operating as a group, which led to the present level of prices and revenues. There is no reason yet to suppose that differences of view within OPEC could not be resolved.